

Appendix A

Air Quality and Health Risk Assumptions and Modeling Data

Phase 1 Construction Emissions

Claremont McKenna - Phase 1
Air Quality Construction Analysis

Regional Emissions (Max Daily)	Onsite Emissions									
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Source	lb/day									
3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated	0.10	0.39	4.73	0.01	0.01	0.10	0.11	0.01	0.02	0.03
3.3. Site Prep: Street Improvement (2024) - Unmitigated	0.14	1.64	6.19	0.01	0.02	0.09	0.11	0.02	0.02	0.04
3.5. Site Prep: Street Improvement (2025) - Unmitigated	0.13	1.64	6.16	0.01	0.02	0.09	0.11	0.02	0.02	0.04
3.7. Site Prep: Tunnel (2024) - Unmitigated	0.58	2.73	29.21	0.05	0.10	0.18	0.28	0.10	0.04	0.14
3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated	0.42	3.38	14.60	0.04	0.04	0.59	0.63	0.04	0.15	0.19
3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated	0.38	3.33	13.67	0.04	0.04	0.59	0.63	0.04	0.15	0.19
3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated	0.55	7.85	25.35	0.04	0.09	0.78	0.87	0.09	0.20	0.30
3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated	0.17	3.01	7.75	0.02	0.03	0.26	0.29	0.03	0.07	0.10
3.17. Grading: Tunnel (Rough) (2024) - Unmitigated	0.23	4.58	9.10	0.02	0.05	0.63	0.69	0.04	0.17	0.21
3.19. Grading: Tunnel (Fine) (2025) - Unmitigated	0.13	1.87	6.14	0.02	0.02	0.29	0.30	0.02	0.08	0.10
3.21. BC: Structures + Parking (2024) - Unmitigated	0.32	4.42	10.80	0.03	0.04	0.48	0.53	0.04	0.12	0.17
3.23. BC: Structures + Parking (2025) - Unmitigated	0.31	4.36	11.01	0.03	0.04	0.48	0.53	0.04	0.12	0.17
3.25. BC: Street Improvements (2025) - Unmitigated	0.18	2.02	7.17	0.01	0.02	0.23	0.26	0.02	0.06	0.09
3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated	0.25	3.02	12.10	0.01	0.03	0.23	0.27	0.03	0.06	0.10
3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated	0.25	2.99	12.02	0.01	0.03	0.23	0.27	0.03	0.06	0.10
3.31. BC: Pathways + Parking (2025) - Unmitigated	0.17	1.85	4.96	0.02	0.02	0.45	0.47	0.02	0.11	0.13
3.33. BC: Tunnel (2024) - Unmitigated	0.25	1.58	7.32	0.01	0.02	0.32	0.34	0.02	0.08	0.10
3.35. BC: Tunnel (2025) - Unmitigated	0.24	1.56	7.55	0.01	0.02	0.32	0.34	0.02	0.08	0.10
3.37. Arch Coating: Structures (2025) - Unmitigated	14.94	1.45	3.23	0.00	0.01	0.19	0.20	0.01	0.04	0.05
3.39. Arch Coating: Street Improvements (2025) - Unmitigated	14.08	0.90	3.52	0.01	0.01	0.09	0.10	0.01	0.02	0.03
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM10	Fugitive PM10	Total PM2.5
2024	2.3	21.7	94.1	0.2	0.3	2.6	3.0	0.3	0.7	1.0
2025	31.6	32.8	108.5	0.3	0.4	4.0	4.4	0.4	1.0	1.4
SCAQMD Thresholds	75	100	550	150			150			55
Project Daily Maximum Emissions	31.6	32.8	108.5	0.3	0.4	4.0	4.4	0.4	1.0	1.4

Localized Emissions (Max Daily)	Onsite Emissions									
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Source	lb/day									
3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated	0.05	0.29	4.06	0.01	0.01	0.00	0.01	0.01	0.00	0.01
3.3. Site Prep: Street Improvement (2024) - Unmitigated	0.10	1.55	5.77	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.5. Site Prep: Street Improvement (2025) - Unmitigated	0.10	1.55	5.77	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.7. Site Prep: Tunnel (2024) - Unmitigated	0.50	2.59	28.30	0.05	0.10	0.00	0.10	0.10	0.00	0.10
3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated	0.17	2.56	11.10	0.03	0.03	0.00	0.03	0.03	0.00	0.03
3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated	0.17	2.56	11.10	0.03	0.03	0.00	0.03	0.03	0.00	0.03
3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated	0.40	5.27	22.50	0.03	0.07	0.00	0.07	0.07	0.00	0.07
3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated	0.12	2.22	6.76	0.01	0.02	0.01	0.03	0.02	0.00	0.02
3.17. Grading: Tunnel (Rough) (2024) - Unmitigated	0.12	2.28	7.02	0.01	0.02	0.01	0.03	0.02	0.00	0.02
3.19. Grading: Tunnel (Fine) (2025) - Unmitigated	0.08	0.95	5.05	0.01	0.01	0.00	0.01	0.01	0.00	0.01
3.21. BC: Structures + Parking (2024) - Unmitigated	0.18	3.20	8.92	0.02	0.03	0.00	0.03	0.03	0.00	0.03
3.23. BC: Structures + Parking (2025) - Unmitigated	0.18	3.20	8.92	0.02	0.03	0.00	0.03	0.03	0.00	0.03
3.25. BC: Street Improvements (2025) - Unmitigated	0.10	1.61	6.03	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated	0.17	2.56	11.10	0.01	0.03	0.00	0.03	0.03	0.00	0.03
3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated	0.17	2.56	11.10	0.01	0.03	0.00	0.03	0.03	0.00	0.03
3.31. BC: Pathways + Parking (2025) - Unmitigated	0.05	0.81	3.02	0.01	0.01	0.00	0.01	0.01	0.00	0.01
3.33. BC: Tunnel (2024) - Unmitigated	0.12	1.15	5.87	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.35. BC: Tunnel (2025) - Unmitigated	0.12	1.15	5.87	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.37. Arch Coating: Structures (2025) - Unmitigated	14.85	1.38	2.06	0.00	0.01	0.00	0.01	0.01	0.00	0.01
3.39. Arch Coating: Street Improvements (2025) - Unmitigated	14.05	0.81	3.02	0.01	0.01	0.00	0.01	0.01	0.00	0.01
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM10	Fugitive PM10	Total PM2.5
2024	1.4	16.2	82.1	0.2	0.3	0.0	0.3	0.3	0.0	0.3
2025	30.4	24.1	91.2	0.2	0.3	0.0	0.3	0.3	0.0	0.30
Localized Significance Threshold SRA 10 (Claremont)		175	1358				5			6
Localized Significance Threshold SRA 32 (Upland)		200	1877				5			8
Project Daily Maximum Emissions	30.4	24.1	91.2	0.2	0.3	0.0	0.3	0.3	0.0	0.3

Phase 2 Construction Emissions

Claremont McKenna - Phase 2
 Air Quality Construction Analysis

Regional Emissions (Max Daily)	Onsite Emissions									
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Source	lb/day									
3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated	0.13	1.64	6.22	0.01	0.02	0.15	0.17	0.02	0.03	0.06
3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated	0.35	3.96	13.69	0.04	0.04	0.97	1.01	0.04	0.24	0.29
3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated	0.32	3.92	13.55	0.04	0.04	0.97	1.01	0.04	0.24	0.29
3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated	0.49	6.87	24.61	0.04	0.09	2.44	2.53	0.09	1.06	1.16
3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated	0.22	2.95	11.89	0.01	0.03	0.31	0.35	0.03	0.08	0.11
3.11. BC: Pathways + Parking (2031) - Unmitigated	0.14	2.52	4.83	0.02	0.03	0.77	0.80	0.03	0.19	0.23
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM10	Fugitive PM10	Total PM2.5
2030	0.5	5.6	19.9	0.1	0.1	1.1	1.2	0.1	0.3	0.4
2031	1.2	16.3	54.9	0.1	0.2	4.5	4.7	0.2	1.6	1.8
SCAQMD Thresholds	75	100	550	150			150			55
Project Daily Maximum Emissions	1.2	16.3	54.9	0.1	0.2	4.5	4.7	0.2	1.6	1.8

Localized Emissions (Max Daily)	Onsite Emissions									
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Source	lb/day									
3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated	0.10	1.55	5.77	0.01	0.02	0.00	0.02	0.02	0.00	0.02
3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated	0.17	2.56	11.10	0.03	0.03	0.00	0.03	0.03	0.00	0.03
3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated	0.17	2.56	11.10	0.03	0.03	0.00	0.03	0.03	0.00	0.03
3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated	0.40	5.29	22.80	0.03	0.07	1.71	1.78	0.07	0.88	0.95
3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated	0.17	2.56	11.10	0.01	0.03	0.00	0.03	0.03	0.00	0.03
3.11. BC: Pathways + Parking (2031) - Unmitigated	0.05	0.81	3.02	0.01	0.01	0.00	0.01	0.01	0.00	0.01
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM10	Fugitive PM10	Total PM2.5
2030	0.3	4.1	16.9	0.0	0.1	0.0	0.1	0.1	0.0	0.1
2031	0.8	11.2	48.0	0.1	0.1	1.7	1.9	0.1	0.9	1.0
Localized Significance Threshold SRA 10 (Claremont)		175	1358				5			6
Localized Significance Threshold SRA 32 (Upland)		200	1877				5			8
Project Daily Maximum Emissions	0.8	11.2	48.0	0.1	0.1	1.7	1.9	0.1	0.9	1.0

Operational Emissions

Claremont McKenna Revised Project: Operations

Maximum Daily Operational Emission

Emission Source	Average Daily Emissions (pounds per day)			
	VOC	NO _x	PM ₁₀	PM _{2.5}
Area	1.55	0.02	0	0
Energy	0.03	0.58	0.04	0.04
Mobile	3.53	3.59	7.54	1.95
Total	5.11	4.19	7.58	1.99
SCAQMD Significance Thresholds	55	55	150	55

Maximum Localized Operational Emission

Emission Source	Average Daily Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area	0.02	2.17	0	0
Energy	0.58	0.48	0.04	0.04
Total	0.6	2.65	0.04	0.04
Localized Significance Threshold SRA 10 (Claremont)	175	1,358	5.0	6.0
Localized Significance Threshold SRA 32 (Upland)	200	1,877	5	8

Phase 1 Health Risk Assessment

Claremont McKenna Health Risk Assessment

Health Risk Assessment Results Summary

Health Risk Assessment Results Summary			School Risk max		0.23118839		0.62		0.70	
			Non-dorm or school max		0.23118839		4.1		7.88	
			MAX:		0.32		0.0000		3.58	
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Onsite	Offroad	Total Risk				
4349803774260	434980	3774260	0.013395985	0	0.1814789	0.1948749				
4350003774260	435000	3774260	0.013842477	0	0.193616989	0.2074595				
4350203774260	435020	3774260	0.014372154	0	0.207488793	0.2218609				
4349803774280	434980	3774280	0.013134511	0	0.171979811	0.1853249				
4350003774280	435000	3774280	0.013774677	0	0.182786584	0.1965613				
4350203774280	435020	3774280	0.014303226	0	0.195056763	0.2093709				
4349803774300	434980	3774300	0.013321518	0	0.163126818	0.1764483				
4350003774300	435000	3774300	0.013744111	0	0.172504432	0.1862485				
4350203774300	435020	3774300	0.014263633	0	0.183281017	0.1975447				
4349803774320	434980	3774320	0.013290644	0	0.154735086	0.1680257				
4350003774320	435000	3774320	0.013755189	0	0.163173987	0.1769292				
4350203774320	435020	3774320	0.014259018	0	0.172558242	0.1868173				
4349803774340	434980	3774340	0.013267668	0	0.14673948	0.1600071				
4350003774340	435000	3774340	0.013635078	0	0.15371775	0.1673528				
4350203774340	435020	3774340	0.014196552	0	0.162382873	0.1765794				
4349803774280	434860	3774280	0.011060852	0	0.125852674	0.1369135				
4348803774280	434880	3774280	0.011383336	0	0.131873238	0.1432567				
4349003774280	434900	3774280	0.011747136	0	0.138493937	0.1502067				
4349203774280	434920	3774280	0.011213874	0	0.14566072	0.1577996				
4348603774300	434860	3774300	0.010999925	0	0.121009035	0.1320099				
4348803774300	434880	3774300	0.011347846	0	0.126595697	0.1379435				
4349003774300	434900	3774300	0.011714845	0	0.132665507	0.1443804				
4349203774300	434920	3774300	0.012105538	0	0.139274583	0.1513801				
4348603774320	434860	3774320	0.010979821	0	0.116437726	0.1274175				
4348803774320	434880	3774320	0.0111330204	0	0.121607092	0.1329373				
4349003774320	434900	3774320	0.011693408	0	0.127191669	0.1388851				
4349203774320	434920	3774320	0.012069331	0	0.133239004	0.1453083				
4347803774340	434780	3774340	0.009772355	0	0.096032266	0.1058046				
4348003774340	434800	3774340	0.010045501	0	0.099644411	0.1086999				
4348203774340	434820	3774340	0.01032347	0	0.10349813	0.1138228				
4348403774340	434840	3774340	0.010635798	0	0.107637995	0.1182738				
4348603774340	434860	3774340	0.010965256	0	0.112081819	0.1230471				
4348803774340	434880	3774340	0.011313451	0	0.1168617	0.1281762				
4349003774340	434900	3774340	0.011661303	0	0.121985122	0.1336464				
4349203774340	434920	3774340	0.012400714	0	0.127532107	0.1395728				
4349403774340	434940	3774340	0.012434997	0	0.133529482	0.1459645				
4349603774340	434960	3774340	0.012840255	0	0.1399125	0.1527528				
4347803774360	434780	3774360	0.00973707	0	0.092964905	0.102702				
4348003774360	434800	3774360	0.010016269	0	0.09635231	0.1063695				
4348203774360	434820	3774360	0.010305996	0	0.099945865	0.1102465				
4348403774360	434840	3774360	0.010610717	0	0.103803098	0.1134139				
4348603774360	434860	3774360	0.010928433	0	0.107910043	0.1183835				
4348803774360	434880	3774360	0.011278508	0	0.112327868	0.1236064				
4349003774360	434900	3774360	0.011623762	0	0.116987219	0.128611				
4349203774360	434920	3774360	0.011998044	0	0.122002303	0.1340003				
4349403774360	434940	3774360	0.012398789	0	0.127391154	0.1397899				
4349603774360	434960	3774360	0.012815535	0	0.133157402	0.1459729				
4347803774380	434780	3774380	0.00970394	0	0.090022584	0.0997265				
4348003774380	434800	3774380	0.00998642	0	0.093193026	0.1031794				
4348203774380	434820	3774380	0.010276389	0	0.096552332	0.1068287				
4348403774380	434840	3774380	0.010590461	0	0.100136827	0.1107273				
4348603774380	434860	3774380	0.010901149	0	0.103898246	0.1147904				
4348803774380	434880	3774380	0.011255532	0	0.107971892	0.1192274				
4349003774380	434900	3774380	0.011597812	0	0.112166796	0.1237646				
4349203774380	434920	3774380	0.011961221	0	0.116695759	0.128657				
4349403774380	434940	3774380	0.012126104	0	0.121586788	0.1339478				
4349603774380	434960	3774380	0.012779943	0	0.126811076	0.139591				
4347803774400	434780	3774400	0.009675425	0	0.08717771	0.0968531				
4348003774400	434800	3774400	0.009948161	0	0.090094434	0.1000426				
4348203774400	434820	3774400	0.010243258	0	0.093201942	0.1034452				
4348403774400	434840	3774400	0.010559485	0	0.096517437	0.1070769				
4348603774400	434860	3774400	0.010884225	0	0.100008713	0.1108929				
4348803774400	434880	3774400	0.011237274	0	0.103766789	0.1150041				
4349003774400	434900	3774400	0.011566322	0	0.107582259	0.1191486				
4349203774400	434920	3774400	0.011935578	0	0.111716525	0.1236521				
4349403774400	434940	3774400	0.012123104	0	0.116125015	0.1284461				
4349603774400	434960	3774400	0.012740351	0	0.120846809	0.1335872				
4347803774420	434780	3774420	0.009644449	0	0.084356025	0.0940005				
4348003774420	434800	3774420	0.009923032	0	0.087086252	0.0970093				
4348203774420	434820	3774420	0.010212179	0	0.089973019	0.1001852				
4348403774420	434840	3774420	0.010524406	0	0.093036939	0.1035613				
4348603774420	434860	3774420	0.010853864	0	0.096278397	0.1071323				
4348803774420	434880	3774420	0.011216965	0	0.099786982	0.1110039				
4349003774420	434900	3774420	0.011544885	0	0.10328074	0.1148256				
4349203774420	434920	3774420	0.011905012	0	0.107019094	0.1189241				
4349403774420	434940	3774420	0.012291089	0	0.111028205	0.1233193				
4349603774420	434960	3774420	0.012712451	0	0.115313847	0.1280263				
4347803774440	434780	3774440	0.009612036	0	0.081554949	0.0912661				
4348003774440	434800	3774440	0.009890861	0	0.08421086	0.0941039				
4348203774440	434820	3774440	0.010178023	0	0.086877438	0.0970555				
4348403774440	434840	3774440	0.010477428	0	0.089671536	0.100149				
4348603774440	434860	3774440	0.010790988	0	0.09260893	0.1033999				
4348803774440	434880	3774440	0.011139627	0	0.095775965	0.1069156				
4349003774440	434900	3774440	0.011514011	0	0.099144721	0.1106587				
4349203774440	434920	3774440	0.011874343	0	0.102580873	0.1144552				
4349403774440	434940	3774440	0.012263395	0	0.10621699	0.1184804				
4349603774440	434960	3774440	0.012666192	0	0.110046642	0.1227128				
4349803774340	434980	3774340	0.013267668	0	0.14673948	0.1600071				
4350003774340	435000	3774340	0.013635078	0	0.15371775	0.1673528				
4350203774340	435020	3774340	0.014196552	0	0.162382873	0.1765794				
4349803774360	434980	3774360	0.013290644	0	0.154735086	0.1680257				
4350003774360	435000	3774360	0.013755189	0	0.163173987	0.1769292				
4350203774360	435020	3774360	0.014263633	0	0.172558242	0.1868173				
4349803774380	434980	3774380	0.013267668	0	0.14673948	0.1600071				
4350003774380	435000	3774380	0.013635078	0	0.15371775	0.1673528				
4350203774380	435020	3774380	0.014196552	0	0.162382873	0.1765794				
4349										

Health Risk Assessment Results Summary

School Risk max

0.07

Non-dorm or school max

0.23118839

0.62

4.1

7.88

0.70

4.20

Health Risk Assessment Results Sui School Risk max

0.70

4.20

FOR CHRONIC CALC

MAX:

0.08

Unique Identifier		X (UTM)	Y (UTM)	Onroad	Onsite	Offroad	Total Risk
4356003773920	435600	3773920	0.157134342	0	6.712123671	6.869258	
4356203773920	435620	3773920	0.207731515	0	5.789663186	5.9973947	
4356403773920	435640	3773920	0.140500497	0	5.019931772	5.1604323	
4356603773920	435660	3773920	0.106950839	0	4.441014444	4.5479563	
4356803773920	435680	3773920	0.086793985	0	3.981377738	4.0681717	
4357003773920	435700	3773920	0.07338364	0	3.603685943	3.6770696	
4357203773920	435720	3773920	0.06372514	0	3.292225637	3.3559508	
4357403773920	435740	3773920	0.056325664	0	3.032809936	3.0891356	
4356003773940	435600	3773940	0.164833018	0	6.62660678	6.7914398	
4356203773940	435620	3773940	0.207394569	0	5.68158072	5.8889753	
4356403773940	435640	3773940	0.140213606	0	4.916127596	5.0563412	
4356603773940	435660	3773940	0.106798213	0	4.345346647	4.4521449	
4356803773940	435680	3773940	0.0867108	0	3.892773905	3.9794847	
4357003773940	435700	3773940	0.073318508	0	3.522748517	3.596067	
4357203773940	435720	3773940	0.063530255	0	3.218234008	3.2817649	
4357403773940	435740	3773940	0.056581661	0	2.965659188	3.0219408	
4356003773960	435600	3773960	0.229267231	0	6.345515941	6.7638192	
4356203773960	435620	3773960	0.207111884	0	5.564489448	5.7716013	
4356403773960	435640	3773960	0.139919637	0	4.806194855	4.9461145	
4356603773960	435660	3773960	0.106632253	0	4.243363925	4.3499962	
4356803773960	435680	3773960	0.086558892	0	3.798448922	3.8850078	
4357003773960	435700	3773960	0.073131008	0	3.437538801	3.5106698	
4357203773960	435720	3773960	0.063435992	0	3.142564335	3.2060003	
4357403773960	435740	3773960	0.056040106	0	2.896831931	2.952872	
4356003773980	435600	3773980	0.156859862	0	6.428014007	6.5848739	
4356203773980	435620	3773980	0.20650415	0	5.43182708	5.6383312	
4356403773980	435640	3773980	0.139731727	0	4.688878028	4.82860975	
4356603773980	435660	3773980	0.106500141	0	4.131288602	4.2377807	
4356803773980	435680	3773980	0.086461656	0	3.695300261	3.761782	
4357003773980	435700	3773980	0.073038591	0	3.346494667	3.4195333	
4357203773980	435720	3773980	0.063319266	0	3.061351022	3.1246703	
4357403773980	435740	3773980	0.056008514	0	2.823756577	2.8797651	
4356003774000	435600	3774000	0.152965752	0	6.314628576	6.4675943	
4356203774000	435620	3774000	0.205409922	0	5.29511899	5.5005289	
4356403774000	435640	3774000	0.139284722	0	4.562738023	4.7020227	
4356603774000	435660	3774000	0.106297513	0	4.016940309	4.1232375	
4356803774000	435680	3774000	0.086400523	0	3.591930738	3.6783313	
4357003774000	435700	3774000	0.072964535	0	3.252925868	3.3258904	
4357203774000	435720	3774000	0.063591264	0	2.976606587	3.0398979	
4357403774000	435740	3774000	0.055828867	0	2.74849467	2.8043186	
4356003774020	435600	3774020	0.050046571	0	2.551700701	2.6017473	
4356203774020	435620	3774020	0.153003293	0	6.186897766	6.3399011	
4356403774020	435640	3774020	0.205803179	0	5.214509064	5.4203122	
4356603774020	435660	3774020	0.139360933	0	4.474901727	4.6142627	
4356803774020	435680	3774020	0.106064419	0	3.925813774	4.0318782	
4357003774020	435700	3774020	0.085994444	0	3.505039171	3.5910336	
4357203774020	435720	3774020	0.072738058	0	3.167704257	3.2404423	
4357403774020	435740	3774020	0.063090532	0	2.893853976	2.9569445	
4356003774040	435600	3774040	0.05562816	0	6.033779151	6.190342	
4356203774040	435620	3774040	0.205753022	0	5.052124632	5.2578777	
4356403774040	435640	3774040	0.139209743	0	4.329964427	4.4691742	
4356603774040	435660	3774040	0.105897331	0	3.797311986	3.9032093	
4356803774040	435680	3774040	0.085787558	0	3.390065492	3.475853	
4357003774040	435700	3774040	0.072540301	0	3.065268846	3.1378091	
4357203774040	435720	3774040	0.063023143	0	2.802068534	2.8650917	
4357403774040	435740	3774040	0.055633617	0	2.586423563	2.6420572	
4356003774060	435600	3774060	0.049876816	0	2.405540728	2.4554175	
4356203774060	435620	3774060	0.045209218	0	2.249328187	2.2945374	
4356403774060	435640	3774060	0.041351122	0	2.176633583	2.2180208	
4356603774060	435660	3774060	0.03811198	0	1.993528834	2.03164	
4356803774060	435680	3774060	0.164132868	0	5.868757398	6.0328903	
4357003774060	435700	3774060	0.205336584	0	4.8704676	5.0758042	
4357203774060	435720	3774060	0.139210256	0	4.16902019	4.3082304	
4357403774060	435740	3774060	0.105876407	0	3.655774205	3.7616506	
4356003774080	435600	3774080	0.085851152	0	3.263862186	3.3497133	
4356203774080	435620	3774080	0.072529121	0	2.954908483	3.0274363	
4356403774080	435640	3774080	0.062920572	0	2.704489995	2.7674096	
4356603774080	435660	3774080	0.055618026	0	2.498793053	2.5544111	
4356803774080	435680	3774080	0.049840096	0	2.32561817	2.3754583	
4357003774080	435700	3774080	0.045165112	0	2.176870482	2.2220356	
4357203774080	435720	3774080	0.041292132	0	2.04723995	2.0885918	
4357403774080	435740	3774080	0.038137046	0	1.933036987	1.971174	
4356003774100	435600	3774100	0.035363217	0	1.830848322	1.8662101	
4356203774100	435620	3774100	0.28252188	0	5.685347956	5.9136001	
4356403774100	435640	3774100	0.205033589	0	4.680569725	4.8856033	
4356603774100	435660	3774100	0.139021525	0	3.994325926	4.1333475	
4356803774100	435680	3774100	0.105838455	0	3.500947956	3.6067864	
4357003774100	435700	3774100	0.085809406	0	3.128783601	3.214593	
4357203774100	435720	3774100	0.072495478	0	2.838207377	2.9107029	
4357403774100	435740	3774100	0.062885698	0	2.601622946	2.6645086	
4356003774120	435600	3774120	0.055534225	0	2.496756882	2.4622911	
4356203774120	435620	3774120	0.049764604	0	2.242463422	2.2927228	
4356403774120	435640	3774120	0.045103371	0	2.101235211	2.1463586	
4356603774120	435660	3774120	0.041303978	0	1.978727611	2.0195755	
4356803774120	435680	3774120	0.038038476	0	1.869651035	1.9076895	
4357003774120	435700	3774120	0.035333164	0	1.772847694	1.8081809	
4357203774120	435720	3774120	0.156511941	0	5.440106882	5.5966188	
4357403774120	435740	3774120	0.204669564	0	4.451883141	4.6565527	
4356003774140	435600	3774140	0.138800074	0	3.798795842	3.9375959	
4356203774140	435620	3774140	0.105784708	0	3.332777614	3.4385623	
4356403774140	435640	3774140	0.085795046	0	2.982375126	3.0681702	
4356603774140	435660	3774140	0.072398753	0	2.712773806	2.7851726	
4356803774140	435680	3774140	0.06282313	0	2.49258391	2.555407	
4357003774140	435700	3774140	0.055303225	0	2.309627996	2.3651582	
4357203774140	435720	3774140	0.049701754	0	2.155436964	2.2049746	
4357403774140	435740	3774140	0.045032591	0	2.023133627	2.0671662	
4356003774160	435600	3774160	0.041213563	0	1.905866934	1.9470805	
4356203774160	435620	3774160	0.037955598	0	1.80316403	1.841116	
4356403774160	435640	3774160	0.035272545	0	1.711519637	1.7467922	
4356603774160	435660	3774160	0.152580803	0	5.135890762	5.2884716	
4356803774160	435680	3774160	0.203869305	0	4.196664248	4.4005336	
4357003774160	435700	3774160	0.138626114	0	3.583064326	3.7216904	
4357203774160	435720	3774160	0.105724396	0	3.148894582	3.254619	
4357403774160	435740	3774160	0.085699655	0	2.824393725	2.9100934	
4356003774180	435600	3774180	0.072309721	0	2.575877018	2.6481867	
4356203774180	435620	3774180	0.062831438	0	2.37774834	2.4402063	
4356403774180	435640	3774180	0.055508992	0	2.207263064	2.2627641	
4356603774180	435660	3774180	0.049687163	0	2.063124498	2.1129016	
4356803774180	435680	3774180	0.045046648	0	1.938731676	1.9837781	
4357003774180	435700	3774180	0.041213152	0	1.829848099	1.8710613	
4357203774180	435720	3774180	0.037971086	0	1.733474014	1.7714451	
4357403774180	435740	3774180	0.035176743	0	1.647161305	1.682338	
4356003774140	435600	3774140	0.152470437	0	4.765924009	4.9183944	
4356203774140	435620	3774140	0.203642418	0	3.899685866	4.1032283	
4356403774140	435640	3774140	0.138460666	0	3.333970846	3.4724315	
4356603774140	435660	3774140	0.105353602	0	2.942300422	3.047654	
4356803774140	435680	3774140	0.085455843	0	2.651244111	2.7367	</

Health Risk Assessment Results Summary

School Risk max

0.07

Non-dorm or school max

0.23118839

4.1

0.62

0.70

7.88

MAX:			0.32	0.0000	3.58	3.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Onsite	Offroad	Total Risk
4357403774200	435740	3774200	0.055216563	0	1.728594645	1.7838112
4357603774200	435760	3774200	0.04946366	0	1.65504278	1.7045064
4357803774200	435780	3774200	0.04800895	0	1.572973042	1.617774
4358003774200	435800	3774200	0.040967392	0	1.500212448	1.5411798
4358203774200	435820	3774200	0.037754251	0	1.434975739	1.4727296
4358403774200	435840	3774200	0.035140433	0	1.375617557	1.4107578
4351703773020	435170	3773020	0.012820766	0	1.781040867	1.7938616
4351903773020	435190	3773020	0.013147763	0	1.847826527	1.8609743
4352103773020	435210	3773020	0.013460502	0	1.909616279	1.9230768
4352303773020	435230	3773020	0.013734572	0	1.961190585	1.9749252
4352503773020	435250	3773020	0.013989358	0	2.006340935	2.0203303
4352703773020	435270	3773020	0.014230913	0	2.046273541	2.0605045
4352903773020	435290	3773020	0.014452364	0	2.079683883	2.0941362
4353103773020	435310	3773020	0.014657096	0	2.10730109	2.1219582
4353303773020	435330	3773020	0.014839467	0	2.128198594	2.1430379
4353503773020	435350	3773020	0.014949465	0	2.141590947	2.1565859
4353703773020	435370	3773020	0.015113959	0	2.150925364	2.1660654
4353903773020	435390	3773020	0.015238469	0	2.149436862	2.1646753
4354103773020	435410	3773020	0.015307089	0	2.140576896	2.1558845
4354303773020	435430	3773020	0.015349553	0	2.125462947	2.1408125
4354503773020	435450	3773020	0.015390889	0	2.109292688	2.1246836
4354703773020	435470	3773020	0.015395608	0	2.085528881	2.1009245
4354903773020	435490	3773020	0.015375504	0	2.056857612	2.0722331
4355103773020	435510	3773020	0.015303806	0	2.018054169	2.033358
4355303773020	435530	3773020	0.015184311	0	1.970399854	1.9855842
4355503773020	435550	3773020	0.01497322	0	1.906967273	1.9219405
4351703773040	435170	3773040	0.013506146	0	1.853303491	1.8668096
4351903773040	435190	3773040	0.013860529	0	1.921277341	1.9359879
4352103773040	435210	3773040	0.014189885	0	1.983546458	1.9977363
4352303773040	435230	3773040	0.014499752	0	2.038437366	2.0529371
4352503773040	435250	3773040	0.014792387	0	2.087221939	2.1020143
4352703773040	435270	3773040	0.015069329	0	2.130193879	2.1452632
4352903773040	435290	3773040	0.015325346	0	2.166468192	2.1817935
4353103773040	435310	3773040	0.015559526	0	2.195260462	2.2108164
4353303773040	435330	3773040	0.015775428	0	2.219544032	2.2353195
4353503773040	435350	3773040	0.015951543	0	2.23274112	2.2492257
4353703773040	435370	3773040	0.016097912	0	2.239351986	2.2554499
4353903773040	435390	3773040	0.016224792	0	2.240053593	2.2562784
4354103773040	435410	3773040	0.01630449	0	2.230327318	2.2466318
4354303773040	435430	3773040	0.016340439	0	2.211253242	2.2275936
4354503773040	435450	3773040	0.016375571	0	2.191387904	2.2077635
4354703773040	435470	3773040	0.016378546	0	2.165138969	2.1815175
4354903773040	435490	3773040	0.016350749	0	2.133252712	2.1496035
4355103773040	435510	3773040	0.016272077	0	2.092104775	2.1083769
4355303773040	435530	3773040	0.016162942	0	2.046090341	2.0622533
4355503773040	435550	3773040	0.016010829	0	1.993077028	2.0090879
4351703773060	435170	3773060	0.014256248	0	1.930190006	1.9444463
4351903773060	435190	3773060	0.014645608	0	2.001693548	2.0163392
4352103773060	435210	3773060	0.015012812	0	2.066095315	2.0811081
4352303773060	435230	3773060	0.015368529	0	2.125312496	2.140681
4352503773060	435250	3773060	0.015701987	0	2.177449413	2.1930514
4352703773060	435270	3773060	0.016015444	0	2.222716302	2.2387317
4352903773060	435290	3773060	0.016306541	0	2.261064271	2.2775708
4353103773060	435310	3773060	0.016565636	0	2.290783664	2.3073493
4353303773060	435330	3773060	0.016812627	0	2.315795388	2.3326068
4353503773060	435350	3773060	0.01701582	0	2.330422517	2.3474383
4353703773060	435370	3773060	0.017176651	0	2.335225298	2.3524019
4353903773060	435390	3773060	0.017318507	0	2.334910335	2.3522288
4354103773060	435410	3773060	0.017409488	0	2.323927807	2.3413373
4354303773060	435430	3773060	0.01744559	0	2.302145823	2.3195917
4354503773060	435450	3773060	0.017480877	0	2.279464314	2.2969452
4354703773060	435470	3773060	0.017478005	0	2.249841384	2.2673194
4354903773060	435490	3773060	0.017436054	0	2.213504431	2.2309405
4355103773060	435510	3773060	0.017325766	0	2.17045348	2.1878062
4355303773060	435530	3773060	0.017321117	0	2.121628857	2.13886
4355503773060	435550	3773060	0.017064541	0	2.066204366	2.0832698
4351703773080	435170	3773080	0.015087484	0	2.011388588	2.0284761
4351903773080	435190	3773080	0.015522796	0	2.088591649	2.1041144
4352103773080	435210	3773080	0.015941593	0	2.157492931	2.1734345
4352303773080	435230	3773080	0.016349826	0	2.2211522	2.237502
4352503773080	435250	3773080	0.016722774	0	2.275178909	2.2919017
4352703773080	435270	3773080	0.017074901	0	2.322292958	2.3393679
4352903773080	435290	3773080	0.017409283	0	2.363235867	2.3806451
4353103773080	435310	3773080	0.017700892	0	2.3937252	2.4114261
4353303773080	435330	3773080	0.017749552	0	2.41845798	2.4364325
4353503773080	435350	3773080	0.018203536	0	2.433727022	2.4514774
4353703773080	435370	3773080	0.018418171	0	2.442997845	2.461416
4353903773080	435390	3773080	0.018558489	0	2.438146285	2.4567048
4354103773080	435410	3773080	0.018652649	0	2.423991872	2.4426445
4354303773080	435430	3773080	0.018695216	0	2.400080866	2.4187759
4354503773080	435450	3773080	0.018742706	0	2.376588194	2.3953309
4354703773080	435470	3773080	0.018734193	0	2.343585563	2.36231956
4354903773080	435490	3773080	0.018681984	0	2.30359893	2.3222809
4355103773080	435510	3773080	0.018584849	0	2.256937011	2.2755219
4355303773080	435530	3773080	0.018450994	0	2.205647111	2.2240981
4355503773080	435550	3773080	0.018246647	0	2.144427846	2.1626775
4351703773100	435170	3773100	0.016060316	0	2.102919547	2.1183979
4351903773100	435190	3773100	0.016499371	0	2.182157471	2.1986588
4352103773100	435210	3773100	0.016980023	0	2.256069589	2.2730496
4352303773100	435230	3773100	0.017452567	0	2.324965391	2.342418
4352503773100	435250	3773100	0.017898239	0	2.385644334	2.4035426
4352703773100	435270	3773100	0.018305754	0	2.436273532	2.4545793
4352903773100	435290	3773100	0.018656547	0	2.47389008	2.4925466
4353103773100	435310	3773100	0.018983646	0	2.504669592	2.5236532
4353303773100	435330	3773100	0.019033036	0	2.531573516	2.55087676
4353503773100	435350	3773100	0.019564403	0	2.546143025	2.5657074
4353703773100	435370	3773100	0.019783084	0	2.551559128	2.5713422
4353903773100	435390	3773100	0.019943403	0	2.545562741	2.5655061
4354103773100	435410	3773100	0.02005059	0	2.525929888	2.5496435
4354303773100	435430	3773100	0.020131518	0	2.508509648	2.5266322
4354503773100	435450	3773100	0.020200393	0	2.485305568	2.5050509
4354703773100	435470	3773100	0.020164341	0	2.444898115	2.4651535
4354903773100	435490	3773100	0.020091208	0	2.399555141	2.4196463
4355103773100	435510	3773100	0.019970482	0	2.347784887	2.3677554
4355303773100	435530	3773100	0.019809137	0	2.291498347	2.3113075
4355503773100	435550	3773100	0.019586184	0	2.227456871	2.247043
4351703773120	435170	3773120	0.017025051	0	2.197374803	2.2143999
4351903773120	435190	3773120	0.017594423	0	2.283362582	2.300957
4352103773120	435210	3773120	0.018173642	0	2.367053301	2.3852269
4352303773120	435230	3773120	0.018699729	0	2.437569819	2.4562695
4352503773120	435250	3773120	0.019196891	0	2.49946494	2.5186618
4352703773120	435270	3773120	0.019659868	0	2.55210358	2.5717633
4352903773120	435290	3773120	0.020070795	0	2.593270445	2.6133434
4353103773120	435310	3773120	0.020458412	0	2.626958145	2.6474166
435						

Health Risk Assessment Results Summary

School Risk max

0.07

Non-dorm or school max

0.23118839

0.62

0.70

4.1

7.88

			MAX:		0.32	0.0000	3.58	3.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Onsite	Offroad	Total Risk		
4351903773180	435190	3773180	0.021874406	0	2.645508922	2.6673883		
4352103773180	435210	3773180	0.02277139	0	2.746073998	2.7688454		
4352303773180	435230	3773180	0.023642833	0	2.837893449	2.8615362		
4352503773180	435250	3773180	0.024443093	0	2.916463954	2.9390724		
4352703773180	435270	3773180	0.025176373	0	2.977819789	3.0029964		
4352903773180	435290	3773180	0.025848008	0	3.028955929	3.0548039		
4353103773180	435310	3773180	0.026442818	0	3.066381649	3.0928245		
4353303773180	435330	3773180	0.026973213	0	3.092399281	3.1193725		
4354103773180	435410	3773180	0.028299251	0	3.071119923	3.0994192		
4354303773180	435430	3773180	0.028405413	0	3.034133023	3.0625384		
4354503773180	435450	3773180	0.028450133	0	2.989610212	3.0180603		
4354703773180	435470	3773180	0.028426337	0	2.93767535	2.9661017		
4354903773180	435490	3773180	0.028307457	0	2.876110319	2.9044178		
4355103773180	435510	3773180	0.028078006	0	2.804137465	2.8322155		
4355303773180	435530	3773180	0.027726289	0	2.721249244	2.7489755		
4355503773180	435550	3773180	0.027712184	0	2.630879676	2.658151		
435170373200	435170	3773200	0.02269282	0	2.673958969	2.6966518		
435190373200	435190	3773200	0.02379628	0	2.794055303	2.8178516		
435210373200	435210	3773200	0.024848864	0	2.900406781	2.9252556		
435230373200	435230	3773200	0.025926373	0	3.00577657	3.0317029		
435250373200	435250	3773200	0.02688931	0	3.09005493	3.1169442		
435270373200	435270	3773200	0.027789473	0	3.16223409	3.1900236		
435290373200	435290	3773200	0.028572719	0	3.215480404	3.2440576		
435310373200	435310	3773200	0.029284651	0	3.25567654	3.2848523		
435330373200	435330	3773200	0.029882743	0	3.278844639	3.3087274		
435410373200	435410	3773200	0.031388692	0	3.244851239	3.2762399		
435430373200	435430	3773200	0.031507777	0	3.203035534	3.2345433		
435450373200	435450	3773200	0.031555472	0	3.153269682	3.1848252		
435470373200	435470	3773200	0.031492801	0	3.09193482	3.1232427		
435490373200	435490	3773200	0.031346637	0	3.023615482	3.0549621		
435510373200	435510	3773200	0.031092979	0	2.947134293	2.9782273		
435530373200	435530	3773200	0.030669053	0	2.856256883	2.8869259		
435550373200	435550	3773200	0.030094553	0	2.754399352	2.7844939		
435170373220	435170	3773220	0.024728548	0	2.826119655	2.8508482		
435190373220	435190	3773220	0.026025867	0	2.951825567	2.9778514		
435210373220	435210	3773220	0.027289132	0	3.066258299	3.0935474		
435230373220	435230	3773220	0.028566757	0	3.177650514	3.2062173		
435250373220	435250	3773220	0.029728784	0	3.269564652	3.2992934		
435270373220	435270	3773220	0.030080139	0	3.346658375	3.377454		
435290373220	435290	3773220	0.031734869	0	3.403363644	3.4350985		
435310373220	435310	3773220	0.032558207	0	3.444056971	3.4766152		
435330373220	435330	3773220	0.033276512	0	3.470042834	3.5033193		
435410373220	435410	3773220	0.035042478	0	3.428810396	3.4638529		
435430373220	435430	3773220	0.035215823	0	3.386008946	3.4212248		
435450373220	435450	3773220	0.0352987	0	3.333544681	3.3688434		
435470373220	435470	3773220	0.035210899	0	3.264308301	3.2995192		
435490373220	435490	3773220	0.035034272	0	3.188462479	3.2234968		
435510373220	435510	3773220	0.034773434	0	3.108933829	3.1437073		
435530373220	435530	3773220	0.034228371	0	3.005263694	3.0394921		
435550373220	435550	3773220	0.033521041	0	2.892726987	2.926248		
435170373240	435170	3773240	0.027183689	0	2.998971385	3.0261551		
435190373240	435190	3773240	0.028742256	0	3.112195448	3.1600377		
435210373240	435210	3773240	0.030279283	0	3.254417686	3.2846697		
435230373240	435230	3773240	0.031781846	0	3.368483062	3.4002649		
435250373240	435250	3773240	0.033204507	0	3.46957131	3.5027758		
435270373240	435270	3773240	0.03449803	0	3.552916628	3.5874147		
435290373240	435290	3773240	0.035608567	0	3.612690839	3.6482994		
435310373240	435310	3773240	0.036574889	0	3.654426999	3.6910019		
435330373240	435330	3773240	0.037438435	0	3.683085881	3.7205243		
435170373260	435170	3773260	0.030159583	0	3.190262387	3.220422		
435190373260	435190	3773260	0.032101868	0	3.332329647	3.3653415		
435210373260	435210	3773260	0.034018613	0	3.467409535	3.5014281		
435230373260	435230	3773260	0.035843865	0	3.587709625	3.6235535		
435250373260	435250	3773260	0.0375727	0	3.69536632	3.7329393		
435270373260	435270	3773260	0.039154551	0	3.786158808	3.8253134		
435290373260	435290	3773260	0.040486641	0	3.849672446	3.8901591		
435310373260	435310	3773260	0.041655439	0	3.895351052	3.9370065		
435330373260	435330	3773260	0.04271711	0	3.928073356	3.9707485		
435170373280	435170	3773280	0.038381819	0	3.397505573	3.4313238		
435190373280	435190	3773280	0.036383184	0	3.562050448	3.5984336		
435210373280	435210	3773280	0.038847248	0	3.710689682	3.7495369		
435230373280	435230	3773280	0.04116997	0	3.843846594	3.8850166		
435250373280	435250	3773280	0.043315551	0	3.96024188	4.0035574		
435270373280	435270	3773280	0.045222039	0	4.054889226	4.1001113		
435290373280	435290	3773280	0.046833431	0	4.122614477	4.1694479		
435310373280	435310	3773280	0.048301113	0	4.178985118	4.2160863		
435330373280	435330	3773280	0.049461814	0	4.201851912	4.2512817		
435170373300	435170	3773300	0.038552151	0	3.632511389	3.6710635		
435190373300	435190	3773300	0.042045004	0	3.821983319	3.8640283		
435210373300	435210	3773300	0.045325328	0	3.989256752	4.0345821		
435230373300	435230	3773300	0.048349431	0	4.137557304	4.1859067		
435250373300	435250	3773300	0.051056076	0	4.263978511	4.3150346		
435270373300	435270	3773300	0.053358693	0	4.361643065	4.4150018		
435290373300	435290	3773300	0.055300979	0	4.432617357	4.4879183		
435310373300	435310	3773300	0.056955553	0	4.481037044	4.5379926		
435330373300	435330	3773300	0.058433909	0	4.513557903	4.5719918		
435350373300	435350	3773300	0.059668762	0	4.525228516	4.5848973		
435170373320	435170	3773320	0.049528098	0	3.900957659	3.9453026		
435190373320	435190	3773320	0.050507502	0	4.129439121	4.1795148		
435210373320	435210	3773320	0.054602367	0	4.317845301	4.3724477		
435230373320	435230	3773320	0.058580593	0	4.486039166	4.5447198		
435250373320	435250	3773320	0.062196728	0	4.626711078	4.6889078		
435270373320	435270	3773320	0.065121029	0	4.734926938	4.8000478		
435290373320	435290	3773320	0.06746488	0	4.80829606	4.8757609		
435310373320	435310	3773320	0.06931157	0	4.85049547	4.919807		
435330373320	435330	3773320	0.071125949	0	4.884992476	4.9561184		
435350373320	435350	3773320	0.072641026	0	4.897280847	4.9699219		
435170373340	435170	3773340	0.054495386	0	4.22664436	4.2809597		
435190373340	435190	3773340	0.062283196	0	4.489788811	4.552072		
435210373340	435210	3773340	0.069029817	0	4.71200937	4.7810123		
435230373340	435230	3773340	0.074595928	0	4.900957659	4.975553		
435250373340	435250	3773340	0.079226806	0	5.057257564	5.1364844		
435270373340	435270	3773340	0.082912799	0	5.174027879	5.2569407		
435290373340	435290	3773340	0.085701193	0	5.248575788	5.334277		
435310373340	435310	3773340	0.088024838	0	5.296555414	5.3845803		
435330373340	435330	3773340						

Health Risk Assessment Results Summary

School Risk max

0.07

Non-dorm or school max

0.23118839

0.0000

3.58

3.90

Health Risk Assessment Results Su

Non-dorm or scho

0.70

4.20

Sensitive Receptors

MAX:

4.30

Unique Identifier	X (UTM)	Y (UTM)	MAX: 0.32 0.0000 3.58 3.90				Sensitive Receptors	Unique Identifier	X (UTM)	Y (UTM)	Total Risk
			MAX:	Onroad	Onsite	Offroad					
4349403774100	434940	3774100	0.01280138	0	0.140071634	0.152879718	4349403774100	434940	3774100	0.01280138	0.152879718
4347803774120	434780	3774120	0.010200179	0	0.147488751	0.157991104	4347803774120	434780	3774120	0.010200179	0.157991104
4348803774120	434880	3774120	0.010502353	0	0.155542136	0.166448509	4348803774120	434880	3774120	0.010502353	0.166448509
4348203774120	434820	3774120	0.010806373	0	0.164641508	0.175737373	4348203774120	434820	3774120	0.010806373	0.175737373
4348403774120	434840	3774120	0.011095829	0	0.174616076	0.186028711	4348403774120	434840	3774120	0.011095829	0.186028711
4348603774120	434860	3774120	0.011412671	0	0.185751411	0.197486155	4348603774120	434860	3774120	0.011412671	0.197486155
4348803774120	434880	3774120	0.011734744	0	0.198298066	0.210325035	4348803774120	434880	3774120	0.011734744	0.210325035
4349003774120	434900	3774120	0.012026969	0	0.212496918	0.224882988	4349003774120	434900	3774120	0.012026969	0.224882988
4349203774120	434920	3774120	0.01238607	0	0.228722833	0.241526	4349203774120	434920	3774120	0.01238607	0.241526
4349403774120	434940	3774120	0.012803124	0	0.135111998	0.1452476	4349403774120	434940	3774120	0.012803124	0.1452476
4347803774140	434780	3774140	0.010135661	0	0.142069834	0.152513	4347803774140	434780	3774140	0.010135661	0.152513
4348003774140	434800	3774140	0.010443169	0	0.149693144	0.160437972	4348003774140	434800	3774140	0.010443169	0.160437972
4348203774140	434820	3774140	0.010744728	0	0.158084012	0.169091504	4348203774140	434820	3774140	0.010744728	0.169091504
4348403774140	434840	3774140	0.011007515	0	0.167360968	0.178686864	4348403774140	434840	3774140	0.011007515	0.178686864
4348603774140	434860	3774140	0.01125896	0	0.177676075	0.189359718	4348603774140	434860	3774140	0.01125896	0.189359718
4348803774140	434880	3774140	0.011628343	0	0.189247117	0.201255111	4348803774140	434880	3774140	0.011628343	0.201255111
4349003774140	434900	3774140	0.012007993	0	0.202302193	0.214683238	4349003774140	434900	3774140	0.012007993	0.214683238
4349203774140	434920	3774140	0.012381044	0	0.217144845	0.229963663	4349203774140	434920	3774140	0.012381044	0.229963663
4349403774140	434940	3774140	0.012818818	0	0.13036896	0.140452711	4349403774140	434940	3774140	0.012818818	0.140452711
4347803774160	434780	3774160	0.01008376	0	0.136888474	0.1472259	4347803774160	434780	3774160	0.01008376	0.1472259
4348003774160	434800	3774160	0.010337419	0	0.144022487	0.154671004	4348003774160	434800	3774160	0.010337419	0.154671004
4348203774160	434820	3774160	0.010648517	0	0.15184165	0.162801265	4348203774160	434820	3774160	0.010648517	0.162801265
4348403774160	434840	3774160	0.010959516	0	0.160466493	0.1717715	4348403774160	434840	3774160	0.010959516	0.1717715
4348603774160	434860	3774160	0.011304971	0	0.170027346	0.181692	4348603774160	434860	3774160	0.011304971	0.181692
4348803774160	434880	3774160	0.011664688	0	0.180704346	0.192711477	4348803774160	434880	3774160	0.011664688	0.192711477
4349003774160	434900	3774160	0.01200707	0	0.192700458	0.205092827	4349003774160	434900	3774160	0.01200707	0.205092827
4349203774160	434920	3774160	0.012393217	0	0.206248478	0.219103066	4349203774160	434920	3774160	0.012393217	0.219103066
4349403774160	434940	3774160	0.012816458	0	0.125837799	0.135871	4349403774160	434940	3774160	0.012816458	0.135871
4347803774180	434780	3774180	0.010023193	0	0.131598925	0.142218904	4347803774180	434780	3774180	0.010023193	0.142218904
4348003774180	434800	3774180	0.010279979	0	0.138608048	0.149201511	4348003774180	434800	3774180	0.010279979	0.149201511
4348203774180	434820	3774180	0.010593436	0	0.145914154	0.156866106	4348203774180	434820	3774180	0.010593436	0.156866106
4348403774180	434840	3774180	0.010951922	0	0.153931631	0.165240407	4348403774180	434840	3774180	0.010951922	0.165240407
4348603774180	434860	3774180	0.011308766	0	0.162796407	0.174465711	4348603774180	434860	3774180	0.011308766	0.174465711
4348803774180	434880	3774180	0.011669304	0	0.172645263	0.184619111	4348803774180	434880	3774180	0.011669304	0.184619111
4349003774180	434900	3774180	0.011973837	0	0.183676762	0.195968907	4349003774180	434900	3774180	0.011973837	0.195968907
4349203774180	434920	3774180	0.012292115	0	0.196128007	0.208806711	4349203774180	434920	3774180	0.012292115	0.208806711
4349403774180	434940	3774180	0.012678705	0	0.121508619	0.1315059	4349403774180	434940	3774180	0.012678705	0.1315059
4347803774200	434780	3774200	0.009997293	0	0.127229549	0.137492603	4347803774200	434780	3774200	0.009997293	0.137492603
4348003774200	434800	3774200	0.010263095	0	0.133457751	0.144008404	4348003774200	434800	3774200	0.010263095	0.144008404
4348203774200	434820	3774200	0.010559564	0	0.14026539	0.151512	4348203774200	434820	3774200	0.010559564	0.151512
4348403774200	434840	3774200	0.010898584	0	0.147729979	0.158964007	4348403774200	434840	3774200	0.010898584	0.158964007
4348603774200	434860	3774200	0.011233992	0	0.155943319	0.167515005	4348603774200	434860	3774200	0.011233992	0.167515005
4348803774200	434880	3774200	0.011571656	0	0.165027274	0.176920909	4348803774200	434880	3774200	0.011571656	0.176920909
4349003774200	434900	3774200	0.011893627	0	0.175148877	0.187363859	4349003774200	434900	3774200	0.011893627	0.187363859
4349203774200	434920	3774200	0.012214982	0	0.186527256	0.199130909	4349203774200	434920	3774200	0.012214982	0.199130909
4349403774200	434940	3774200	0.012603623	0	0.56807004	0.576790529	4349403774200	434940	3774200	0.012603623	0.576790529
4364003773420	436400	3773420	0.008720488	0	0.553567902	0.562078505	4364003773420	436400	3773420	0.008720488	0.562078505
4364203773420	436420	3773420	0.008510628	0	0.539734789	0.548028407	4364203773420	436420	3773420	0.008510628	0.548028407
4364403773420	436440	3773420	0.008293588	0	0.526509747	0.534594505	4364403773420	436440	3773420	0.008293588	0.534594505
4364603773420	436460	3773420	0.008084753	0	0.513778355	0.521655205	4364603773420	436460	3773420	0.008084753	0.521655205
4364803773420	436480	3773420	0.007876842	0	0.50177147	0.509480207	4364803773420	436480	3773420	0.007876842	0.509480207
4365003773420	436500	3773420	0.007708728	0	0.490229031	0.497774104	4365003773420	436500	3773420	0.007708728	0.497774104
4365203773420	436520	3773420	0.007544204	0	0.479123596	0.486491207	4365203773420	436520	3773420	0.007544204	0.486491207
4365403773420	436540	3773420	0.007365756	0	0.468442628	0.475638107	4365403773420	436540	3773420	0.007365756	0.475638107
4365603773420	436560	3773420	0.007195462	0	0.458216105	0.465249709	4365603773420	436560	3773420	0.007195462	0.465249709
4365803773420	436580	3773420	0.007033605	0	0.580899649	0.589858407	4365803773420	436580	3773420	0.007033605	0.589858407
4366003773440	436600	3773440	0.008958761	0	0.572318316	0.581194302	4366003773440	436600	3773440	0.008958761	0.581194302
4366203773440	436620	3773440	0.008875986	0	0.558059614	0.566731604	4366203773440	436620	3773440	0.008875986	0.566731604
4366403773440	436640	3773440	0.008671972	0	0.544278731						

Health Risk Assessment Results Summary

School Risk max 0.07
Non-dorm or school max 0.23118839
0.0000 3.58 3.90

		MAX:		0.32		0.0000		3.58		3.90	
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Onsite	Offroad	Total Risk					
43654003773640	436540	3773660	0.009146466	0	0.590785879	0.5999323					
43656003773640	436560	3773660	0.00883147	0	0.575623286	0.5844548					
43658003773640	436580	3773660	0.008630021	0	0.561999271	0.5706293					
43640003773660	436400	3773660	0.011339428	0	0.721092216	0.7323316					
43642003773660	436420	3773660	0.010902072	0	0.700890563	0.7117926					
43644003773660	436440	3773660	0.01063467	0	0.682053361	0.692688					
43646003773660	436460	3773660	0.010346035	0	0.663855948	0.674203					
43648003773660	436480	3773660	0.010081504	0	0.646571722	0.6566532					
43650003773660	436500	3773660	0.009856565	0	0.630296279	0.6401528					
43652003773660	436520	3773660	0.009539313	0	0.613727292	0.6232666					
43654003773660	436540	3773660	0.00928186	0	0.598303117	0.607585					
43656003773660	436560	3773660	0.009050357	0	0.583655243	0.5927056					
43658003773660	436580	3773660	0.008805622	0	0.569499031	0.5783047					
43640003773680	436400	3773680	0.011374822	0	0.729764916	0.7411398					
43642003773680	436420	3773680	0.011074713	0	0.709236192	0.7202679					
43644003773680	436440	3773680	0.010457616	0	0.690119765	0.700867					
43646003773680	436460	3773680	0.010457616	0	0.682111395	0.692688					
43648003773680	436480	3773680	0.010186639	0	0.65407039	0.664257					
43650003773680	436500	3773680	0.009967855	0	0.637498027	0.6474659					
43652003773680	436520	3773680	0.009605984	0	0.620392603	0.6299986					
43654003773680	436540	3773680	0.00937243	0	0.604998576	0.614371					
43656003773680	436560	3773680	0.009151595	0	0.590258621	0.5994102					
43658003773680	436580	3773680	0.008885628	0	0.575584171	0.5844698					
43640003773700	436400	3773700	0.011496882	0	0.737547081	0.749044					
43642003773700	436420	3773700	0.0115150294	0	0.716758169	0.7279085					
43644003773700	436440	3773700	0.010846171	0	0.697207638	0.7080538					
43646003773700	436460	3773700	0.010563588	0	0.67860584	0.6891694					
43648003773700	436480	3773700	0.010302647	0	0.660921717	0.6712244					
43650003773700	436500	3773700	0.010049399	0	0.64366631	0.6540157					
43652003773700	436520	3773700	0.009715735	0	0.626792602	0.6365083					
43654003773700	436540	3773700	0.009483104	0	0.611219878	0.620703					
43656003773700	436560	3773700	0.009258166	0	0.596255939	0.6055141					
43658003773700	436580	3773700	0.009019586	0	0.581673799	0.5906934					
43640003773720	436400	3773720	0.011602325	0	0.744372281	0.7559746					
43642003773720	436420	3773720	0.011239634	0	0.723374985	0.7346146					
43644003773720	436440	3773720	0.010933459	0	0.703608599	0.7145421					
43646003773720	436460	3773720	0.010661543	0	0.684783087	0.6954446					
43648003773720	436480	3773720	0.01038337	0	0.666740103	0.6771235					
43650003773720	436500	3773720	0.010138738	0	0.649688165	0.6598269					
43652003773720	436520	3773720	0.009819127	0	0.632639133	0.6442383					
43654003773720	436540	3773720	0.009573115	0	0.616718606	0.6263899					
43656003773720	436560	3773720	0.009382277	0	0.601834445	0.6112167					
43658003773720	436580	3773720	0.009177135	0	0.587409636	0.5965868					
43640003773740	436400	3773740	0.011676689	0	0.75019355	0.7618702					
43642003773740	436420	3773740	0.01132887	0	0.729020462	0.7403493					
43644003773740	436440	3773740	0.011020747	0	0.709078342	0.7200991					
43646003773740	436460	3773740	0.010731907	0	0.690080726	0.7008126					
43648003773740	436480	3773740	0.010449734	0	0.671837005	0.6822867					
43650003773740	436500	3773740	0.010192999	0	0.654519919	0.6647129					
43652003773740	436520	3773740	0.009842513	0	0.63699623	0.6468387					
43654003773740	436540	3773740	0.009582803	0	0.620842043	0.6304248					
43656003773740	436560	3773740	0.009462882	0	0.606306747	0.6158293					
43658003773740	436580	3773740	0.009317042	0	0.59314135	0.6014584					
43640003773760	436400	3773760	0.011748078	0	0.754883764	0.7666318					
43642003773760	436420	3773760	0.011403232	0	0.733657722	0.745061					
43644003773760	436440	3773760	0.011098291	0	0.713622642	0.7247209					
43646003773760	436460	3773760	0.010803399	0	0.694437862	0.7052431					
43648003773760	436480	3773760	0.010540202	0	0.676264913	0.6868051					
43650003773760	436500	3773760	0.010275979	0	0.658744068	0.66902					
43652003773760	436520	3773760	0.009901286	0	0.640940101	0.6508414					
43654003773760	436540	3773760	0.009641371	0	0.624710322	0.6343517					
43656003773760	436560	3773760	0.009508029	0	0.610076004	0.6195841					
43658003773760	436580	3773760	0.009349967	0	0.595648625	0.6049986					
43640003773780	436400	3773780	0.011783568	0	0.75840664	0.7702342					
43642003773780	436420	3773780	0.011447545	0	0.737238175	0.7486857					
43644003773780	436440	3773780	0.011415176	0	0.717120851	0.7282634					
43646003773780	436460	3773780	0.010878789	0	0.697998821	0.7088776					
43648003773780	436480	3773780	0.010615386	0	0.679713846	0.6903292					
43650003773780	436500	3773780	0.010334136	0	0.661990003	0.6723241					
43652003773780	436520	3773780	0.009957701	0	0.644345886	0.6543036					
43654003773780	436540	3773780	0.009690606	0	0.62796835	0.637659					
43656003773780	436560	3773780	0.009565674	0	0.613162423	0.6227281					
43658003773780	436580	3773780	0.009366789	0	0.598436386	0.6078032					
43640003773800	436400	3773800	0.01182675	0	0.760930135	0.7727569					
43642003773800	436420	3773800	0.01150919	0	0.739864984	0.7513742					
43644003773800	436440	3773800	0.011013575	0	0.719708665	0.7309022					
43646003773800	436460	3773800	0.010912637	0	0.700460756	0.7113734					
43648003773800	436480	3773800	0.010629233	0	0.682001195	0.6926304					
43650003773800	436500	3773800	0.010358856	0	0.664328122	0.674687					
43652003773800	436520	3773800	0.010080888	0	0.647262791	0.6573437					
43654003773800	436540	3773800	0.009844052	0	0.631100307	0.6409443					
43656003773800	436560	3773800	0.00961337	0	0.615551667	0.625165					
43658003773800	436580	3773800	0.009398175	0	0.600581362	0.6099795					
43504003773340	435040	3773340	0.022783288	0	0.309800434	0.3325837					
43506003773340	435060	3773340	0.025266636	0	0.343426836	0.3686935					
43508003773340	435080	3773340	0.028353306	0	0.377936348	0.4062897					
43510003773340	435100	3773340	0.032240339	0	0.413048003	0.4452283					
43512003773340	435120	3773340	0.037188572	0	0.448899216	0.4861788					
43504003773360	435040	3773360	0.03703355	0	0.327196177	0.3508997					
43506003773360	435060	3773360	0.02652549	0	0.364540608	0.3910661					
43508003773360	435080	3773360	0.030179584	0	0.402098703	0.4331783					
43510003773360	435100	3773360	0.03510761	0	0.443207284	0.4783149					
43512003773360	435120	3773360	0.041871453	0	0.484174949	0.5260464					
43504003773380	435040	3773380	0.024456017	0	0.346426847	0.3708829					
43506003773380	435060	3773380	0.027611	0	0.389248902	0.4168599					
43508003773380	435080	3773380	0.031808207	0	0.43233834	0.4640465					
43510003773380	435100	3773380	0.037762149	0	0.47650804	0.5127706					
43512003773380	435120	3773380	0.04678938	0	0.52250521	0.5692995					
43514003773380	435140	3773380	0.061424368	0	0.570862494	0.6322887					
43504003773400	435040	3773400	0.024987335	0	0.368378669	0.3933636					
43506003773400	435060	3773400	0.028334331	0	0.416647114	0.4498814					
43508003773400	435080	3773400	0.032922642	0	0.465542093	0.4984647					
43510003773400	435100	3773400	0.039971974	0	0.516505916	0.5553739					
43512003773400	435120	3773400	0.050971794	0	0.576566994	0.6185578					
43514003773400	435140	3773400	0.07283651	0	0.678316184	0.7381619					
43508003773440	435080	3773440	0.033208052	0	0.556059279	0.5891161					
43510003773440	435100	3773440	0.039534561	0	0.627987231	0.6652909					
43512003773440	435120	3773440	0.049808376	0	0.689808763	0					

Phase 2 Health Risk Assessment

Claremont McKenna Health Risk Assessment

Health Risk Assessment Resul School Risk max 0.57 0.34 0.91
Non-dorm or sc 0.67 0.23 0.89

MAX:					
		1.10	0.80	1.90	
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk
4349803774260	434980	3774260	0.103958119	0.019108015	0.123066
4350003774260	435000	3774260	0.107423071	0.020459249	0.127882
4350203774260	435020	3774260	0.111533573	0.022001198	0.133535
4349803774280	434980	3774280	0.103563307	0.018107232	0.121671
4350003774280	435000	3774280	0.10689692	0.019311918	0.126209
4350203774280	435020	3774280	0.110998666	0.020676069	0.131675
4349803774300	434980	3774300	0.103380229	0.017170333	0.120551
4350003774300	435000	3774300	0.106659715	0.018215532	0.124875
4350203774300	435020	3774300	0.110691413	0.019412202	0.130104
4349803774320	434980	3774320	0.103140635	0.016281407	0.119422
4350003774320	435000	3774320	0.106745682	0.017217409	0.123963
4350203774320	435020	3774320	0.110655594	0.01825998	0.128916
4349803774340	434980	3774340	0.102962333	0.015432249	0.118395
4350003774340	435000	3774340	0.105813576	0.016214266	0.122028
4350203774340	435020	3774340	0.110170835	0.017170011	0.127341
4348603774280	434860	3774280	0.08583657	0.013021774	0.098858
4348803774280	434880	3774280	0.088339168	0.01368215	0.102021
4349003774280	434900	3774280	0.091164143	0.014403638	0.105568
4349203774280	434920	3774280	0.094202444	0.015193159	0.109396
4348603774300	434860	3774300	0.085363751	0.012532925	0.097897
4348803774300	434880	3774300	0.088063755	0.01314334	0.101207
4349003774300	434900	3774300	0.090911813	0.013807788	0.10472
4349203774300	434920	3774300	0.093943746	0.014532253	0.108476
4348603774320	434860	3774320	0.085207736	0.012065809	0.097274
4348803774320	434880	3774320	0.087926844	0.012630177	0.100557
4349003774320	434900	3774320	0.090745451	0.013241662	0.103987
4349203774320	434920	3774320	0.093662761	0.013905987	0.107569
4347803774340	434780	3774340	0.075837321	0.009868878	0.085706
4348003774340	434800	3774340	0.077957047	0.010262718	0.08822
4348203774340	434820	3774340	0.080123737	0.010683574	0.090807
4348403774340	434840	3774340	0.08253798	0.011134807	0.093673
4348603774340	434860	3774340	0.085094706	0.011619517	0.096714
4348803774340	434880	3774340	0.087805058	0.012141248	0.099946
4349003774340	434900	3774340	0.090496306	0.012703346	0.1032
4349203774340	434920	3774340	0.093440679	0.013311968	0.106753
4349403774340	434940	3774340	0.096500472	0.013972195	0.110473
4349603774340	434960	3774340	0.099645435	0.01467664	0.114322
4347803774360	434780	3774360	0.0755635	0.009562711	0.085126
4348003774360	434800	3774360	0.07773019	0.0099315	0.087662
4348203774360	434820	3774360	0.079936679	0.010323886	0.090261
4348403774360	434840	3774360	0.082343758	0.010743717	0.093087
4348603774360	434860	3774360	0.084808944	0.011192799	0.096002
4348803774360	434880	3774360	0.087525664	0.011674723	0.0992
4349003774360	434900	3774360	0.090204973	0.012186212	0.102391
4349203774360	434920	3774360	0.093109547	0.012735895	0.105845
4349403774360	434940	3774360	0.096219487	0.01332773	0.109547
4349603774360	434960	3774360	0.099453601	0.013962963	0.113417
4347803774380	434780	3774380	0.075306395	0.009267755	0.084574
4348003774380	434800	3774380	0.077498556	0.009612546	0.087111
4348203774380	434820	3774380	0.079748825	0.009978738	0.089728
4348403774380	434840	3774380	0.082186152	0.010368889	0.092555
4348603774380	434860	3774380	0.084597211	0.010778964	0.095376
4348803774380	434880	3774380	0.087347362	0.011223612	0.098571
4349003774380	434900	3774380	0.090003587	0.011683913	0.101687
4349203774380	434920	3774380	0.092823786	0.012180888	0.105005
4349403774380	434940	3774380	0.095926562	0.012717671	0.108644
4349603774380	434960	3774380	0.099177392	0.01329252	0.11247
4347803774400	434780	3774400	0.075085109	0.008981517	0.084067
4348003774400	434800	3774400	0.077201651	0.009298897	0.086501
4348203774400	434820	3774400	0.079491719	0.009636906	0.089129
4348403774400	434840	3774400	0.081945762	0.00999721	0.091943
4348603774400	434860	3774400	0.084465872	0.010377681	0.094844
4348803774400	434880	3774400	0.087205676	0.010786797	0.097992
4349003774400	434900	3774400	0.089759217	0.011205904	0.100965
4349203774400	434920	3774400	0.092624788	0.011659231	0.104284
4349403774400	434940	3774400	0.095616125	0.012143417	0.107736
4349603774400	434960	3774400	0.098870139	0.012662502	0.111532
4347803774420	434780	3774420	0.074844719	0.008695409	0.08354
4348003774420	434800	3774420	0.077006633	0.008992291	0.085999
4348203774420	434820	3774420	0.079250534	0.009306195	0.088557
4348403774420	434840	3774420	0.081673533	0.009639174	0.091313
4348603774420	434860	3774420	0.084230258	0.009991807	0.094222
4348803774420	434880	3774420	0.087048069	0.010372529	0.097421
4349003774420	434900	3774420	0.089592855	0.010756193	0.100349
4349203774420	434920	3774420	0.092387582	0.011166683	0.103554
4349403774420	434940	3774420	0.095383695	0.011606508	0.10699
4349603774420	434960	3774420	0.09865363	0.01207698	0.110731
4347803774440	434780	3774440	0.074593186	0.008420934	0.083014
4348003774440	434800	3774440	0.076774203	0.008698573	0.085473
4348203774440	434820	3774440	0.078985469	0.008988672	0.087974
4348403774440	434840	3774440	0.081308969	0.009293195	0.090602
4348603774440	434860	3774440	0.083742315	0.009613763	0.093356
4348803774440	434880	3774440	0.086447892	0.009958146	0.096406
4349003774440	434900	3774440	0.089353262	0.010324346	0.099678
4349203774440	434920	3774440	0.092149581	0.010700847	0.10285
4349403774440	434940	3774440	0.095168778	0.011009677	0.106268
4349603774440	434960	3774440	0.098294637	0.011520639	0.109815
4349803774340	434980	3774340	0.102962333	0.015432249	0.118395
4350003774340	435000	3774340	0.105813576	0.016214266	0.122028
4350203774340	435020	3774340	0.110170835	0.017170011	0.127341
4349803774360	434980	3774360	0.102670204	0.014638144	0.117308
4350003774360	435000	3774360	0.105448215	0.015328758	0.120777
4350203774360	435020	3774360	0.11007054	0.016189978	0.126261
4350403774360	435040	3774360	0.114287704	0.017080402	0.131368
4350603774360	435060	3774360	0.118701479	0.01805229	0.136754
4349803774380	434980	3774380	0.102424243	0.013901187	0.116325
4350003774380	435000	3774380	0.105248421	0.014518879	0.119767
4350203774380	435020	3774380	0.109876318	0.015282161	0.125158
4350403774380	435040	3774380	0.114176265	0.01607049	0.130247
4350603774380	435060	3774380	0.118796202	0.016927379	0.135724
4350803774380	435080	3774380	0.123778314	0.017861721	0.14164
4351003774380	435100	3774380	0.128832862	0.01885779	0.147691
4351203774380	435120	3774380	0.134258342	0.019932484	0.154191
4351403774380	435140	3774380	0.139987891	0.02036037	0.160348
4349803774400	434980	3774400	0.102267432	0.013212799	0.115485
4350003774400	435000	3774400	0.105294589	0.013776701	0.119071
4350203774400	435020	3774400	0.109903381	0.014455171	0.124359
4350403774400	435040	3774400	0.113972491	0.015137816	0.12911
4350603774400	435060	3774400	0.1185383	0.015882577	0.134421
4350803774400	435080	3774400	0.123256144	0.016670284	0.139926
4351003774400	435100	3774400	0.128320243	0.016991863	0.145312
4351203774400	435120	3774400	0.134039444	0.017859939	0.151899
4351403774400	435140	3774400	0.139195879	0.018623427	0.157819
4349803774420	434980	3774420	0.102237185	0.012583871	0.114821
4350003774420	435000	3774420	0.105144147	0.013078971	0.118223
4350203774420	435020	3774420	0.109706771	0.01368077	0.123388
4350403774420	435040	3774420	0.114122138	0.014301724	0.128424
4350603774420	435060	3774420	0.118696703	0.014956151	0.133653
4350803774420	435080	3774420	0.122787304	0.015120545	0.137908
4351003774420	435100	3774420	0.128051198	0.015820394	0.143872
4351203774420	435120	3774420	0.133645428	0.016539126	0.150185
4351403774420	435140	3774420	0.139408409	0.017266976	0.156675
4356003773820	435600	3773820	1.294468105	0.772528585	2.066997
4356203773820	435620	3773820	1.637504743	0.663196244	2.300701
4356403773820	435640	3773820	1.10743312	0.581742601	1.689176
4356603773820	435660	3773820	0.844162021	0.517297534	1.36146
4356803773820	435680	3773820	0.685766821	0.465011588	1.150778
4357003773820	435700	3773820	0.581887505	0.421422718	1.00331
4357203773820	435720	3773820	0.504994699	0.384414025	0.889409
4357403773820	435740	3773820	0.446588802	0.352732241	0.799521
4356003773840	435600	3773840	1.794112943	0.768708877	2.562822
4356203773840	435620	3773840	1.576563613	0.678716144	2.25528
4356403773840	435640	3773840	1.081571347	0.590244686	1.671816

Claremont McKenna Health Risk Assessment

Health Risk Assessment Results Sum School Risk max 0.91 0.34 0.91
Non-dorm or schoi 2.56

Health Risk Assessment Resul	School Risk max	0.570.340.91			
		Non-dorm or sc0.670.230.89			
		MAX:			
		1.100.801.90			
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk
4356603773840	435660	3773840	0.83035236	0.520255505	1.350608
4356803773840	435680	3773840	0.678988951	0.464620766	1.14361
4357003773840	435700	3773840	0.57596055	0.419253908	0.995214
4357203773840	435720	3773840	0.500971756	0.381509048	0.882481
4357403773840	435740	3773840	0.44407506	0.349456127	0.793531
4356003773860	435600	3773860	1.223567525	0.764138543	1.987706
4356203773860	435620	3773860	1.593108302	0.669287498	2.262396
4356403773860	435640	3773860	1.088242554	0.580330759	1.668573
4356603773860	435660	3773860	0.833530755	0.511359809	1.344891
4356803773860	435680	3773860	0.678992135	0.456923776	1.135916
4357003773860	435700	3773860	0.575066651	0.412413604	0.98748
4357203773860	435720	3773860	0.499546931	0.375573081	0.87512
4357403773860	435740	3773860	0.442183783	0.344388823	0.786573
4356003773880	435600	3773880	1.193055668	0.758967525	1.952023
4356203773880	435620	3773880	1.606011329	0.659670602	2.265682
4356403773880	435640	3773880	1.091853968	0.571240342	1.663094
4356603773880	435660	3773880	0.833225589	0.504262661	1.337489
4356803773880	435680	3773880	0.677769491	0.450735512	1.128505
4357003773880	435700	3773880	0.57190736	0.406502477	0.97841
4357203773880	435720	3773880	0.497222635	0.369813636	0.867036
4357403773880	435740	3773880	0.441485698	0.339423367	0.780909
4356003773900	435600	3773900	1.191325082	0.753064245	1.944389
4356203773900	435620	3773900	1.610349484	0.650838849	2.261188
4356403773900	435640	3773900	1.091251403	0.562709693	1.653961
4356603773900	435660	3773900	0.831247851	0.496322679	1.327571
4356803773900	435680	3773900	0.675106103	0.443513259	1.118619
4357003773900	435700	3773900	0.571446481	0.399866385	0.971313
4357203773900	435720	3773900	0.496735488	0.363776709	0.860512
4357403773900	435740	3773900	0.439241798	0.333903641	0.773145
4356003773920	435600	3773920	1.219424387	0.745993362	1.965418
4356203773920	435620	3773920	1.612078378	0.641229153	2.253308
4356403773920	435640	3773920	1.090339196	0.55353695	1.643876
4356603773920	435660	3773920	0.82980632	0.487707219	1.317688
4356803773920	435680	3773920	0.673555511	0.435513624	1.109609
4357003773920	435700	3773920	0.569485953	0.392643063	0.962129
4357203773920	435720	3773920	0.494532183	0.357369451	0.851902
4357403773920	435740	3773920	0.437109336	0.328109084	0.765218
4356003773940	435600	3773940	1.279169143	0.738337949	2.017507
4356203773940	435620	3773940	1.609463545	0.630816181	2.24028
4356403773940	435640	3773940	1.088112807	0.543520533	1.631633
4356603773940	435660	3773940	0.828796196	0.475837855	1.307334
4356803773940	435680	3773940	0.672909961	0.427058415	1.099968
4357003773940	435700	3773940	0.56890498	0.384977011	0.953958
4357203773940	435720	3773940	0.493019798	0.350405987	0.843426
4357403773940	435740	3773940	0.436767855	0.321844361	0.758612
4356003773960	435600	3773960	1.779204017	0.729714041	2.508918
4356203773960	435620	3773960	1.607269792	0.619181547	2.226451
4356403773960	435640	3773960	1.085831495	0.532639548	1.618471
4356603773960	435660	3773960	0.827508281	0.468493024	1.296001
4356803773960	435680	3773960	0.671731097	0.417807574	1.089539
4357003773960	435700	3773960	0.567525425	0.376704326	0.94423
4357203773960	435720	3773960	0.492288282	0.343180385	0.835469
4357403773960	435740	3773960	0.434893294	0.315332603	0.750226
4356003773980	435600	3773980	1.212794313	0.719220442	1.936515
4356203773980	435620	3773980	1.60255354	0.605570782	2.208124
4356403773980	435640	3773980	1.084373238	0.520754549	1.605128
4356603773980	435660	3773980	0.826483044	0.457119123	1.283602
4356803773980	435680	3773980	0.671131716	0.407398999	1.078512
4357003773980	435700	3773980	0.566808237	0.36762826	0.934436
4357203773980	435720	3773980	0.491382443	0.335186475	0.826569
4357403773980	435740	3773980	0.434648129	0.320200509	0.742868
4356003774000	435600	3774000	1.187074485	0.7077689	1.894843
4356203774000	435620	3774000	1.5940619	0.591358969	2.185421
4356403774000	435640	3774000	1.080904305	0.507710578	1.588615
4356603774000	435660	3774000	0.824907776	0.445385894	1.270294
4356803774000	435680	3774000	0.670502086	0.396858404	1.06736
4357003774000	435700	3774000	0.566233531	0.358178077	0.924412
4357203774000	435720	3774000	0.491165138	0.32669214	0.817857
4357403774000	435740	3774000	0.433215344	0.30079655	0.734012
4357603774000	435760	3774000	0.388381107	0.278416917	0.666798
4356003774020	435600	3774020	1.187365818	0.694511428	1.881877
4356203774020	435620	3774020	1.597113732	0.583656852	2.180771
4356403774020	435640	3774020	1.081495727	0.499204567	1.5807
4356603774020	435660	3774020	0.823101671	0.43647304	1.259575
4356803774020	435680	3774020	0.667350755	0.388411906	1.055763
4357003774020	435700	3774020	0.564475981	0.394798486	0.914274
4357203774020	435720	3774020	0.489607382	0.318452885	0.80806
4357403774020	435740	3774020	0.432723421	0.292864831	0.725588
4357603774020	435760	3774020	0.387850976	0.271554303	0.659405
4357803774020	435780	3774020	0.351354753	0.253031943	0.604387
4358003774020	435800	3774020	0.321181092	0.236915563	0.558097
4358203774020	435820	3774020	0.296511715	0.222670404	0.519182
4356003774040	435600	3774040	1.214989121	0.678192704	1.893182
4356203774040	435620	3774040	1.596724492	0.566226681	2.162951
4356403774040	435640	3774040	1.080322435	0.4837767	1.56409
4356603774040	435660	3774040	0.821805	0.422924262	1.244729
4356803774040	435680	3774040	0.665745239	0.376406924	1.042152
4357003774040	435700	3774040	0.562941309	0.339180339	0.902122
4357203774040	435720	3774040	0.489084415	0.30906801	0.798091
4357403774040	435740	3774040	0.431738779	0.284362394	0.716101
4357603774040	435760	3774040	0.38706374	0.263770774	0.650835
4357803774040	435780	3774040	0.350841338	0.245969453	0.596811
4358003774040	435800	3774040	0.320900903	0.230494689	0.551396
4358203774040	435820	3774040	0.295757911	0.216878644	0.512637
4356003774060	435600	3774060	1.273735703	0.660403068	1.934139
4356203774060	435620	3774060	1.593492766	0.546460895	2.139954
4356403774060	435640	3774060	1.080326415	0.466357383	1.546684
4356603774060	435660	3774060	0.821642618	0.407733557	1.229376
4356803774060	435680	3774060	0.666238754	0.362934843	1.029174
4357003774060	435700	3774060	0.562854545	0.327515698	0.89037
4357203774060	435720	3774060	0.488288423	0.298792602	0.787081
4357403774060	435740	3774060	0.431617788	0.275254395	0.706872
4357603774060	435760	3774060	0.386778875	0.255427268	0.642252
4357803774060	435780	3774060	0.350499062	0.238497729	0.588997
4358003774060	435800	3774060	0.320443208	0.223733222	0.544176
4358203774060	435820	3774060	0.295958501	0.210734413	0.506693
4358403774060	435840	3774060	0.274432495	0.198994467	0.473427
4356003774080	435600	3774080	1.771326882	0.640422753	2.41175
4356203774080	435620	3774080	1.591141406	0.525747659	2.116889
4356403774080	435640	3774080	1.078861791	0.44733181	1.526194
4356603774080	435660	3774080	0.821348101	0.390925707	1.212274
4356803774080	435680	3774080	0.665914786	0.348358849	1.014274
4357003774080	435700	3774080	0.56259346	0.315056397	0.87765
4357203774080	435720	3774080	0.488017786	0.287899333	0.775917
4357403774080	435740	3774080	0.430967463	0.265574744	0.696542
4357603774080	435760	3774080	0.386192925	0.246776796	0.63297
4357803774080	435780	3774080	0.350019875	0.230629778	0.58065
4358003774080	435800	3774080	0.320534747	0.216598412	0.537133
4358203774080	435820	3774080	0.295193553	0.204219664	0.499413
4358403774080	435840	3774080	0.274199269	0.193149082	0.467348
4356003774100	435600	3774100	1.214594309	0.613230802	1.827825
4356203774100	435620	3774100	1.588316431	0.500409789	2.088726
4356403774100	435640	3774100	1.077143244	0.425776956	1.50292
4356603774100	435660	3774100	0.820931001	0.372493893	1.193425
4356803774100	435680	3774100	0.665803347	0.332419196	0.998223
4357003774100	435700	3774100	0.56184284	0.301513748	0.863357
4357203774100	435720	3774100	0.487532231	0.276210638	0.763743
4357403774100	435740	3774100	0.430936419	0.255232789	0.686169
4357603774100	435760	3774100	0.38577503	0.237580676	0.623356
4357803774100	435780	3774100	0.34947064	0.222348874	0.57182
4358003774100	435800	3774100	0.319833478	0.209030571	0.528864
4358203774100	435820	3774100	0.294550391	0.197301653	0.491852
4358403774100	435840	3774100	0.273728838	0.186842719	0.460572
4356003774120	435600	3774120	1.184087128	0.579213291	1.7633

Health Risk Assessment ResulSchool Risk max
Non-dorm or sc 0.57 0.34 0.91
0.67 0.23 0.89

MAX:						1.10	0.80	1.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk			
4356403774120	435640	3774120	1.075793242	0.401851835	1.477645			
4356603774120	435660	3774120	0.820462958	0.352224946	1.172688			
4356803774120	435680	3774120	0.665063074	0.315116023	0.980179			
4357003774120	435700	3774120	0.561151919	0.286618903	0.847771			
4357203774120	435720	3774120	0.487596706	0.263738793	0.751335			
4357403774120	435740	3774120	0.430709562	0.244218716	0.674928			
4357603774120	435760	3774120	0.385591951	0.227729758	0.613322			
4357803774120	435780	3774120	0.349578099	0.213481205	0.563059			
4358003774120	435800	3774120	0.319830294	0.200998275	0.520829			
4358203774120	435820	3774120	0.294670586	0.189967027	0.484638			
4358403774120	435840	3774120	0.272985382	0.180111763	0.453097			
4356003774140	435600	3774140	1.183230641	0.537639474	1.72087			
4356203774140	435620	3774140	1.58034537	0.438721515	2.019067			
4356403774140	435640	3774140	1.074509307	0.374139331	1.448649			
4356603774140	435660	3774140	0.817585448	0.329375001	1.14696			
4356803774140	435680	3774140	0.663171002	0.296071314	0.959242			
4357003774140	435700	3774140	0.560800091	0.270737159	0.831537			
4357203774140	435720	3774140	0.487396116	0.250469903	0.737866			
4357403774140	435740	3774140	0.430687274	0.232544754	0.663232			
4357603774140	435760	3774140	0.385852241	0.217284619	0.603137			
4357803774140	435780	3774140	0.349465068	0.204074712	0.55354			
4358003774140	435800	3774140	0.319479262	0.192484055	0.511963			
4358203774140	435820	3774140	0.294204135	0.182206905	0.476411			
4358403774140	435840	3774140	0.272736236	0.172914949	0.445651			
4356003774160	435600	3774160	1.210956627	0.488600187	1.699557			
4356203774160	435620	3774160	1.579115562	0.401452332	1.980568			
4356403774160	435640	3774160	1.071067439	0.344551002	1.415618			
4356603774160	435660	3774160	0.816039632	0.30594837	1.121988			
4356803774160	435680	3774160	0.66238297	0.276665943	0.939049			
4357003774160	435700	3774160	0.560526269	0.254237638	0.814764			
4357203774160	435720	3774160	0.487356317	0.236382377	0.723739			
4357403774160	435740	3774160	0.430522504	0.220148972	0.650671			
4357603774160	435760	3774160	0.385743986	0.206248292	0.591992			
4357803774160	435780	3774160	0.349330546	0.194159043	0.54349			
4358003774160	435800	3774160	0.319339167	0.183521182	0.50286			
4358203774160	435820	3774160	0.293827631	0.174034065	0.467862			
4358403774160	435840	3774160	0.272502215	0.165335396	0.437838			
4356003774180	435600	3774180	1.270250055	0.431390675	1.701641			
4356203774180	435620	3774180	1.577273637	0.361271479	1.938545			
4356403774180	435640	3774180	1.071783832	0.314739863	1.386524			
4356603774180	435660	3774180	0.816151071	0.281832813	1.097984			
4356803774180	435680	3774180	0.662265163	0.256718066	0.918983			
4357003774180	435700	3774180	0.559911764	0.237058485	0.79697			
4357203774180	435720	3774180	0.486826186	0.221281364	0.708108			
4357403774180	435740	3774180	0.429862626	0.206878176	0.636741			
4357603774180	435760	3774180	0.384990978	0.19445224	0.579443			
4357803774180	435780	3774180	0.348863299	0.183533942	0.532397			
4358003774180	435800	3774180	0.318709538	0.173869686	0.492579			
4358203774180	435820	3774180	0.2933572	0.165234571	0.458601			
4358403774180	435840	3774180	0.271650504	0.157287557	0.428938			
4356003774200	435600	3774200	1.763679789	0.368009846	2.13169			
4356203774200	435620	3774200	1.574920686	0.31845039	1.893371			
4356403774200	435640	3774200	1.071959746	0.283381582	1.355341			
4356603774200	435660	3774200	0.817321974	0.25687063	1.074193			
4356803774200	435680	3774200	0.66294096	0.235878781	0.89882			
4357003774200	435700	3774200	0.559053685	0.218764644	0.777818			
4357203774200	435720	3774200	0.484025887	0.204348794	0.688375			
4357403774200	435740	3774200	0.428502276	0.191982998	0.620485			
4357603774200	435760	3774200	0.383857485	0.183508412	0.567366			
4357803774200	435780	3774200	0.347673291	0.174073849	0.521747			
4358003774200	435800	3774200	0.317923098	0.16570107	0.483625			
4358203774200	435820	3774200	0.292987859	0.158191237	0.451179			
4358403774200	435840	3774200	0.272703601	0.151363481	0.424067			
4351703773020	435170	3773020	0.099494197	0.157174895	0.256669			
4351903773020	435190	3773020	0.102031819	0.16458326	0.266615			
4352103773020	435210	3773020	0.104458798	0.17169443	0.276153			
4352303773020	435230	3773020	0.106585688	0.177981021	0.284567			
4352503773020	435250	3773020	0.108562931	0.183776963	0.29234			
4352703773020	435270	3773020	0.110437492	0.189174501	0.299612			
4352903773020	435290	3773020	0.112156038	0.194021114	0.306177			
4353103773020	435310	3773020	0.113744838	0.198362004	0.312107			
4353303773020	435330	3773020	0.115160111	0.202757575	0.317238			
4353503773020	435350	3773020	0.116366835	0.205061687	0.321429			
4353703773020	435370	3773020	0.117489183	0.207641101	0.32513			
4353903773020	435390	3773020	0.118256519	0.20909732	0.327354			
4354103773020	435410	3773020	0.118789038	0.209757718	0.328547			
4354303773020	435430	3773020	0.119118578	0.209719359	0.328838			
4354503773020	435450	3773020	0.119439363	0.209510933	0.32895			
4354703773020	435470	3773020	0.119475979	0.208435413	0.327911			
4354903773020	435490	3773020	0.119319964	0.206763384	0.326083			
4355103773020	435510	3773020	0.118763566	0.20392565	0.322689			
4355303773020	435530	3773020	0.117836236	0.200046244	0.317882			
4355503773020	435550	3773020	0.116198084	0.194379247	0.310577			
4351703773040	435170	3773040	0.104813014	0.162909622	0.267723			
4351903773040	435190	3773040	0.107563166	0.170660793	0.278171			
4352103773040	435210	3773040	0.110119095	0.177793788	0.287913			
4352303773040	435230	3773040	0.112523786	0.184521472	0.297045			
4352503773040	435250	3773040	0.114794751	0.19080459	0.305599			
4352703773040	435270	3773040	0.116943929	0.196643436	0.313587			
4352903773040	435290	3773040	0.118930724	0.201922821	0.320854			
4353103773040	435310	3773040	0.120720114	0.206534635	0.327255			
4353303773040	435330	3773040	0.122423536	0.210745871	0.333169			
4353503773040	435350	3773040	0.123790254	0.213917506	0.337708			
4353703773040	435370	3773040	0.124926134	0.216309205	0.341235			
4353903773040	435390	3773040	0.125910776	0.218128443	0.344039			
4354103773040	435410	3773040	0.126529262	0.218829506	0.345359			
4354303773040	435430	3773040	0.126807859	0.218496492	0.345304			
4354503773040	435450	3773040	0.127080884	0.218005287	0.345086			
4354703773040	435470	3773040	0.127103968	0.216760032	0.343864			
4354903773040	435490	3773040	0.126888254	0.214827426	0.341716			
4355103773040	435510	3773040	0.126277728	0.211808434	0.338086			
4355303773040	435530	3773040	0.125430793	0.208164164	0.333595			
4355503773040	435550	3773040	0.124250337	0.203659561	0.327921			
4351703773060	435170	3773060	0.110634102	0.168954416	0.279589			
4351903773060	435190	3773060	0.113655687	0.177014351	0.29067			
4352103773060	435210	3773060	0.116505337	0.184610576	0.301116			
4352303773060	435230	3773060	0.119265837	0.191895276	0.311161			
4352503773060	435250	3773060	0.121853606	0.198649519	0.320503			
4352703773060	435270	3773060	0.124286157	0.204888791	0.329175			
4352903773060	435290	3773060	0.126545182	0.210544791	0.337079			
4353103773060	435310	3773060	0.128555857	0.215422417	0.343978			
4353303773060	435330	3773060	0.130472605	0.21987915	0.350352			
4353503773060	435350	3773060	0.132049465	0.22331085	0.35536			
4353703773060	435370	3773060	0.13329758	0.225734549	0.359032			
4353903773060	435390	3773060	0.134398437	0.227602559	0.362001			
4354103773060	435410	3773060	0.135104481	0.228313537	0.363481			
4354303773060	435430	3773060	0.135387058	0.227823454	0.363211			
4354503773060	435450	3773060	0.135658492	0.227150299	0.362809			
4354703773060	435470	3773060	0.135636204	0.225648904	0.361285			
4354903773060	435490							

Health Risk Assessment Resul	School Risk max		0.57	0.34	0.91
	Non-dorm or sc		0.67	0.23	0.89
	MAX:		1.10	0.80	1.90
	Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad
4354103773080	435410	3773080	0.144751902	0.238483818	0.383236
4354303773080	435430	3773080	0.145082238	0.237911219	0.382993
4354503773080	435450	3773080	0.145450782	0.237276189	0.382727
4354703773080	435470	3773080	0.145384715	0.235522161	0.380907
4354903773080	435490	3773080	0.144979555	0.232902309	0.377882
4355103773080	435510	3773080	0.144225751	0.22944204	0.373668
4355303773080	435530	3773080	0.143186982	0.225351679	0.368539
4355503773080	435550	3773080	0.14162445	0.220055128	0.36168
4351703773100	435170	3773100	0.124215314	0.18231903	0.306534
4351903773100	435190	3773100	0.128041646	0.191423136	0.319465
4352103773100	435210	3773100	0.131771664	0.200233004	0.332005
4352303773100	435230	3773100	0.135438798	0.208796332	0.344235
4352503773100	435250	3773100	0.138897382	0.216772519	0.35567
4352703773100	435270	3773100	0.142059857	0.223935483	0.365995
4352903773100	435290	3773100	0.144782149	0.229940064	0.374722
4353103773100	435310	3773100	0.147320567	0.235344042	0.382665
4353303773100	435330	3773100	0.149801674	0.240404976	0.390207
4353503773100	435350	3773100	0.151827473	0.244233	0.39606
4353703773100	435370	3773100	0.153524527	0.247100673	0.400625
4353903773100	435390	3773100	0.154768662	0.248736158	0.403505
4354103773100	435410	3773100	0.155600474	0.249251361	0.404852
4354303773100	435430	3773100	0.156228511	0.249123743	0.405352
4354503773100	435450	3773100	0.156762622	0.248655445	0.405418
4354703773100	435470	3773100	0.156483229	0.246242161	0.402725
4354903773100	435490	3773100	0.155915686	0.243138322	0.399054
4355103773100	435510	3773100	0.154978804	0.239205108	0.394184
4355303773100	435530	3773100	0.153726709	0.234636188	0.388363
4355503773100	435550	3773100	0.151966223	0.229081564	0.381078
4351703773120	435170	3773120	0.132121104	0.189563713	0.321685
4351903773120	435190	3773120	0.136539654	0.199411202	0.335951
4352103773120	435210	3773120	0.14103462	0.209330547	0.35037
4352303773120	435230	3773120	0.145117262	0.218274592	0.363392
4352503773120	435250	3773120	0.148975434	0.226603728	0.375579
4352703773120	435270	3773120	0.152566949	0.234209041	0.386776
4352903773120	435290	3773120	0.155774	0.240817212	0.396591
4353103773120	435310	3773120	0.158765337	0.246765268	0.405531
4353303773120	435330	3773120	0.161404846	0.251749843	0.413155
4353503773120	435350	3773120	0.163805557	0.255989357	0.419795
4353703773120	435370	3773120	0.165727081	0.25897611	0.424703
4353903773120	435390	3773120	0.16718693	0.2607515	0.427938
4354103773120	435410	3773120	0.168095157	0.261144148	0.429239
4354303773120	435430	3773120	0.168906272	0.261129075	0.430035
4354503773120	435450	3773120	0.169245365	0.259966439	0.429212
4354703773120	435470	3773120	0.169185665	0.257869015	0.427055
4354903773120	435490	3773120	0.16858708	0.25458829	0.423175
4355103773120	435510	3773120	0.167491795	0.250125711	0.417768
4355303773120	435530	3773120	0.165865584	0.244914416	0.41078
4355503773120	435550	3773120	0.163813517	0.238798437	0.402612
4351703773140	435170	3773140	0.141091135	0.197507899	0.338599
4351903773140	435190	3773140	0.146157623	0.208046171	0.354204
4352103773140	435210	3773140	0.151243215	0.218529654	0.369773
4352303773140	435230	3773140	0.155961854	0.228155945	0.384118
4352503773140	435250	3773140	0.16056985	0.237431548	0.398001
4352703773140	435270	3773140	0.164736867	0.245653443	0.41039
4352903773140	435290	3773140	0.168514644	0.2525904952	0.42142
4353103773140	435310	3773140	0.171892037	0.259145488	0.431038
4353303773140	435330	3773140	0.174994017	0.264601753	0.439596
4353503773140	435350	3773140	0.177609646	0.268836428	0.446446
4353903773140	435390	3773140	0.181583237	0.274015696	0.455599
4354103773140	435410	3773140	0.182754141	0.274611004	0.457365
4354303773140	435430	3773140	0.183354319	0.27386222	0.457217
4354503773140	435450	3773140	0.183819178	0.272672073	0.456491
4354703773140	435470	3773140	0.183776991	0.27038423	0.454161
4354903773140	435490	3773140	0.183066966	0.266738372	0.449805
4355103773140	435510	3773140	0.181865019	0.262177724	0.444043
4355303773140	435530	3773140	0.179812952	0.255993531	0.435806
4355503773140	435550	3773140	0.177302394	0.249101617	0.426404
4351703773160	435170	3773160	0.151251971	0.206058309	0.357371
4351903773160	435190	3773160	0.15711843	0.217378219	0.374497
4352103773160	435210	3773160	0.162879819	0.228398446	0.391278
4352303773160	435230	3773160	0.168443801	0.238928559	0.407372
4352503773160	435250	3773160	0.174087383	0.249506883	0.423594
4352703773160	435270	3773160	0.179002632	0.258518205	0.437521
4352903773160	435290	3773160	0.183393323	0.266333362	0.449727
4353103773160	435310	3773160	0.187227615	0.272882063	0.46011
4353303773160	435330	3773160	0.190949673	0.278997059	0.469947
4354103773160	435410	3773160	0.199867965	0.289444369	0.489312
4354303773160	435430	3773160	0.200435507	0.288307185	0.488743
4354503773160	435450	3773160	0.200804051	0.286613741	0.487418
4354703773160	435470	3773160	0.200743556	0.284020517	0.484764
4354903773160	435490	3773160	0.19976369	0.279689564	0.479453
4355103773160	435510	3773160	0.198844319	0.27569487	0.474539
4355303773160	435530	3773160	0.196351273	0.268739311	0.465091
4355503773160	435550	3773160	0.193196758	0.260811922	0.454009
4351703773180	435170	3773180	0.162781116	0.215131624	0.377913
4351903773180	435190	3773180	0.169754004	0.227533974	0.397288
4352103773180	435210	3773180	0.176714952	0.239823025	0.416538
4352303773180	435230	3773180	0.183477698	0.251664434	0.435142
4352503773180	435250	3773180	0.189688026	0.262376691	0.452065
4352703773180	435270	3773180	0.195378571	0.272008741	0.467387
4352903773180	435290	3773180	0.200590725	0.280615718	0.481206
4353103773180	435310	3773180	0.205206682	0.2897945852	0.493153
4353303773180	435330	3773180	0.209322755	0.294134672	0.503466
4354103773180	435410	3773180	0.219613337	0.305080087	0.524693
4354303773180	435430	3773180	0.220437188	0.304035975	0.524473
4354503773180	435450	3773180	0.220784241	0.301948042	0.522732
4354703773180	435470	3773180	0.220599571	0.298818415	0.519418
4354903773180	435490	3773180	0.219677016	0.294405707	0.514083
4355103773180	435510	3773180	0.217896383	0.288622451	0.506519
4355303773180	435530	3773180	0.215166927	0.281451517	0.496582
4355503773180	435550	3773180	0.211635907	0.27316409	0.4848
4351703773200	435170	3773200	0.176105222	0.224964257	0.401069
4351903773200	435190	3773200	0.184668502	0.238933023	0.423602
4352103773200	435210	3773200	0.192836969	0.25212542	0.444962
4352303773200	435230	3773200	0.201198863	0.265654121	0.466853
4352503773200	435250	3773200	0.208671634	0.277532521	0.486204
4352703773200	435270	3773200	0.215657258	0.288502062	0.504159
4352903773200	435290	3773200	0.221770475	0.297781186	0.519552
4353103773200	435310	3773200	0.22726043	0.30583195	0.533092
4353303773200	435330	3773200	0.231901858	0.312187338	0.544089
4354103773200	435410	3773200	0.243588609	0.323178825	0.566767
4354303773200	435430	3773200	0.244512756	0.321858833	0.566372
4354503773200	435450	3773200	0.244882892	0.319404299	0.564287
4354703773200	435470	3773200	0.244396541	0.315421439	0.559818
4354903773200	435490	3773200	0.243262253	0.310395118	0.553657
4355103773200	435510	3773200	0.241293765	0.304204059	0.545498
4355303773200	435530	3773200	0.238003931	0.296183465	0.534187
4355503773200	435550	3773200	0.233545581	0.286709364	0.520255
4351703773220	435170	3773220	0.191903271	0.235984817	0.427888
4351903773220	435190	3773220	0.201970975	0.250837297	0.452808
4352103773220	435210	3773220	0.21177441	0.265203413	0.476978
4352303773220	435230	3773220	0.221689283	0.279759483	0.501449
4352503773220	435250	3773220	0.230707074	0.292866416	0.525373
4352703773220	435270	3773220	0.239021208	0.304827817	0.543849
4352903773220	435290	3773220	0.246275082	0.314967675	0.561243
4353103773220	435310	3773220	0.252664508	0.323582004	0.576247
4353303773220	435330	3773220	0.258238838	0.330691262	0.58893
4354103773220	435410	3773220	0.271943429	0.342442144	0.614368
4354303773220	435430	3773220	0.273288655	0.341249912	0.614539
4354503773220	435450	3773220	0.273931816	0.338712272	0.612644
4354703773220	435470	3773220	0.273250447	0.334036996	0.607287
4354903773220	435490	3773220	0.271879749	0.328313377	0.600193
4355103773220	435510	3773220	0.269855542	0.321877802	0.591733
4355303773220	435530	3773220	0.265625642	0.312511296	0.578137
4355503773220	435550	3773220	0.260136483	0.30189408	

Health Risk Assessment ResulSchool Risk max					0.57	0.34	0.91
Non-dorm or sc					0.67	0.23	0.89
MAX:					1.10	0.80	1.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk		
4351703773240	435170	3773240	0.21095613	0.248410677	0.459367		
4351903773240	435190	3773240	0.223051225	0.264321402	0.487373		
4352103773240	435210	3773240	0.234979162	0.280007834	0.514987		
4352303773240	435230	3773240	0.246639646	0.295375848	0.542015		
4352503773240	435250	3773240	0.257680052	0.309944729	0.567625		
4352703773240	435270	3773240	0.267718304	0.323119512	0.590838		
4352903773240	435290	3773240	0.276336507	0.334166427	0.610503		
4353103773240	435310	3773240	0.283835546	0.343470957	0.627307		
4353303773240	435330	3773240	0.290537001	0.351399763	0.641937		
4351703773260	435170	3773260	0.23405024	0.261952657	0.496003		
4351903773260	435190	3773260	0.24912314	0.279380388	0.528504		
4352103773260	435210	3773260	0.263997839	0.296713038	0.560711		
4352303773260	435230	3773260	0.278162512	0.313350443	0.591513		
4352503773260	435250	3773260	0.291578954	0.329252529	0.620832		
4352703773260	435270	3773260	0.303854739	0.343866544	0.647721		
4352903773260	435290	3773260	0.314192284	0.3559958	0.670188		
4353103773260	435310	3773260	0.323262611	0.36637761	0.68964		
4353303773260	435330	3773260	0.331454958	0.3753574	0.706812		
4351703773280	435170	3773280	0.262442471	0.276291352	0.538734		
4351903773280	435190	3773280	0.282347837	0.296324813	0.578673		
4352103773280	435210	3773280	0.301469948	0.315756523	0.617226		
4352303773280	435230	3773280	0.319495182	0.334429838	0.653925		
4352503773280	435250	3773280	0.336145738	0.352033493	0.688179		
4352703773280	435270	3773280	0.350940837	0.367893739	0.718835		
4352903773280	435290	3773280	0.363445868	0.381286535	0.744732		
4353103773280	435310	3773280	0.374059622	0.392432963	0.766493		
4353303773280	435330	3773280	0.383843157	0.40227306	0.786116		
4351703773300	435170	3773300	0.299179879	0.292355318	0.591535		
4351903773300	435190	3773300	0.326285788	0.315446843	0.641733		
4352103773300	435210	3773300	0.351742401	0.337540689	0.689283		
4352303773300	435230	3773300	0.375210627	0.358652383	0.733863		
4352503773300	435250	3773300	0.396215258	0.378264535	0.77448		
4352703773300	435270	3773300	0.414084477	0.3954673	0.809552		
4352903773300	435290	3773300	0.429157378	0.410185695	0.839343		
4353103773300	435310	3773300	0.441997521	0.425286908	0.864584		
4353303773300	435330	3773300	0.453470151	0.433140985	0.886611		
4353503773300	435350	3773300	0.463053096	0.441193954	0.904247		
4351703773320	435170	3773320	0.348850563	0.310462743	0.659313		
4351903773320	435190	3773320	0.388607168	0.338097401	0.726705		
4352103773320	435210	3773320	0.423735878	0.363358167	0.787094		
4352303773320	435230	3773320	0.455384511	0.387609529	0.842994		
4352503773320	435250	3773320	0.482671109	0.409884079	0.892555		
4352703773320	435270	3773320	0.505364835	0.429396058	0.934761		
4352903773320	435290	3773320	0.523554043	0.445581112	0.969135		
4353103773320	435310	3773320	0.537885079	0.458498469	0.996384		
4353303773320	435330	3773320	0.551965378	0.470254654	1.02222		
4353503773320	435350	3773320	0.563722972	0.47925241	1.042975		
4351703773340	435170	3773340	0.422905658	0.332576634	0.755482		
4351903773340	435190	3773340	0.48334213	0.364700029	0.848042		
4352103773340	435210	3773340	0.53548994	0.394632885	0.930123		
4352303773340	435230	3773340	0.57889378	0.422479212	1.001373		
4352503773340	435250	3773340	0.614831217	0.447866194	1.062697		
4352703773340	435270	3773340	0.643435978	0.469727735	1.113209		
4352903773340	435290	3773340	0.665075014	0.487547527	1.152623		
4353103773340	435310	3773340	0.683107412	0.502336825	1.185476		
4353303773340	435330	3773340	0.699475391	0.514846244	1.214322		
4353503773340	435350	3773340	0.713675884	0.524613942	1.238829		
4351703773360	435170	3773360	0.544450419	0.359195177	0.903646		
4351903773360	435190	3773360	0.650563288	0.398531381	1.049095		
4352103773360	435210	3773360	0.73372055	0.434739006	1.16846		
4352303773360	435230	3773360	0.795137684	0.467421198	1.262559		
4352503773360	435250	3773360	0.842515114	0.496510672	1.339026		
4352703773360	435270	3773360	0.878997806	0.5212319511	1.400317		
4352903773360	435290	3773360	0.906042423	0.541484978	1.447527		
4353103773360	435310	3773360	0.92724446	0.557745466	1.484949		
4353303773360	435330	3773360	0.947859851	0.571479471	1.519339		
4353503773360	435350	3773360	0.96620587	0.582275949	1.548482		
4351703773380	435170	3773380	0.783903851	0.392138119	1.176042		
4351903773380	435190	3773380	0.101363902	0.442232984	1.455872		
4352103773380	435210	3773380	0.1159562621	0.4881836	1.647746		
4352303773380	435230	3773380	0.1247951937	0.528273186	1.776225		
4352503773380	435250	3773380	0.1309467774	0.562477741	1.871945		
4352703773380	435270	3773380	0.1357123006	0.590848759	1.947972		
4352903773380	435290	3773380	0.1391254338	0.613582455	2.004837		
4353103773380	435310	3773380	0.1412402247	0.631118336	2.043521		
4353303773380	435330	3773380	0.1439422984	0.645910331	2.085333		
4353503773380	435350	3773380	0.1468215599	0.657898744	2.126114		
4351703773400	435170	3773400	0.65097004	0.343898061	1.08586		
4351903773400	435190	3773400	0.59610551	0.506697932	1.102803		
4352103773400	435210	3773400	0.879871009	0.57012153	1.449993		
4352303773400	435230	3773400	0.1501085284	0.6220293213	1.213178		
4352503773400	435250	3773400	0.1591029171	0.663378144	2.254407		
4352703773400	435270	3773400	0.1101488653	0.696005327	1.797494		
4352903773400	435290	3773400	0.111769425	0.721368741	1.839063		
4353103773400	435310	3773400	0.1153430301	0.741805041	1.895235		
4353303773400	435330	3773400	0.1211964352	0.758048302	1.970013		
4353503773400	435350	3773400	0.1758809911	0.771162405	2.529972		

Health Risk Assessment Results Sum School Risk max				0.91
Non-dorm or school				2.56
MAX:				2.56
Sensitive Receptors				
Unique Identifier	X (UTM)	Y (UTM)	Total Risk	
4351703773240	435170	3773240	0.459366807	
4351903773240	435190	3773240	0.487372627	
4352103773240	435210	3773240	0.514986996	
4352303773240	435230	3773240	0.542015494	
4352503773240	435250	3773240	0.567624781	
4352703773240	435270	3773240	0.590837816	
4352903773240	435290	3773240	0.610502934	
4353103773240	435310	3773240	0.627306503	
4353303773240	435330	3773240	0.641936764	
4351703773260	435170	3773260	0.496002896	
4351903773260	435190	3773260	0.528503528	
4352103773260	435210	3773260	0.560710877	
4352303773260	435230	3773260	0.591512955	
4352503773260	435250	3773260	0.620831544	
4352703773260	435270	3773260	0.647721284	
4352903773260	435290	3773260	0.670188084	
4353103773260	435310	3773260	0.689640221	
4353303773260	435330	3773260	0.706812359	
4351703773280	435170	3773280	0.538733823	
4351903773280	435190	3773280	0.578672651	
4352103773280	435210	3773280	0.617226471	
4352303773280	435230	3773280	0.653925019	
4352503773280	435250	3773280	0.688179231	
4352703773280	435270	3773280	0.718834577	
4352903773280	435290	3773280	0.744732403	
4353103773280	435310	3773280	0.766492585	
4353303773280	435330	3773280	0.786116218	
4351703773300	435170	3773300	0.591535198	
4351903773300	435190	3773300	0.64173263	
4352103773300	435210	3773300	0.689283009	
4352303773300	435230	3773300	0.733863009	
4352503773300	435250	3773300	0.774479793	
4352703773300	435270	3773300	0.809551778	
4352903773300	435290	3773300	0.839343072	
4353103773300	435310	3773300	0.864584429	
4353303773300	435330	3773300	0.886611135	
4353503773300	435350	3773300	0.90424705	
4351703773320	435170	3773320	0.659313306	
4351903773320	435190	3773320	0.726704569	
4352103773320	435210	3773320	0.787094045	
4352303773320	435230	3773320	0.84299404	
4352503773320	435250	3773320	0.892555188	
4352703773320	435270	3773320	0.934760893	
4352903773320	435290	3773320	0.969135155	
4353103773320	435310	3773320	0.996383548	
4353303773320	435330	3773320	1.022220032	
4353503773320	435350	3773320	1.049275383	
4351703773340	435170	3773340	0.755482292	
4351903773340	435190	3773340	0.804012825	
4352103773340	435210	3773340	0.84299404	
4352303773340	435230	3773340	0.892555188	
4352503773340	435250	3773340	0.934760893	
4352703773340	435270	3773340	0.969135155	
4352903773340	435290	3773340	0.996383548	
4353103773340	435310	3773340	1.022220032	
4353303773340	435330	3773340	1.049275383	
4353503773340	435350	3773340	1.075481819	
4351703773360	435170	3773360	0.903645597	
4351903773360	435190	3773360	1.040909469	
4352103773360	435210	3773360	1.168459555	
4352303773360	435230	3773360	1.262558881	
4352503773360	435250	3773360	1.339025786	
4352703773360	435270	3773360	1.400317317	
4352903773360	435290	3773360	1.447527401	
4353103773360	435310	3773360	1.484989925	
4353303773360	435330	3773360	1.519339322	
4353503773360	435350	3773360	1.564841819	
4351703773380	435170	3773380	1.176041971	
4351903773380	435190	3773380	1.455872004	
4352103773380	435210	3773380	1.647746222	
4352303773380	435230	3773380	1.776225123	
4352503773380	435250	3773380	1.871945184	
4352703773380	435270	3773380	1.94971765	
4352903773380	435290	3773380	2.004836793	
4353103773380	435310	3773380	2.043520353	
4353303773380	435330	3773380	2.085333085	
4353503773380	435350	3773380	2.126114343	
4351703773400	435170	3773400	1.085860141	
4351903773400	435190	3773400	1.102803400	
4352103773400	435210	3773400	1.449992539	
4352303773400	435230	3773400	1.237178496	
4352503773400	435250	3773400	2.254040315	
4352703773400	435270	3773400	1.79749398	
4352903773400	435290	3773400	1.893062991	
4353103773400	435310	3773400	1.885235342	
4353303773400	435330	3773400	1.970012655	
4353503773400	435350	3773400	2.529972316	
4347803774060	434780	3774060	0.09570463	
4348003774060	434800	3774060	0.098548484	
4348203774060	434820	3774060	0.102028689	
4348403774060	434840	3774060	0.105878691	
4348603774060	434860	3774060	0.108967236	
4348803774060	434880	3774060	0.112617638	
4349003774060	434900	3774060	0.117156582	
4349203774060	434920	3774060	0.122261034	
4349403774060	434940	3774060	0.127184906	
4347803774080	434780	3774080	0.09471469	
4348003774080	434800	3774080	0.097833309	
4348203774080	434820	3774080	0.101308563	
4348403774080	434840	3774080	0.10491341	
4348603774080	434860	3774080	0.107919527	
4348803774080	434880	3774080	0.111653914	
4349003774080	434900	3774080	0.116147615	
4349203774080	434920	3774080	0.121088586	
4349403774080	434940	3774080	0.125569788	
4347803774100	434780	3774100	0.094083144	
4348003774100	434800	3774100	0.097251358	
4348203774100	434820	3774100	0.100593539	
4348403774100	434840	3774100	0.104040491	
4348603774100	434860	3774100	0.107342471	
4348803774100	434880	3774100	0.110768214	
4349003774100	434900	3774100	0.115173872	
4349203774100	434920	3774100	0.119824252	
4349403774100	434940	3774100	0.124419577	
4347803774120	434780	3774120	0.093309951	
4348003774120	434800	3774120	0.096447447	
4348203774120	434820	3774120	0.099684294	
4348403774120	434840	3774120	0.10204900	
4348603774120	434860	3774120	0.106445539	
4348803774120	434880	3774120	0.110158665	
4349003774120	434900	3774120	0.113180646	
4349203774120	434920	3774120	0.118295292	
4349403774120	434940	3774120	0.123157584	
4347803774140	434780	3774140	0.092339506	
4348003774140	434800	3774140	0.095470766	
4348203774140	434820	3774140	0.098632526	
4348403774140	434840	3774140	0.10158691	
4348603774140	434860	3774140	0.105065103	
4348803774140	434880	3774140	0.108596592	
4349003774140	434900	3774140	0.112746611	
4349203774140	434920	3774140	0.117077537	
4349403774140	434940	3774140	0.121207056	
4347803774160	434780	3774160	0.091483296	
4348003774160	434800	3774160	0.094517896	
4348203774160	434820	3774160	0.097341445	

Health Risk Assessment ResulSchool Risk max 0.57 0.34 0.91
Non-dorm or sc 0.67 0.23 0.89

MAX:			1.10	0.80	1.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk
4348403774160	434840	3774160	0.085050926	0.015551909	0.100603
4348603774160	434860	3774160	0.08773103	0.016487141	0.104218
4348803774160	434880	3774160	0.090522574	0.017527519	0.10805
4349003774160	434900	3774160	0.093179594	0.01869816	0.111878
4349203774160	434920	3774160	0.096169339	0.020013838	0.116183
4349403774160	434940	3774160	0.099460765	0.021505812	0.120967
4347803774180	434780	3774180	0.077861528	0.012794707	0.090656
4348003774180	434800	3774180	0.079776684	0.013457219	0.093234
4348203774180	434820	3774180	0.082209235	0.014177306	0.096387
4348403774180	434840	3774180	0.084991227	0.014964396	0.099556
4348603774180	434860	3774180	0.087760482	0.015832973	0.103593
4348803774180	434880	3774180	0.090558393	0.016798004	0.107356
4349003774180	434900	3774180	0.092921693	0.017884117	0.110806
4349203774180	434920	3774180	0.095391655	0.019103682	0.114495
4349403774180	434940	3774180	0.098391748	0.020476493	0.118868
4347803774200	434780	3774200	0.077582931	0.012375238	0.089958
4348003774200	434800	3774200	0.079645346	0.012996037	0.092641
4348203774200	434820	3774200	0.081877307	0.013671896	0.095549
4348403774200	434840	3774200	0.08448418	0.014408731	0.098893
4348603774200	434860	3774200	0.087180204	0.015212942	0.1024
4348803774200	434880	3774200	0.089800609	0.016117284	0.105918
4349003774200	434900	3774200	0.092299227	0.017117707	0.109417
4349203774200	434920	3774200	0.094793069	0.018237183	0.11303
4349403774200	434940	3774200	0.097809082	0.019492685	0.117302
4364003773420	436400	3773420	0.067674425	0.056952729	0.124627
4364203773420	436420	3773420	0.066045826	0.055480554	0.121526
4364403773420	436440	3773420	0.064361508	0.054007779	0.118439
4364603773420	436460	3773420	0.062740868	0.052738019	0.115479
4364803773420	436480	3773420	0.061127393	0.051448071	0.112575
4365003773420	436500	3773420	0.059822762	0.050235767	0.110059
4365203773420	436520	3773420	0.058545992	0.049070711	0.107617
4365403773420	436540	3773420	0.057175294	0.047949705	0.105125
4365603773420	436560	3773420	0.05583962	0.046827162	0.102712
4365803773420	436580	3773420	0.054583545	0.045841815	0.100425
4364003773440	436400	3773440	0.069523514	0.058283397	0.127807
4364203773440	436420	3773440	0.068881149	0.057014026	0.125895
4364403773440	436440	3773440	0.067297921	0.055566942	0.122865
4364603773440	436460	3773440	0.065551515	0.054174292	0.119726
4364803773440	436480	3773440	0.062567342	0.052598301	0.115166
4365003773440	436500	3773440	0.061226892	0.051344764	0.112572
4365203773440	436520	3773440	0.059751919	0.050137375	0.109889
4365403773440	436540	3773440	0.058679718	0.048990916	0.107671
4365603773440	436560	3773440	0.057110022	0.047871995	0.104982
4365803773440	436580	3773440	0.055794248	0.046806488	0.102601
4364003773460	436400	3773460	0.071570009	0.05961823	0.131188
4364203773460	436420	3773460	0.071090026	0.058350196	0.12944
4364403773460	436440	3773460	0.068473601	0.056788488	0.125262
4364603773460	436460	3773460	0.066481234	0.055330289	0.121812
4364803773460	436480	3773460	0.064269173	0.053746888	0.118016
4365003773460	436500	3773460	0.062883351	0.052637831	0.115521
4365203773460	436520	3773460	0.061488773	0.051392482	0.112881
4365403773460	436540	3773460	0.06010534	0.05020703	0.110312
4365603773460	436560	3773460	0.058847672	0.04906619	0.107914
4365803773460	436580	3773460	0.057562146	0.047973441	0.105536
4364003773480	436400	3773480	0.073483573	0.061167622	0.134651
4364203773480	436420	3773480	0.072373165	0.059617311	0.131199
4364403773480	436440	3773480	0.069872955	0.058017749	0.127891
4364603773480	436460	3773480	0.067944267	0.056530754	0.124475
4364803773480	436480	3773480	0.066156469	0.055117392	0.121274
4365003773480	436500	3773480	0.064766667	0.053790053	0.118557
4365203773480	436520	3773480	0.063306818	0.052517317	0.115824
4365403773480	436540	3773480	0.061921793	0.051288477	0.11321
4365603773480	436560	3773480	0.060453984	0.050105605	0.110556
4365803773480	436580	3773480	0.058014269	0.048892215	0.106906
4364003773500	436400	3773500	0.075319926	0.06250261	0.137823
4364203773500	436420	3773500	0.073615708	0.06085917	0.134475
4364403773500	436440	3773500	0.071281064	0.059239494	0.130521
4364603773500	436460	3773500	0.06995335	0.057769023	0.127722
4364803773500	436480	3773500	0.068270623	0.056320341	0.124591
4365003773500	436500	3773500	0.066722419	0.05495143	0.121674
4365203773500	436520	3773500	0.065309534	0.053683632	0.118948
4365403773500	436540	3773500	0.063608499	0.05235546	0.115964
4365603773500	436560	3773500	0.06143783	0.051089375	0.112527
4365803773500	436580	3773500	0.058596935	0.049804479	0.108401
4364003773520	436400	3773520	0.077075884	0.063830842	0.140907
4364203773520	436420	3773520	0.075205304	0.062127302	0.137333
4364403773520	436440	3773520	0.072806184	0.060461226	0.133267
4364603773520	436460	3773520	0.071870894	0.058982998	0.130854
4364803773520	436480	3773520	0.070083097	0.057496355	0.127579
4365003773520	436500	3773520	0.068230028	0.056060977	0.124291
4365203773520	436520	3773520	0.066431086	0.054685063	0.121116
4365403773520	436540	3773520	0.064565281	0.053353152	0.117918
4365603773520	436560	3773520	0.062692313	0.052077348	0.11477
4365803773520	436580	3773520	0.060469108	0.050809564	0.111279
4364003773540	436400	3773540	0.07868936	0.065124828	0.143814
4364203773540	436420	3773540	0.076541774	0.063362642	0.139904
4364403773540	436440	3773540	0.074366328	0.061669439	0.136036
4364603773540	436460	3773540	0.073325171	0.060139635	0.133465
4364803773540	436480	3773540	0.071271512	0.058590151	0.129862
4365003773540	436500	3773540	0.0693675	0.057115231	0.126483
4365203773540	436520	3773540	0.067289961	0.055688068	0.122978
4365403773540	436540	3773540	0.065463956	0.054328174	0.119792
4365603773540	436560	3773540	0.06392212	0.053044887	0.116967
4365803773540	436580	3773540	0.061718815	0.051751959	0.113471
4364003773560	436400	3773560	0.080469993	0.066412663	0.146883
4364203773560	436420	3773560	0.07842509	0.064607367	0.143032
4364403773560	436440	3773560	0.075766478	0.062835626	0.138602
4364603773560	436460	3773560	0.074206334	0.061225743	0.135432
4364803773560	436480	3773560	0.072167799	0.059642039	0.13181
4365003773560	436500	3773560	0.070315526	0.058137868	0.128453
4365203773560	436520	3773560	0.068341466	0.056678951	0.12502
4365403773560	436540	3773560	0.066513073	0.055287601	0.121801
4365603773560	436560	3773560	0.065110536	0.053987531	0.119098
4365803773560	436580	3773560	0.062834795	0.052659292	0.115494
4364003773580	436400	3773580	0.081903968	0.067641928	0.149632
4364203773580	436420	3773580	0.079473412	0.065557846	0.145231
4364403773580	436440	3773580	0.076709278	0.063937467	0.140647
4364603773580	436460	3773580	0.074952178	0.062270673	0.137223
4364803773580	436480	3773580	0.073005182	0.060661653	0.133637
4365003773580	436500	3773580	0.071207037	0.059129728	0.130367
4365203773580	436520	3773580	0.06938342	0.057653147	0.127037
4365403773580	436540	3773580	0.067386276	0.056214254	0.123601
4365603773580	436560	3773580	0.065626516	0.054895556	0.121125
4365803773580	436580	3773580	0.063914956	0.053589848	0.117455
4364003773600	436400	3773600	0.083394467	0.068821684	0.152216
4364203773600	436420	3773600	0.080332287	0.066853994	0.147186
4364403773600	436440	3773600	0.077785909	0.065005786	0.142792
4364603773600	436460	3773600	0.075765682	0.06328906	0.139055
4364803773600	436480	3773600	0.07379003	0.061643758	0.135434
4365003773600	436500	3773600	0.071858158	0.060065994	0.131924
4365203773600	436520	3773600	0.069946186	0.05854932	0.128496
4365403773600	436540	3773600	0.068082769	0.057093643	0.125176
4365603773600	436560	3773600	0.067130763	0.055769324	0.1229
4365803773600	436580	3773600	0.065111332	0.054402015	0.119513
4364003773620	436400	3773620	0.084937895	0.069975463	0.154913
4364203773620	436420	3773620	0.082349383	0.068008201	0.150358
4364403773620	436440	3773620	0.080236768	0.066170016	0.146407
4364603773620	436460	3773620	0.078150473	0.064170463	0.142561
4364803773620	436480	3773620	0.076307752	0.062723003	0.13904
4365003773620	436500	3773620	0.074171606	0.061101564	0.135278
4365203773620	436520	3773620	0.071902734	0.059528236	0.131431
4365403773620	436540	3773620	0.070356918	0.058064224	0.128421
4365603773620	436560	3773620	0.068569916	0.056640478	0.12521
4365803773620	436580	3773620	0.066381735	0.055253993	0.121622
4364003773640	436400	3773640	0.086198746	0.070522669	0.157251

Health Risk Assessment ResulSchool Risk max					0.57	0.34	0.91
Non-dorm or sc					0.67	0.23	0.89
MAX:					1.10	0.80	1.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk		
4364203773640	436420	3773640	0.083612569	0.069049895	0.152662		
4364403773640	436440	3773640	0.081379016	0.067165189	0.148544		
4364603773640	436460	3773640	0.079146259	0.065356608	0.144503		
4364803773640	436480	3773640	0.077216775	0.063649111	0.140866		
4365003773640	436500	3773640	0.075223611	0.062001491	0.137225		
4365203773640	436520	3773640	0.073475613	0.060430378	0.133906		
4365403773640	436540	3773640	0.070980179	0.058866873	0.129847		
4365603773640	436560	3773640	0.068535688	0.057363804	0.125899		
4365803773640	436580	3773640	0.066972361	0.05598762	0.12296		
4364003773660	436400	3773660	0.087222392	0.072066426	0.159287		
4364203773660	436420	3773660	0.084604375	0.070023788	0.154628		
4364403773660	436440	3773660	0.082529224	0.068111915	0.150641		
4364603773660	436460	3773660	0.080289303	0.066271698	0.146561		
4364803773660	436480	3773660	0.07823644	0.064521975	0.142758		
4365003773660	436500	3773660	0.07649083	0.062869478	0.13936		
4365203773660	436520	3773660	0.074028828	0.061212725	0.135242		
4365403773660	436540	3773660	0.072030888	0.059661055	0.131692		
4365603773660	436560	3773660	0.070234335	0.058184376	0.128419		
4365803773660	436580	3773660	0.068335099	0.05676086	0.125096		
4364003773680	436400	3773680	0.088273101	0.073008325	0.161281		
4364203773680	436420	3773680	0.085610508	0.07093169	0.156542		
4364403773680	436440	3773680	0.083402427	0.068988805	0.152391		
4364603773680	436460	3773680	0.081150566	0.067118161	0.148269		
4364803773680	436480	3773680	0.079052332	0.065336551	0.144389		
4365003773680	436500	3773680	0.077354481	0.063652195	0.141007		
4365203773680	436520	3773680	0.074546222	0.061945445	0.136492		
4365403773680	436540	3773680	0.072733749	0.060387056	0.133121		
4365603773680	436560	3773680	0.071019979	0.058959065	0.129915		
4365803773680	436580	3773680	0.068955972	0.0574425215	0.126381		
4364003773700	436400	3773700	0.089220331	0.073877563	0.163098		
4364203773700	436420	3773700	0.086530675	0.071769654	0.1583		
4364403773700	436440	3773700	0.084170559	0.069783319	0.153954		
4364603773700	436460	3773700	0.081977602	0.067892888	0.14987		
4364803773700	436480	3773700	0.079952599	0.066094287	0.146047		
4365003773700	436500	3773700	0.077987295	0.06437119	0.142358		
4365203773700	436520	3773700	0.075397934	0.062650698	0.138049		
4365403773700	436540	3773700	0.073592624	0.061070919	0.134664		
4365603773700	436560	3773700	0.071847014	0.059554156	0.131401		
4365803773700	436580	3773700	0.06995537	0.058083192	0.128079		
4364003773720	436400	3773720	0.09003861	0.07466481	0.164703		
4364203773720	436420	3773720	0.087223984	0.072530343	0.159754		
4364403773720	436440	3773720	0.084847948	0.070517786	0.155366		
4364603773720	436460	3773720	0.082737774	0.068600892	0.151339		
4364803773720	436480	3773720	0.080579044	0.066765699	0.147345		
4365003773720	436500	3773720	0.078680604	0.065027436	0.143708		
4365203773720	436520	3773720	0.076200293	0.063307062	0.139507		
4365403773720	436540	3773720	0.074277177	0.061694768	0.135972		
4365603773720	436560	3773720	0.072810164	0.060175936	0.132986		
4365803773720	436580	3773720	0.071218181	0.058709551	0.129928		
4364003773740	436400	3773740	0.090615705	0.075364646	0.16598		
4364203773740	436420	3773740	0.087916496	0.073206329	0.161123		
4364403773740	436440	3773740	0.085525337	0.071171058	0.156696		
4364603773740	436460	3773740	0.083283284	0.069232694	0.152517		
4364803773740	436480	3773740	0.081094051	0.067374013	0.148468		
4365003773740	436500	3773740	0.079101683	0.065608005	0.14471		
4365203773740	436520	3773740	0.076381779	0.063843263	0.140225		
4365403773740	436540	3773740	0.074366328	0.062204713	0.136571		
4365603773740	436560	3773740	0.073431038	0.060712409	0.134143		
4365803773740	436580	3773740	0.072303914	0.059258695	0.131563		
4364003773760	436400	3773760	0.091169715	0.075966909	0.167137		
4364203773760	436420	3773760	0.08849359	0.073794773	0.162288		
4364403773760	436440	3773760	0.086127107	0.071744444	0.157872		
4364603773760	436460	3773760	0.083838631	0.069783012	0.153622		
4364803773760	436480	3773760	0.081796116	0.067923969	0.14972		
4365003773760	436500	3773760	0.079745641	0.066134663	0.14588		
4365203773760	436520	3773760	0.076837883	0.064335758	0.141174		
4365403773760	436540	3773760	0.07482084	0.062683538	0.137504		
4365603773760	436560	3773760	0.07378605	0.061176395	0.134962		
4365803773760	436580	3773760	0.072559427	0.059700863	0.13226		
4364003773780	436400	3773780	0.091445128	0.076469573	0.167915		
4364203773780	436420	3773780	0.088837459	0.074290488	0.163128		
4364403773780	436440	3773780	0.086463015	0.07225434	0.158688		
4364603773780	436460	3773780	0.084423684	0.070236674	0.154687		
4364803773780	436480	3773780	0.082379578	0.068389835	0.150769		
4365003773780	436500	3773780	0.080196968	0.066574705	0.146772		
4365203773780	436520	3773780	0.07725678	0.06477734	0.142053		
4365403773780	436540	3773780	0.075202916	0.063105537	0.138308		
4365603773780	436560	3773780	0.074233398	0.061582322	0.135816		
4365803773780	436580	3773780	0.07268997	0.060076593	0.132767		
4364003773800	436400	3773800	0.091780241	0.076873462	0.168654		
4364203773800	436420	3773800	0.08931585	0.07407023	0.164018		
4364403773800	436440	3773800	0.086927079	0.072625346	0.159552		
4364603773800	436460	3773800	0.084686362	0.07064538	0.155332		
4364803773800	436480	3773800	0.082487036	0.068746985	0.151234		
4365003773800	436500	3773800	0.080388802	0.066930874	0.14732		
4365203773800	436520	3773800	0.078231664	0.065178313	0.14341		
4365403773800	436540	3773800	0.076393719	0.063520522	0.139914		
4365603773800	436560	3773800	0.074603534	0.061927036	0.136531		
4365803773800	436580	3773800	0.072933543	0.060393925	0.133327		

4350403773340	435040	3773340	0.176807287	0.166148482	0.342956
4350603773340	435060	3773340	0.196079044	0.185615402	0.381694
4350803773340	435080	3773340	0.220032825	0.207114422	0.427147
4351003773340	435100	3773340	0.250197729	0.2308601	0.481058
4351203773340	435120	3773340	0.288597965	0.257269167	0.545867
4350403773360	435040	3773360	0.183948925	0.170865332	0.354814
4350603773360	435060	3773360	0.205848251	0.191623205	0.397471
4350803773360	435080	3773360	0.234205458	0.214771773	0.448977
4351003773360	435100	3773360	0.272448883	0.241189897	0.513639
4351203773360	435120	3773360	0.32493897	0.270868636	0.595808
4350403773380	435040	3773380	0.189788321	0.175668685	0.365475
4350603773380	435060	3773380	0.214272232	0.19833495	0.412606
4350803773380	435080	3773380	0.246844216	0.223149286	0.469994
4351003773380	435100	3773380	0.293049151	0.251423173	0.544472
4351203773380	435120	3773380	0.363107572	0.28420558	0.647313
4351403773380	435140	3773380	0.476677291	0.322679961	0.799357
4350403773400	435040	3773400	0.193911558	0.18092314	0.374835
4350603773400	435060	3773400	0.219885566	0.205081488	0.424967
4350803773400	435080	3773400	0.255492666	0.23186842	0.487361
4351003773400	435100	3773400	0.308227122	0.262541308	0.570768
4351203773400	435120	3773400	0.395059478	0.29864507	0.693705
4351403773400	435140	3773400	0.565256849	0.343379513	0.908636
4350803773440	435080	3773440	0.256254431	0.254224943	0.510479
4351003773440	435100	3773440	0.306796725	0.290477403	0.597274
4351203773440	435120	3773440	0.386496994	0.332967658	0.719465
4351403773440	435140	3773440	0.527703548	0.385995443	0.913699
4350803773460	435080	3773460	0.249188412	0.269884724	0.519073
4351003773460	435100	3773460	0.292109084	0.309128088	0.601237
4351203773460	435120	3773460	0.353480847	0.354021723	0.707503
4351403773460	435140	3773460	0.443891186	0.410134497	0.854026
4350803773480	435080	3773480	0.239477312	0.291098838	0.530576
4351003773480	435100	3773480	0.274302748	0.334760604	0.609063
4351203773480	435120	3773480	0.319126638	0.385497916	0.704625
4351403773480	435140	3773480	0.378162164	0.442806875	0.820969
4351003773500	435100	3773500	0.228724259	0.321470151	0.550194
4351203773500	435120	3773500	0.25667551	0.371198208	0.627874
4351403773500	435140	3773500	0.290720079	0.424931237	0.715651
4350403773520	435040	3773500	0.331487594	0.486401511	0.817889
4350603773520	435060	3773520	0.218213983	0.366703559	0.584918
4351003773520	435100	3773520	0.240970592	0.42555936	0.666327
4351203773520	435120	3773520	0.267391948	0.48583703	0.752976
4351403773520	435140	3773520	0.29759108	0.500538825	0.84793
4350803773540	435080	3773540	0.20580095	0.442232473	0.650813
4351003773540	435100	3773540	0.22738732	0.516096692	0.743535
4351203773540	435120	3773540	0.248674201	0.58417893	0.832853
4351403773540	435140	3773540	0.272211678	0.652365616	0.924577

Health Risk Assessment Result		School Risk max		0.57	0.34	0.91
		Non-dorm or school		0.67	0.23	0.89
MAX:				1.10	0.80	1.90
Unique Identifier	X (UTM)	Y (UTM)	Onroad	Offroad	Total Risk	
4350803773560	435080	3773560	0.199959504	0.592384095	0.792344	
4351003773560	435100	3773560	0.215942223	0.688225574	0.904168	
4351203773560	435120	3773560	0.233495434	0.769063424	1.002559	
4351403773560	435140	3773560	0.252514065	0.844485076	1.096999	
4350803773580	435080	3773580	0.19237211	0.899492399	1.091865	
4351003773580	435100	3773580	0.206175404	1.030392024	1.236567	
4351203773580	435120	3773580	0.221125721	1.122927901	1.344054	
4351403773580	435140	3773580	0.236282997	1.201683018	1.437966	

Health Risk Assessment Results Sum		School Risk max		0.91
		Non-dorm or school		2.56
Sensitive Receptors		MAX:		2.56
Unique Identifier	X (UTM)	Y (UTM)	Total Risk	
4350803773560	435080	3773560	0.792343599	
4351003773560	435100	3773560	0.904167797	
4351203773560	435120	3773560	1.002558858	
4351403773560	435140	3773560	1.096999141	
4350803773580	435080	3773580	1.091864509	
4351003773580	435100	3773580	1.236567427	
4351203773580	435120	3773580	1.344053622	
4351403773580	435140	3773580	1.437966015	

FOR CHRONIC CALCS							
MAX:		0.0800					
Overlapping Phases - Maximum GLC							
2023	2024	2025	2026	2027	2028	2029	
0.067168217	0.159637631	0.139770678	0	0	0	0	
0.079333098	0.188457944	0.161763077	0	0	0	0	
0.095529554	0.226812724	0.177830324	0	0	0	0	
0.117959586	0.279905223	0.189749662	0	0	0	0	
0.066514214	0.158057689	0.226672802	0	0	0	0	
0.078631629	0.186755947	0.258568154	0	0	0	0	
0.094691553	0.22477627	0.277982107	0	0	0	0	
0.117263929	0.278187641	0.290764606	0	0	0	0	

CalEEMod Assumptions and Output

Claremont McKenna Phase 1 Construction Detailed Report

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3. Construction Emissions Details

- 3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated
- 3.2. Site Prep: Roberts Sports Bowl Site (2024) - Mitigated
- 3.3. Site Prep: Street Improvement (2024) - Unmitigated
- 3.4. Site Prep: Street Improvement (2024) - Mitigated
- 3.5. Site Prep: Street Improvement (2025) - Unmitigated

- 3.6. Site Prep: Street Improvement (2025) - Mitigated
- 3.7. Site Prep: Tunnel (2024) - Unmitigated
- 3.8. Site Prep: Tunnel (2024) - Mitigated
- 3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated
- 3.10. Grading: Roberts Sports Bowl Site (Rough) (2024) - Mitigated
- 3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated
- 3.12. Grading: Roberts Sports Bowl Site (Rough) (2025) - Mitigated
- 3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated
- 3.14. Grading: Roberts Sports Bowl Site (Fine) (2025) - Mitigated
- 3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated
- 3.16. Grading: Street Improvements (Fine) (2025) - Mitigated
- 3.17. Grading: Tunnel (Rough) (2024) - Unmitigated
- 3.18. Grading: Tunnel (Rough) (2024) - Mitigated
- 3.19. Grading: Tunnel (Fine) (2025) - Unmitigated
- 3.20. Grading: Tunnel (Fine) (2025) - Mitigated
- 3.21. BC: Structures + Parking (2024) - Unmitigated
- 3.22. BC: Structures + Parking (2024) - Mitigated

- 3.23. BC: Structures + Parking (2025) - Unmitigated
- 3.24. BC: Structures + Parking (2025) - Mitigated
- 3.25. BC: Street Improvements (2025) - Unmitigated
- 3.26. BC: Street Improvements (2025) - Mitigated
- 3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated
- 3.28. BC: Roberts Sports Bowl Utilities (2024) - Mitigated
- 3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated
- 3.30. BC: Roberts Sports Bowl Utilities (2025) - Mitigated
- 3.31. BC: Pathways + Parking (2025) - Unmitigated
- 3.32. BC: Pathways + Parking (2025) - Mitigated
- 3.33. BC: Tunnel (2024) - Unmitigated
- 3.34. BC: Tunnel (2024) - Mitigated
- 3.35. BC: Tunnel (2025) - Unmitigated
- 3.36. BC: Tunnel (2025) - Mitigated
- 3.37. Arch Coating: Structures (2025) - Unmitigated
- 3.38. Arch Coating: Structures (2025) - Mitigated
- 3.39. Arch Coating: Street Improvements (2025) - Unmitigated

3.40. Arch Coating: Street Improvements (2025) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 1 Construction
Construction Start Date	8/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.10354503733571, -117.7007727686169
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

Unenclosed Parking Structure	470	Space	4.23	10,500	0.00	0.00	—	—
Parking Lot	240	Space	2.16	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Mit.	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
% Reduced	92%	94%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Mit.	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
% Reduced	87%	90%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Mit.	0.24	0.20	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
Mit.	0.04	0.04	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307

2025	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
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2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	NaN	NaN	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307
2025	NaN	NaN	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Prep: Street Improvement (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Prep: Street Improvement (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Site Prep: Street Improvement (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Site Prep: Street Improvement (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Site Prep: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Site Prep: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.10. Grading: Roberts Sports Bowl Site (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13

3.12. Grading: Roberts Sports Bowl Site (Rough) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
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3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.14. Grading: Roberts Sports Bowl Site (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.16. Grading: Street Improvements (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.17. Grading: Tunnel (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2

3.18. Grading: Tunnel (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61

Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2
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3.19. Grading: Tunnel (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.20. Grading: Tunnel (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.21. BC: Structures + Parking (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.22. BC: Structures + Parking (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9
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3.23. BC: Structures + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150
Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.24. BC: Structures + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150

Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.25. BC: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.26. BC: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.28. BC: Roberts Sports Bowl Utilities (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.30. BC: Roberts Sports Bowl Utilities (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.31. BC: Pathways + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.32. BC: Pathways + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250

Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.33. BC: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.34. BC: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.35. BC: Tunnel (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.36. BC: Tunnel (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.37. Arch Coating: Structures (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	1.14	1.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.38. Arch Coating: Structures (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.39. Arch Coating: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	0.46	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.40. Arch Coating: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	8/1/2024	8/14/2024	5.00	10.0	—

Site Prep: Street Improvement	Site Preparation	12/20/2024	1/2/2025	5.00	10.0	—
Site Prep: Tunnel	Site Preparation	11/1/2024	11/14/2024	5.00	10.0	—
Grading: Roberts Sports Bowl Site (Rough)	Grading	8/15/2024	1/8/2025	5.00	105	—
Grading: Roberts Sports Bowl Site (Fine)	Grading	3/13/2025	5/14/2025	5.00	45.0	—
Grading: Street Improvements (Fine)	Grading	3/26/2025	5/27/2025	5.00	45.0	—
Grading: Tunnel (Rough)	Grading	11/15/2024	12/19/2024	5.00	25.0	—
Grading: Tunnel (Fine)	Grading	4/25/2025	5/15/2025	5.00	15.0	—
BC: Structures + Parking	Building Construction	10/31/2024	10/31/2025	5.00	262	—
BC: Street Improvements	Building Construction	4/30/2025	8/19/2025	5.00	80.0	—
BC: Roberts Sports Bowl Utilities	Building Construction	12/26/2024	3/26/2025	5.00	65.0	—
BC: Pathways + Parking	Building Construction	5/1/2025	8/20/2025	5.00	80.0	—
BC: Tunnel	Building Construction	12/20/2024	7/17/2025	5.00	150	—
Arch Coating: Structures	Architectural Coating	9/1/2025	10/8/2025	5.00	28.0	—
Arch Coating: Street Improvements	Architectural Coating	9/15/2025	9/30/2025	5.00	12.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37

Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

Grading: Tunnel (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85

Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT
Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—

Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT
BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—

BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT
Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT

Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT

Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—
Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT

BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—
BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT

Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT
Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Arch Coating: Structures	0.00	0.00	59,265	18,444	11,883
Arch Coating: Street Improvements	0.00	0.00	24,026	7,477	4,818

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sports Bowl Site (Rough)	0.00	3,700	8.53	0.00	—
Grading: Street Improvements (Fine)	8,000	1,000	20.8	0.00	—
Grading: Tunnel (Rough)	0.00	4,300	9.91	0.00	—
Grading: Tunnel (Fine)	0.00	1,000	2.31	0.00	—
BC: Structures + Parking	16,000	0.00	36.9	0.00	—

BC: Pathways + Parking	4,000	0.00	9.22	0.00	—
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Unenclosed Parking Structure	4.23	100%
Parking Lot	2.16	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6

Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—

Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353
Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6

Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0
Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—

Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific Information
Construction: Construction Phases	Project Specific Schedule
Construction: Off-Road Equipment	Project Specific Equipment and Tier 4 Final Project Design Feature
Construction: Dust From Material Movement	Project Specific Information

Construction: Trips and VMT	Project Specific Information, Updated Trips
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Claremont McKenna Phase 2 Construction Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 2 Construction
Construction Start Date	11/3/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.103620476606324, -117.70105472026464
County	Los Angeles-South Coast
City	Claremont
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5052
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	25.7	Acre	25.7	1,120,799	0.00	—	—	—

Parking Lot	80.0	Space	0.72	0.00	0.00	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Mit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Mit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567

Mit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
Mit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6

3.4. Grading: Roberts Sport Bowl (Rough) (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6
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3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.6. Grading: Roberts Sport Bowl (Rough) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686

Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement:	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement:	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.8. Grading: Roberts Sport Bowl (Fine) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. BC: Roberts Sport Bowl Utilities (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. BC: Pathways + Parking (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299

Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

3.12. BC: Pathways + Parking (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299
Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	11/3/2030	11/7/2030	5.00	4.00	—
Grading: Roberts Sport Bowl (Rough)	Grading	11/10/2030	2/10/2031	5.00	66.0	—
Grading: Roberts Sport Bowl (Fine)	Grading	3/11/2031	4/28/2031	5.00	35.0	—
BC: Roberts Sport Bowl Utilities	Building Construction	1/28/2031	3/31/2031	5.00	45.0	—
BC: Pathways + Parking	Building Construction	4/8/2031	7/9/2031	5.00	67.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38

Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Rough)	—	—	—	—

Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT

Grading: Roberts Sport Bowl (Rough)	—	—	—	—
Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sport Bowl (Rough)	0.00	8,000	11.9	0.00	—
Grading: Roberts Sport Bowl (Fine)	3,000	2,000	7.46	0.00	—
BC: Pathways + Parking	10,000	0.00	14.9	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Parking Lot	0.72	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	84.6
AQ-PM	94.4
AQ-DPM	81.2
Drinking Water	98.0
Lead Risk Housing	—
Pesticides	19.8
Toxic Releases	56.7
Traffic	28.1
Effect Indicators	—
CleanUp Sites	2.59
Groundwater	49.0
Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	12.5
Solid Waste	64.9
Sensitive Population	—
Asthma	29.2
Cardio-vascular	45.1
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	2.71
Housing	—
Linguistic	—
Poverty	—
Unemployment	93.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	64.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	88.7
Physically Disabled	99.2
Heart Attack ER Admissions	43.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	5.3
SLR Inundation Area	0.0

Children	98.7
Elderly	99.3
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	83.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.4
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project Specific Information
Construction: Off-Road Equipment	Project Specific Equipment, Tier 4 Final
Construction: Dust From Material Movement	Project Specific Information
Construction: Trips and VMT	Project Specific Information, Updated Trips
Construction: Off-Road Equipment EF	Crushing/Proc. Equipment Change to Diesel

Claremont McKenna | Operations v2 Detailed Report

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5.18.1.1. Unmitigated

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Operations v2
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.1033741482496, -117.70077931750569
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Mit.	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Mit.	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Mit.	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
Mit.	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Total	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.44	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387

Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.38	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipme Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	75,000	25,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250
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5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6
Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—
Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353

Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6
Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0

Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—
Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific
Operations: Vehicle Data	Project Adjusted Vehicle Trip Rates

Appendix B

Biological Resources Documentation



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memorandum

date April 30, 2024

to Elizabeth Camacho, Loeb & Loeb, LLP

from Douglas Gordon-Blackwood, ESA
Michael Houlihan, ESA

subject Biological Resources Evaluation for the Claremont McKenna College Roberts Campus Sports Bowl.

1.0 Introduction

The biological resources on Roberts Campus East (formerly known as Claremont Colleges East Campus) (the Project site) were evaluated in a Final EIR that was certified by the cities of Upland and Claremont in 2016 in connection with the approval of the development of a portion of the Project site with collegiate athletic facilities (the Approved Project). Claremont McKenna College became the owner of the entire Project site after approval of the Approved Project, and currently proposes to modify and refine the approved conceptual site plan for the Project site (Revised Project).

This memorandum documents the findings of 2023 and 2024 general biological reconnaissance surveys conducted by Environmental Science Associates (ESA) on the Roberts Campus East for the Revised Project (also known as the Roberts Campus Sports Bowl) located in the cities of Claremont and Upland, CA.

2.0 Project Location

The Project site is a 74.4-acre site that encompasses the approximately 74-acre Roberts Campus East site and an area outside of Roberts Campus East that would contain a proposed tunnel (approximately 0.4 acres). Approximately 66.4 acres of the 74-acre Roberts Campus East site is proposed for the Roberts Campus Sports Bowl (Sports Bowl) while the remaining 7.6 acres are proposed to be graded as part of the landfill closure, but not developed. Roberts Campus East is located partially within the City of Upland on the east and the City of Claremont on the west. The proposed tunnel is located within the City of Claremont. The Project site is bound by Foothill Boulevard to the north, Arrow Route on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west. The proposed tunnel extends west of the Roberts Campus East under and west of Claremont Boulevard. The Project site is situated within an unsectioned portion of Township 1 South, Range 8 West of the Ontario CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.

3.0 Project Description

Claremont McKenna College (CMC) proposes to modify and refine the conceptual site plan for the approved sports facilities and associated improvements on the Project site. In addition, CMC proposes the construction of an

access and utility tunnel access from west of Claremont Boulevard to east of Claremont Boulevard. The Revised Project's proposed sports facilities include a baseball field, softball field, football/track/lacrosse field, multi-purpose fields, all-purpose athletic fields, and golf practice facility. The Project also includes surface parking and a parking structure along Claremont Boulevard and surface parking in the southeast and northeast corners of the Project site.

4.0 Background

Sand and gravel mining on the Project site began in the 1920's and ended in 1972. Portions of the gravel pit reach depths of up to 100 feet below its original ground surface. In late 1972, the site was permitted for disposal of inert debris consisting of non-decomposable, non-water soluble, inert solids. Landfill activities continued until the fourth quarter of 2023, when the landfill ceased acceptance of inert debris.

Claremont McKenna College is the owner of the entire Project site and proposes to modify and refine the 2016 Approved Project to develop the Revised Project. The Revised Project requires review in accordance with the California Environmental Quality Act (CEQA) and approval from the City of Upland and the City of Claremont. To evaluate the potential impacts of the Revised Project on biological resources located on the Project site, ESA updated the evaluation of biological conditions on the Project site to consider changes to the site that have occurred since approval of the Approved Project.

5.0 Biological Reconnaissance Surveys

Since 2016, there have been changes to vegetation on the site as a result of continued inert landfill activities and ongoing landfill maintenance activities, and construction staging and parking on the site. In addition, due to the modifications and changes proposed as part of the Revised Project, an update to the existing onsite vegetation and the potential for plant and wildlife species to occur onsite is necessary.

Prior to conducting the onsite biological reconnaissance surveys in 2023 and 2024 (see Appendix A, Biological Reconnaissance Surveys), ESA reviewed the biological resources survey information and evaluation contained in the 2016 Final EIR for the Approved Project. Following is the methodology for the updated surveys, a description of the existing plant communities, a discussion of the results of the surveys, and an assessment of the potential for special-status plant and wildlife species that were evaluated in the 2016 Final EIR to occur on the Project site based on changes to the onsite vegetation since 2016.

ESA biologists also reviewed relevant literature on the biological resources of the Project site and surrounding vicinity. The California Natural Diversity Database (CNDDB), a California Department of Fish and Wildlife (CDFW) species account database, was reviewed for all pertinent information regarding the localities of known observations of special-status species and habitats in the vicinity of the Project site (CDFW, 2023 and CDFW, 2024). The Project site is within the Ontario USGS quadrangle, and the vicinity of the Project site included the following surrounding USGS topographic quadrangles: Prado Dam, Guasti, Mt. Baldy, Cucamonga Peak, Corona North, San Dimas, Glendora, and Yorba Linda. Other data sources reviewed included USFWS critical habitat maps (USFWS, 2023 and USFWS, 2024) and United States Department of Agriculture Natural Resources Conservation Service (NRCS) soils mapping (NRCS, 2023). In addition, the regional flora (Baldwin, 2012) was utilized to assist in the identification of plant species, California Natural Community List for vegetation classification (CDFW, 2023 and CDFW, 2024).

To determine the presence and/or absence of special status plant species, spring biological reconnaissance surveys were conducted by ESA biologist Douglas Gordon-Blackwood on May 11, 2023 and March 12, 2024. The biological reconnaissance survey in 2024 also provided updated vegetation mapping for the Project site.

6.0 Survey Methodology

For both surveys, the biologist conducted the survey by walking the entire Project site to map existing vegetation and assess the potential for special-status plants and wildlife to occur. The vegetation mapping and focused rare plant survey efforts were conducted pursuant to Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, 2018). All incidental visual observations of flora and fauna, including sign (i.e., presence of scat), as well as any audible detections were noted during the site investigations and photographs of the site were taken. All native and non-native natural communities and land cover types located on the Project site were mapped based on the March 12, 2024 survey, and then digitized on aerial maps using Geographic Information System software (i.e., ArcGIS). Most descriptions of vegetation were characterized in the field in accordance with A Manual of California Vegetation (Manual) (Sawyer et al. 2009); however, others were based on dominant species or notable features when a vegetation alliance listed in the Manual was not appropriate. A detailed description of each natural community and land cover type is provided below in Existing Conditions. The Project site, bounded by Foothill Boulevard to the north, Claremont Boulevard to the West, Monte Vista Avenue to the East, and West Arrow Route to the South are referred to herein as the Biological Survey Area (BSA).

7.0 Existing Conditions

Natural Communities and Land Cover Types

The natural communities and land cover types that occur on the Project site are depicted in **Figure 1 – Natural Communities and Land Cover**, and a summary of acreages within the Project site are presented below in **Table 1, Natural Communities and Land Cover Types**.

TABLE 1
NATURAL COMMUNITIES AND LAND COVER TYPES

Natural Communities and Land Cover Types	Project Site (acres)
Laurel Sumac Scrub	1.98
California Buckwheat Scrub	9.89
Coyote Brush Scrub	2.42
Brittle Bush Scrub	1.50
Ruderal	46.64
Open Water	0.64
Disturbed	11.35
Total	74.42
SOURCE: ESA, 2024.	



SOURCE: Nearmap, 2022; ESA, 2024

Claremont McKenna Roberts Campus East

Figure 1
Natural Communities and Land Cover

Laurel Sumac Scrub

Laurel sumac scrub (*Malosma laurina* Shrubland Alliance) consists of laurel sumac (*Malosma laurina*) as the dominant scrub with an open or continuous canopy with other herbaceous plants in low cover. This community typically occurs on slopes, in shallow or fine textured soils, and encompasses 1.98 acres on the Project site.

California buckwheat scrub

California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance) consists of California buckwheat (*Eriogonum fasciculatum*) as dominant in the shrub canopy with California sagebrush (*Artemisia californica*) as subdominant and other shrub or herbaceous species present in low cover. This community naturally occurs on upland slopes, intermittently flooded arroyos, channels and washes in course, well drained soils. Within the BSA, this community grows along the eastern portion of the BSA along the west facing slope along Monte Vista Avenue and encompasses 9.89 acres. This community was established with the construction of Monte Vista Avenue adjacent to the Project site in the 1990s (Nationwide Environmental Title Research, LLC 2024).

Coyote brush scrub

Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance) consists of coyote brush as the dominant species in the shrub layer with a variable canopy and herbaceous layer. This community is found within stream terraces, open slopes, coastal bluffs, and ridges. Within the BSA, Coyote brush scrub is newly emergent in flat areas in the center of the site and encompasses 2.42 acres.

Brittle bush scrub

Brittle bush scrub (*Encelia farinosa* Shrubland Alliance) consists of a shrub canopy dominated by brittlebush (*Encelia farinosa*), interspersed with various other native and non-native herbaceous species. Brittle bush scrub typically occurs on steep, rocky sites, especially south-facing slopes. Within the BSA, brittle bush scrub is newly emergent in recently disturbed areas in the northern portion of the Project site and encompasses 1.50 acres.

Open Water

A small seasonally ponded area is present at the lowest elevation location in the BSA and is the result of storm runoff and sheet flow accumulation from the surrounding areas. The infiltration rate of the seasonal pond water has decreased over the past few years due to sediment build-up at the bottom of the pond area. The area consists of barren soils and lacks any riparian vegetation. Periodically, maintenance activities remove the sediment build-up to increase the infiltration rate. The size of the open water within the BSA fluctuates based on direct input from precipitation and the infiltration rate. At the time of the 2024 site visit, the open water encompassed 0.64 acres.

Ruderal

Ruderal communities are dominated by ruderal, non-native plant species in the herbaceous layer, with no single species identified as the dominant species. These communities frequently occur in areas where regular disturbance occurs, preventing the establishment of native cover. Within the BSA, ruderal lands encompass 46.64 acres and is the dominant community throughout the BSA.

Disturbed

Disturbed conditions occur throughout much of the Project site. The majority of the Project site is routinely subject to disturbance as a result of landfill maintenance activities for fuel modification purposes, and the disturbed areas encompass 11.35 acres. Vegetation in this area is largely absent.

8.0 Sensitive Biological Resources

The Project site is isolated from most other natural areas by the arterial roadways that border all four sides of the rectangular Project site. The Project site is located within a patchwork of development within the Cities of Upland and Claremont and is not directly adjacent to any significant area of undisturbed natural habitat. A small culvert connects the Project site under Foothill Boulevard to a small patch of natural habitat which is also isolated and somewhat disturbed. The Project site consists of native and ruderal vegetation communities. Native communities present on the Project site include patches of laurel sumac scrub, brittle bush scrub, and California buckwheat scrub.

The natural communities discussed above are composed of numerous plant species. A list of all plant species observed is provided in each individual survey memorandum within Appendix A, Biological Reconnaissance Surveys. Special-status plant species occurring or potentially occurring within the Project site are discussed below.

Special-Status Plants

Special-status plants are defined as those plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or State endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status plants are defined as follows:

- Plants that are listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA
- Plants that meet the definitions of rare or endangered under State CEQA Guidelines Section 15380
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (Rank 1A, 1B, 2A and 2B plants) in California
- Plants listed as rare under the California Native Plant Protection Act (CFGCA 1900 et seq.)

A review of the Final EIR that was certified in 2016 revealed 5 special-status plant species recorded within the USGS 9-quadrangle search. Six focused surveys were conducted on the Project site in 2003, 2007, 2010, 2014, 2023 and 2024. During these surveys, no special status plant species were observed on the Project site. The potential for special-status plant species to occur is based on vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences and geographic ranges are included in **Table 2, Special-Status Plant Species**.

The special-status plants listed in Table 2 were determined to have varying levels of potential to occur based on the following criteria:

- **Not Expected:** The study area or immediate vicinity do not support suitable habitat for a particular species, and therefore the species is not expected to occur within the study area.
- **Low Potential:** The BSA supports limited habitat for a particular species. For example, the appropriate vegetation assemblage may be present while the substrate preferred by the species may be absent.
- **Moderate Potential:** The BSA provides marginal habitat for a particular species. For example, the habitat may be heavily disturbed and/or may not support all stages of a species' life cycle.
- **High Potential:** The BSA provides suitable habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed within the BSA during the site visit.

A discussion of each species with a potential to occur within the BSA is included in Table 2 – Special-Status Plants Considered. Based on the absence of suitable habitat, known geographic distributions and/or range restrictions, it was determined that special-status plant species do not have the potential to occur within the BSA; and are therefore, omitted from further discussion in this report.

TABLE 2
SPECIAL-STATUS PLANT SPECIES CONSIDERED

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
PLANTS			
ANGIOSPERMS (DICOTYLEDONS)			
Berberidaceae (Barberry Family)			
Nevin's barberry <i>Berberis nevinii</i>	Federal: FE State: CE CRPR: 1B.1	Flowers March-June. Sandy soils in low-gradient washes, alluvial terraces, and canyon bottoms, along gravelly wash margins, or on coarse soils on steep, generally north-facing slopes in alluvial scrub, cismontane (e.g., chamise) chaparral, coastal sage scrub, oak woodland, and/or riparian scrub or woodland. Elevation range extends from 274-825 meters. Found in Los Angeles, Riverside, San Bernardino, San Diego counties.	Not Expected. This species is not expected to occur within the site due to lack of suitable habitat. Notably, this species occurs as an ornamentally planted species along the west side of Claremont Boulevard. The species is highly conspicuous and has not been observed within the BSA.
Brassicaceae (Cabbage Family)			
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CRPR: 4.3	Flowers January through July. Chaparral and coastal scrub. Elevation range extends from 1-885 meters. Found in Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura counties.	Not Expected. This species is not expected to occur due to lack of suitable undisturbed habitat. Species prefers primarily undisturbed soils, which are absent within the BSA.

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
Polygonaceae (Buckwheat Family)			
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	Federal: None State: None CRPR: 1B.1	Flowers April through June. Openings/clearings in coastal or desert sage scrub, chaparral or interface; dry slopes or flat ground; sandy soils. Elevation range extends from 275-1,220 meters. Found in Los Angeles, Riverside, San Bernardino counties.	Not Expected. This species is not expected to occur due to lack of suitable habitat. Species prefers primarily undisturbed soils, which are absent within the BSA.
ANGIOSPERMS (MONOCOTYLEDONS)			
Liliaceae (Lily Family)			
Plummer's mariposa lily <i>Calochortus plummerae</i>	Federal: None State: None CRPR: 4.2	Flowers May through July. Chaparral (openings), cismontane woodland, coastal scrub, valley and foothill grassland, granitic/rocky. Elevation range extends from 100- 1,700 meters. Found in Los Angeles, Orange, Riverside, San Bernardino, Ventura counties.	Not Expected. This species is not expected to occur because the study area is outside of the known range of the species.
Intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	Federal: None State: None CRPR: 1B.2	Flowers May through July. Coastal scrub, chaparral, valley and foothill grassland on rocky soil and rocky outcrops. Elevation range extends from 105-855 meters. Found in Los Angeles, Orange, Riverside, San Bernardino counties.	Not Expected. This species is not expected to occur because the study area is outside of the known range of the species.
SOURCE: ESA, 2024.			

Based on previous site visits, no special-status plant species are expected to occur in the BSA.

Special-Status Wildlife

Special-status wildlife are defined as those animals that, because of their recognized rarity or vulnerability to various forms of habitat loss or population decline, are considered by federal, State, or other agencies to be under threat from human-associated developments. Some of these species receive specific protection that is defined by this federal or State endangered species legislation and others have been designated as special-status on the basis of adopted local policies (i.e., city and county) or the educated opinion of respected resource interest groups (i.e., Western Bat Working Group [WBWG]). Special-status wildlife is defined as follows:

- Wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or CESA;
- Wildlife that meets the definitions of rare or endangered under CEQA Guidelines Section 15380;
- Wildlife designated by CDFW as species of special concern, included on the Watch List or are considered Special Animals;
- Wildlife "fully protected" in California (CFGF Sections 3511, 4700, and 5050);
- USFWS Birds of Conservation Concern (BCC) as identified in the USFWS Information for Planning and Consultation (IPaC) resource list generated for the project (USFWS 2023b);

- Bird species protected by the MBTA; and
- Bat species considered priority by the WBWG.

The Final EIR identified 16 wildlife species¹ that were classified as species of special concern and have a potential to occur on the Project site. Six surveys were conducted on the Project site in 2003, 2007, 2010, 2014, 2023 and 2024. During these surveys, nine special status wildlife species were observed on the Project site. A complete list of the species identified in the EIR are provided in **Table 3 – Special-Status Wildlife Species Considered**.

The special-status wildlife listed in Table 3 were determined to have varying levels of potential to occur based on the following criteria:

- **Not Expected:** The study area or immediate vicinity do not support suitable habitat for a particular species, and therefore the species is not expected to occur within the study area.
- **Low Potential:** The BSA supports limited habitat for a particular species. For example, the appropriate vegetation assemblage may be present while the substrate preferred by the species may be absent.
- **Moderate Potential:** The BSA provides marginal habitat for a particular species. For example, the habitat may be heavily disturbed and/or may not support all stages of a species life cycle.
- **High Potential:** The BSA provides suitable habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed within the BSA during previous site visits.

TABLE 3
SPECIAL-STATUS WILDLIFE SPECIES CONSIDERED

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
WILDLIFE			
REPTILES			
Whiptails & relatives Teiidae			
coastal western whiptail <i>Aspidoscelis tigris stejnegeri</i>	Federal: None State: SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Observed. Species was previously observed in the BSA in 2007 and 2010. This species has a moderate potential to occur within areas of sparse vegetation within the site but was not observed in 2023 or 2024 surveys.
Egg-Laying Snakes Colubridae			
coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	Federal: None State: SSC	Known to inhabit semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains with sandy soils and leaf litter.	Not Expected This species is not likely to occur as species prefers relatively undisturbed habitat, and current site activities contribute to the regular disturbance throughout the site.

¹ One additional species, Lesser Nighthawk was not previously included in the Final EIR but was observed during the 2023 site survey. This brings the total of wildlife species of special concern with potential to occur to 17.

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
BIRDS			
Hawks, Kites, Harriers, & Eagles Accipitridae			
Cooper's hawk <i>Accipiter cooperii</i>	Federal: None State: WL	Inhabits cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest, or other forest habitats near water. Nests and forages near open water or in riparian vegetation.	Observed. This species was previously observed within the BSA in 2007 and 2010 but is not expected to nest within the BSA due to lack of suitable nesting habitat. While the species may forage in urban forested areas associated with the adjacent neighborhoods and college facilities, the species is unlikely to nest within the BSA due to lack of suitable forested or riparian vegetation.
Tyrant Flycatchers Tyrannidae			
southwestern willow flycatcher <i>Empidonax traillii extimus</i>	Federal: FE State: SE	For nesting, species require dense riparian habitats (cottonwood/willow and tamarisk vegetation) with microclimatic conditions dictated by the local surroundings. Saturated soils, standing water, or nearby streams, pools, or cienegas are a component of nesting habitat that also influences the microclimate and density vegetation component. Habitat not suitable for nesting may be used for migration and foraging. Recurrent flooding and a natural hydrograph are important to withstand invading exotic species (tamarisk).	Observed. This species was previously observed in the BSA in 2007 and 2010 and noted as a migrant in the area. This species is not expected to nest within the BSA due to the absence of suitable riparian habitat for foraging or nesting. Small patches of riparian habitat once present within the low elevation portions of the BSA no longer exist. The site also lacks sufficient riparian habitat with microclimatic conditions necessary to support this species.

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
Hummingbirds Trochilidae			
Allen's hummingbird <i>Selasphorus sasin</i>	Federal: BCC State: None	Breed in a narrow strip of coastal forest, scrub, and chaparral from sea level to around 1000 feet elevation along the West Coast of California. They sip nectar from flowers such as bush monkeyflower, Indian paintbrush, columbine, currant, gooseberry, twinflower, penstemon, ceanothus, sage, eucalyptus, and manzanita. They get their protein by capturing small insects in midair or picking them off plants.	Observed. This species has previously been observed within the BSA. Disturbed/ruderal habitat within the site provides limited foraging and/or nesting habitat for the species, and the species is more likely to nest in urban forested areas associated with the adjacent college properties.
Costa's hummingbird <i>Calypte costae</i>	Federal: BCC State: None	Occur in Sonoran and Mojave Desert scrub, coastal California chaparral and sage scrub, and deciduous forest and desert scrub in Baja California, Mexico. Along the California coast they use sage scrub and chaparral.	Observed. This species was previously observed in the BSA in 2007 and could use California buckwheat scrub for foraging.
Nightjars and Nighthawks Caprimulgidae			
Lesser nighthawk <i>Chordeiles acutipennis</i>	Federal: None State: None Other: LAA Part I	Breeds (or summers) along the Santa Clara River and tributaries (e.g., Bouquet Canyon), Big Tujunga Wash (upstream of Hansen Dam), San Gabriel River (upstream of Santa Fe Dam), and San Antonio Wash (upstream of Arrow Highway). Species is characteristic of Riversidean alluvial fan scrub and characterized by sparse coastal sage scrub amid boulder-strewn riverbeds at the base of mountains.	Observed. This species has previously been observed nesting in the area in 2007 and perching and foraging within the study area in 2023. Species has potential to continue to nest in the BSA.
Gnatcatchers Poliopitidae			
coastal California gnatcatcher <i>Poliopitila californica californica</i>	Federal: FT State: SSC	Species is an obligate, permanent resident of coastal sage scrub habitats dominated by California sagebrush and flat-topped buckwheat, mainly on cismontane slopes below 1,500 feet in elevation. Low coastal sage scrub in arid washes, on mesas and slopes.	Not Expected. This species is not expected to occur within the study area due to lack of suitable habitat. Coastal California gnatcatcher occurrences in Claremont/Upland believed to be extirpated since 1994 and no observations of the species have ever been made within the BSA (CDFW 2024).
Larks Alaudidae			
California horned lark <i>Eremophila alpestris actia</i>	Federal: None State: WL	Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the tree-line. During the winter, this species typically flocks in desert lowlands.	Observed. This species was previously observed foraging within the disturbed portions of the site in 2007, 2010, and 2023. Disturbed / ruderal habitat within the site provides limited foraging habitat, and due to ongoing landfill maintenance activities, the species is unlikely to nest within the BSA.
Sparrows Passerellidae			
southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	Federal: None State: WL	Known to frequent relatively steep, often rocky hillsides with grass and forb species. Resident in southern California coastal sage scrub and mixed chaparral habitats.	Moderate Potential. This species has a moderate potential to occur within the study area due to the presence of California buckwheat scrub along the eastern slope of the study area.

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
Finches Fringillidae			
Lawrence's goldfinch <i>Spinus lawrencei</i>	Federal: BCC State: None	Occurs in valley foothill hardwood, valley foothill hardwood-conifer, desert riparian, palm oasis, pinyon-juniper and lower montane habitats	Observed. This species was previously observed within the study area in 2007 but is unlikely to nest within the study area due to lack of suitable nesting habitat.
MAMMALS			
Evening Bats Vespertilionidae			
pallid bat <i>Antrozous pallidus</i>	Federal: None State: SSC	Occurs in a wide variety of habitats including chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran Desert scrub, upper montane coniferous forest, valley and foothill grasslands. Most common in open, dry habitats with rocky areas for roosting. For roosting, prefers rocky outcrops, cliffs and crevices with access to open habitats for foraging. Roosts must protect species from high temperatures. Very sensitive to disturbance of roosting sites.	Not Expected. This species is not expected to occur within the BSA due lack of suitable roosting and foraging habitat. Disturbed/ruderal habitat within the site provides limited foraging and/or roosting habitat for the species.
Free-Tailed Bats Molossidae			
western mastiff bat <i>Eumops perotis</i> <i>californicus</i>	Federal: None State: SSC	Known to occur in habitat consisting of extensive open areas within dry desert washes, flood plains, chaparral, cismontane oak woodland, coastal scrub, open ponderosa pine forest, and grasslands. Roosts primarily in crevices in rock outcrops and buildings.	Not Expected. This species is not expected to occur within the BSA due to a lack of suitable roosting and foraging habitat. Disturbed/ruderal habitat within the BSA provides limited foraging and/or roosting habitat for the species.
Rabbits & Hares Leporidae			
San Diego black- tailed jackrabbit <i>Lepus californicus</i> <i>bennettii</i>	Federal: None State: SSC	Inhabits open grasslands, agricultural fields, and sparse coastal scrub where they occur primarily in arid regions with short grass.	Observed. This species was previously observed within the BSA in 2003 but has not been observed since. This conspicuous species is likely extirpated from the site.
Kangaroo rats, Pocket mice, & Kangaroo mice Heteromyidae			
northwestern San Diego pocket mouse <i>Chaetodipus fallax</i> <i>fallax</i>	Federal: None State: SSC	Moderate canopy coverage of coastal scrub, sagebrush, chaparral, grasslands, pinyon- juniper, and desert wash and scrub. Found in sandy, herbaceous areas with nearby shrubs for cover. Burrows are typically dug within gravelly or sandy soil.	High Potential. This species has a high potential to occur within California buckwheat scrub and other natural communities observed in the northern and eastern portions of the BSA. Species is sensitive to disturbance and is unlikely to burrow within disturbed and compacted soils associated with the majority of the site.

Common Name Scientific Name	Sensitivity Status ¹	Preferred Habitat/Known Distribution ²	Potential to Occur and/or be Affected by Proposed Activities.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	Federal: None State: SSC	Found in lower elevation grasslands, alluvial fans and coastal sage scrub communities.	Not Expected. While marginally suitable habitat is present within the BSA in the form of California buckwheat scrub, this onsite vegetation community is greatly disturbed and does not provide suitable foraging habitat for the species. The nearest recorded occurrence of the species is 9 miles to the east, in Rancho Cucamonga.
Mice, Rats, & Voles Muridae			
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Federal: None State: SSC	Found in a variety of coastal scrub, desert scrub, chaparral, cactus, and rocky habitats. Nests primarily against rock outcroppings, boulders, cacti, or areas of dense undergrowth.	High Potential. This species has a high potential to occur in the laurel sumac scrub and woodrat nest belonging to an unknown species have been observed within the laurel sumac scrub in the northern portion of the BSA.
SOURCE: ESA, 2024.			

Special-Status Reptiles

Coastal whiptail may forage and/or breed within open areas throughout the BSA and were previously observed during surveys in 2007 and 2010. While the species were previously observed on the site, the species has not been observed in the past 14 years. Additionally, although coast patch-nosed snake was previously listed as potentially occurring within the BSA, the results of past surveys have observed none within the BSA, and it is not expected to occur within the BSA.

Special-Status Birds

Coopers hawk, southwestern willow flycatcher, California horned lark, Costa's hummingbird, Lawrence's goldfinch, Allen's hummingbird, and lesser nighthawk have been observed foraging within the study area. In addition, while Southern California rufous-crowned sparrow was not observed in previous surveys, it has a moderate potential to forage within California buckwheat scrub on the site.

Special-status Mammals

San Diego black-tailed jackrabbit, San Diego desert woodrat, and northwestern San Diego pocket mouse all have a high potential to occur within the study area due to the presence of suitable habitat. Although San Diego black-tailed jackrabbit was previously observed within the BSA, the species is highly conspicuous and has not been observed within the site since 2003. The species is likely extirpated from the site. Woodrat nests of an unknown species were also observed in laurel sumac scrub in the northern portion of the site.

Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region. These communities may or may not contain special-status species or their habitat and are independently considered sensitive by CDFW. For purposes of this evaluation, sensitive natural communities include vegetation communities identified in the California Natural Communities List with Holland Types (CDFW, 2023 and CDFW, 2024) with a CNDDDB state rank of S1, S2, or S3.

Based on the previous site visits, none of the natural communities identified in the California Natural Communities List were observed to occur within the BSA. The mapped natural communities which include California buckwheat scrub (S4), coyote brush scrub (S4), brittle bush scrub (S4), as well as disturbed and ruderal areas are not considered sensitive natural communities as they are either not ranked or have a rank of S4 or higher.

Critical Habitat

Under the FESA, to the extent feasible, the USFWS is required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter that are essential to the survival and recovery of the species, whether the habitat is currently occupied by the species or not. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types.

The BSA is not located within designated critical habitat. The nearest critical habitat to the Project site is for the coastal California gnatcatcher (*Polioptila californica californica*) associated with Frank G. Bonelli Regional Park, that is located 4.2 miles to the southwest (USFWS, 2024).

9.0 Project Impacts and Mitigation Measures

Approach to the Analysis

The analysis of the Revised Project impacts on biological resources and corresponding recommendations for avoidance, minimization, and mitigation are discussed in this section. Generally, impacts may be defined as direct or indirect, and permanent or temporary. Definitions of these impact types are provided below.

- **Direct Impacts:** Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include loss of individual species and/or their associated plant communities, diversion of surface water flows, and encroachment into wetlands. Under the FESA, direct impacts are defined as the immediate impacts of a project on a species or its habitat, including construction noise disturbance, sedimentation, or habitat loss.
- **Indirect Impacts:** As a result of project-related activities, biological resources may also be affected in an indirect manner. Under the FESA, indirect impacts are defined as those impacts that are caused by, or would result from, a proposed project but occur later in time and are reasonably certain to occur (50 CFR, Section 402-02). An example of indirect impacts may include irrigation runoff from a developed area into surrounding natural vegetation. Indirect impacts could also include increased wildfire frequency as a result of power line failures.
- **Temporary Impacts:** Any impacts to biological resources that are considered reversible can be viewed as temporary. Examples include the generation of fugitive dust during construction activities and temporary access or staging areas that will be returned to pre-project conditions.
- **Permanent Impacts:** All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area with native vegetation, such that the native vegetation is permanently removed and replaced with a developed structure.

Impacts Analysis

Special-Status Plants

There are no special-status plant species identified as having a moderate or high potential to occur within the BSA (see Table 2). Construction and operational activities would not affect any special-status plant species. Therefore, the Revised Project would result in no impacts to special-status plants.

Special-Status Mammals

Unknown woodrat nests (*Neotoma* spp.) were observed in laurel sumac scrub in the northern portion of the BSA. While there is potential for the species to occur within this area, loss of a small number of this species in a completely isolated location would not be considered a significant impact. The San Diego desert woodrat, despite being identified as a species of special concern, is actually quite widely distributed and not presently at risk over most of its range. Only large projects that may result in loss of occupied habitat over large areas and/or that sever landscape linkages that connect populations, thus resulting in detrimental effects to this species at the landscape level, should be considered to have significant adverse effects on this species. In fact, if nothing occurs on the Project site, it is highly likely that the extant small population would cease to be viable in a relatively short time, either as the result of stochastic (random) events (e.g., disease, drought, low birth rate, etc.) or due to inbreeding leading to weakened individuals that cannot compete with other woodrats. Therefore, the Revised Project's potential impacts during construction activities to San Diego desert woodrat would be less than significant.

Northwestern San Diego pocket mouse has a high potential to occur within the BSA, but as the species prefers undisturbed sites, the species is unlikely to burrow throughout most of the site. Furthermore, San Diego black-tailed jack rabbit is likely extirpated from the site. Direct impacts to these two species are not expected to occur, and impacts are considered less than significant.

Special-Status Reptiles

The majority of the site is greatly disturbed and does not provide suitable habitat for other special-status reptiles. While the open space and natural vegetation throughout the study area provides marginal habitat for coastal whiptail, ongoing landfill maintenance activities continue to disturb the Project site. The species has not been observed since 2010. As the species has likely been extirpated from the Project site, impacts to special-status reptiles are not expected to occur and would be less than significant.

Special-Status Birds

Cooper's hawk, Costa's hummingbird, Allen's hummingbird, Lawrence's goldfinch, California horned lark, lesser nighthawk, and southwestern willow flycatcher were all previously observed in the BSA. Additionally, Southern California rufous-crowned sparrow was identified as having a moderate potential to occur in the BSA. While none of these species have been observed nesting in the study area, project activities could negatively impact nesting birds that are protected in accordance with the MBTA and CFGC through the removal of an active nest or the disruption of breeding/nesting behavior (e.g., copulation, nesting building, or incubation). Therefore, construction activities associated with the Revised Project could result in significant impacts to bird species during nesting activities.

Mitigation Measures

No mitigation measures are required for special-status plants, mammals, or reptiles.

Mitigation is required to reduce impacts to nesting birds to less than significant. The applicant shall avoid the nesting bird season or conduct a pre-construction survey to determine the presence of active bird nests if construction activities occur during the nesting bird season. If the pre-construction survey does not identify nests, then construction can commence. If active nests are identified, an avoidance buffer of up to 300 feet for most bird species and 500 feet for raptors, or as determined appropriate by the qualified biologist (based on species-specific tolerances and site-specific conditions), shall be delineated, flagged, and avoided until the nesting cycle is complete (i.e., the qualified biologist determines that the young have fledged or the nest has failed).

10.0 Conclusions

Within the Final EIR, five plant communities were identified on the Project site based on a February 2014 field survey. The Final EIR identified that the Project site's previous use as an aggregate quarry and the use as an inert landfill, at the time of the Final EIR preparation, resulted in extensive disturbance of the Project site over many years. Apparent attempts at revegetation have resulted in several transitional vegetation types that are not explicitly recognized in the California classification system for vegetation types. Therefore, the classification system's species dominant method was used in 2014 to create a new name for one of the vegetation types. The five vegetation communities that were identified in the 2014 survey included (1) Buckwheat and Buckwheat – Mulefat Alliances, (2) Laurel Sumac Alliance, (3) Scalebroom Alliance, (4) Willow-Mulefat Alliance, and (5) Non-Native and Transitional Vegetation Types. None of the five vegetation communities were recognized as sensitive vegetation communities.

Current 2024 mapping of the Project site includes seven natural vegetation communities and land cover types. They include (1) laurel sumac scrub, (2) California buckwheat scrub, (3) coyote brush scrub, (4) brittle brush scrub, (5) open water, (6) ruderal, and (7) disturbed. None of the seven existing vegetation communities are recognized as sensitive vegetation communities. The Project site is primarily ruderal or disturbed, with laurel sumac scrub in the north, California buckwheat scrub on the eastern slope and small patches of brittle bush scrub and coyote brush scrub in the center of the site. Similar to the finding for the Approved Project in the Final EIR, there is no Riversidean alluvial fan sage scrub currently present within the Project site.

While alluvial fan scrub was the predominant vegetation type on the Project site and vicinity at the time of certification of the Final EIR, the Project site no longer contains this vegetation as the area is subject to frequent and regular disturbance previously associated with inert landfill activities and currently associated with ongoing site maintenance activities.

The Final EIR identified 5 plant species and 16 wildlife species that were classified as species of special concern and have a potential to occur on the Project site. Prior to and after certification of the Final EIR, there have been six surveys conducted on the Project site (2003, 2007, 2010, 2014, 2023 and 2024). During these surveys, no special status plant species and nine special status wildlife species were observed on the Project site. The nine special status wildlife species observed during one of the six surveys included the following:

- Coopers hawk (observed in 2007 and 2010)
- Costa's hummingbird (observed in 2007)
- Southwestern willow flycatcher (observed in 2007 and 2010)
- California Horned lark (observed in 2007, 2010, and 2023)

- Lawrence's goldfinch (observed in 2007)
- Allen's Hummingbird (observed in 2010, 2014, and 2023)
- Coastal whiptail (observed in 2007 and 2010)
- San Diego black-tailed jackrabbit (observed in 2003)
- Lesser nighthawk (observed in 2007 and 2023)

As discussed above, based on the current conditions on the Project site, construction activities would result in less than significant impacts to special-status plants, mammals, and reptiles. There is a potential for construction activities to result in significant impacts to nesting bird species. To reduce this potential significant impact, construction activities would avoid the nesting bird season or bird nest surveys would occur prior to construction activities and any identified bird nests would be avoided. The implementation of this avoidance measure would reduce the potential impact on nesting birds to less than significant.

The Final EIR identified that the Project site is not a wildlife nursery because the site did not include facilities and protected habitat for the rehabilitation of injured or rare species for eventual release into the wild. Based on the current conditions, the Project site is still not a wildlife nursery.

Furthermore, the Final EIR identified that the Project site, and specifically the seasonal ponding area, did not include the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Therefore, the Project site did not contain wetlands as defined under Title 33, Part 328.3(a) of the Code of Federal Regulations. Based on current conditions, the open water on the Project site occurs from storm events and then infiltrates into the ground. Because the open water on the site is temporary, the Project site does not contain riparian vegetation or wetlands.

Since the certification of the Final EIR and approval of the Approved Project in 2016, biological conditions on the Project site have substantially changed due to the long-term landfill activities that occurred on the Project site until 2023 and continued maintenance, construction staging, or parking activities.

11.0 References

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Accessed on April 20, 2024.

Appendix

Appendix A: Biological Reconnaissance Surveys

Appendix A

Biological Reconnaissance Surveys



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memorandum

date June 23, 2023

to Elizabeth Camacho, Loeb & Loeb, LLP

from Douglas Gordon-Blackwood, ESA
Michael Houlihan, ESA

subject Results of a 2023 Biological Reconnaissance Survey for the Claremont McKenna College Roberts Campus East Property

This memorandum documents the findings of a general biological reconnaissance survey conducted by Environmental Science Associates (ESA) for the Claremont McKenna Roberts Sports Bowl (Project) on the Roberts Campus East property located in the cities of Upland and Claremont. The 2023 biological reconnaissance survey was conducted to determine the presence of special-status species within the project.

Project Location

The Project site is a 74.4-acre site that encompasses the approximately 74-acre Roberts Campus East site and an area outside of Roberts Campus East that would contain a proposed tunnel (approximately 0.4 acres). Approximately 66.4 acres of the 74-acre Roberts Campus East site is proposed for the Roberts Campus Sports Bowl (Sports Bowl) while the remaining 7.6 acres are proposed to be graded as part of the landfill closure, but not developed. Roberts Campus East is located partially within the City of Upland on the east and the City of Claremont on the west. The proposed tunnel is located within the City of Claremont. The Project site is bound by Foothill Boulevard to the north, Arrow Route on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west. The proposed tunnel extends west of the Roberts Campus East under and west of Claremont Boulevard. The Project site is situated within an unsectioned portion of Township 1 South, Range 8 West of the Ontario CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.

Survey Methodology

Prior to the site visit, ESA reviewed relevant literature on the biological resources of the Project site and surrounding vicinity including the Claremont College East Campus Final EIR that was certified in May 2016. In addition to the Final EIR, the California Natural Diversity Database (CNDDB), a California Department of Fish and Wildlife (CDFW) species account database, was reviewed for all pertinent information regarding the localities of known observations of special-status species and habitats in the vicinity of the Project site (CDFW 2023). The Project site is within the Ontario USGS quadrangle, and the vicinity of the Project site included the following surrounding USGS topographic quadrangles: Prado Dam, Guasti, Mt. Baldy, Cucamonga Peak, Corona North, San Dimas, Glendora, and Yorba Linda. Other data sources reviewed included USFWS critical habitat maps (USFWS 2023) and United States Department of Agriculture Natural Resources Conservation Service

(NRCS) soils mapping (NRCS 2023). In addition, the regional flora (Baldwin 2012) were utilized to assist in the identification of plant species, *California Natural Community List* for vegetation classification (CDFW 2023).

A biological reconnaissance survey was conducted by ESA biologist Douglas Gordon-Blackwood on May 11, 2023. The survey began at 6:45 a.m. and ended at 12:15 p.m. The weather included a range of cloud cover from 100 percent to 60 percent, and the temperature ranged from 56 degrees to 68 degrees. The survey consisted of walking transects throughout the Project site to determine the presence of special-status plants and wildlife species on the Project site. Those areas which were deemed inaccessible were scanned with binoculars. All incidental, visual observations of wildlife, including sign (i.e. presence of scat) and audible detections were noted during the assessment and photographs of the site were taken and have been included in **Attachment A, 2023 Field Notes**. The site consists of primarily ruderal or disturbed habitat, with large amounts of nonnative vegetation, and barren or disturbed soils. Pockets of laurel sumac chaparral are located in the northern portion of the Project site and sage scrub is present along the eastern border of the Project site.

Results

Two special-status wildlife species were observed during the site visit. A Lesser nighthawk (*Chordeiles acutipennis*), a Bird of Conservation Concern and Los Angeles County Sensitive Bird Species (Part I), was observed perching within the center of the Project site. A juvenile California horned lark (*Eremophila alpestris*), also a Los Angeles County Sensitive Bird Species (Part I), was also observed foraging in the southern portion of the Project site. No special-status plant species were observed within the BSA. Both special-status bird species have the potential to nest within the property; however, no nests attributed to either species were observed during the visit. Woodrat nests were observed in laurel sumac chaparral.

List of Attachments

Attachment A: 2023 Field Notes

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Attachment A
2023 Field Notes

1_Biology Surveys (SoCal Bio ONLY)

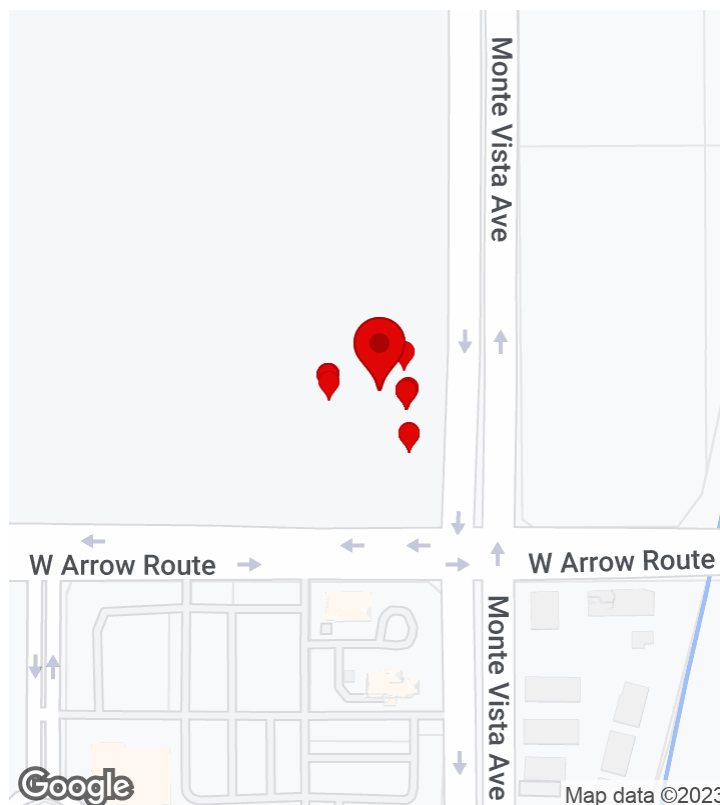
Biology Surveys (SoCal Bio ONLY)

Claremont Colleges Project

6/22/2023, 5:26:03 PM UTC



View from the northwest corner facing south



CREATED

🕒 5/11/2023, 6:11:14 PM UTC

👤 by Douglas Gordon-Blackwood

UPDATED

🕒 6/22/2023, 5:26:03 PM UTC

👤 by Douglas Gordon-Blackwood

LOCATION

📍 34.100252, -117.698842

Parent Form

Project Name:	Claremont Colleges Project
Specific Survey Type	General Survey/Habitat Assessment
Observer/Surveyor:	Douglas Gordon-Blackwood
Assistant Observer/Surveyor:	
Date:	May 11, 2023

START Weather Details:

Start - Time:	06:45
Start - Temperature:	56
Start - Wind Direction From (select one):	SE
Start - Low Wind Speed:	0
Start - High Wind Speed:	3
Start - Average Wind Speed:	1
Start - Cloud Cover (%):	100
Start - Precipitation (select one):	None
Start - Visibility (select one):	Good
Start - Notes	

END Weather Details:

Time Out:	12:15
End - Temperature:	68
End - Wind Direction From (select one):	S
End - Low Wind Speed:	1
End - High Wind Speed:	4
End - Average Wind Speed:	2
End - Cloud Cover (%):	60
End - Precipitation (select one):	None
End - Visibility (select one):	Good
End - Notes (if applicable):	
Total Hours:	

Project Location (description):	Former landfill site bordered by Arrow Route, Monte Vista Ave, Claremont Blvd, and Foothill Blvd. This survey is being conducted to provide an update for the 2023 season and to identify if any special-status species are present within the BSA.
Notes	2023 Spring Survey

Photos



View from the northwest corner facing south



View of sage scrub habitat along eastern boundary, facing south



View of center of property facing southwest from northeast corner



view of the northern portion of property and access road, facing west from northeast corner of property.



View of sage scrub habitat along eastern boundary of property, facing north



View of center of property facing southwest from northeast corner



View of center of property facing southwest from northeast corner



View of center of property facing west from northeast corner



View of sage scrub habitat along eastern boundary, facing south



View of drainage in northeast corner of property, facing north



View of recently cleared area in center of site, facing south



View of recently cleared area in center of site, facing north



View of recently cleared area in center of site, facing south



View of recently cleared area in center of site, facing north



View of center of site, facing south



View of center of site, facing north



view of southern portion of property facing southeast. Area that was previously mapped as riparian, no longer has vegetation.



View of southern low elevation area, facing east



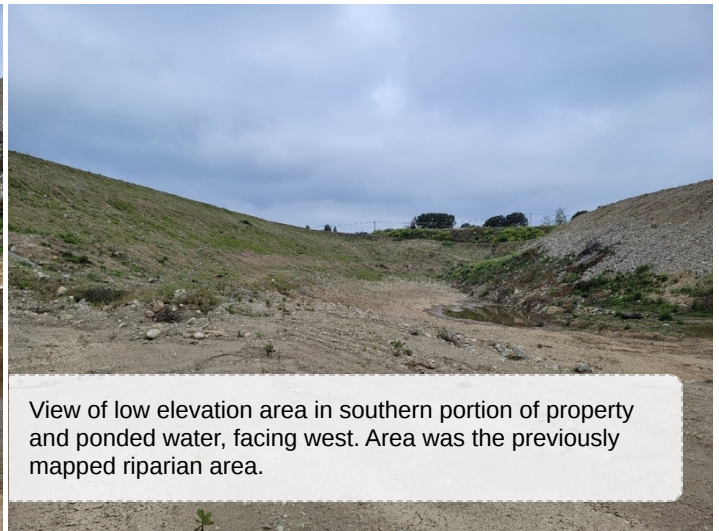
View of southern low elevation area, facing west



View of southern low elevation area, facing east



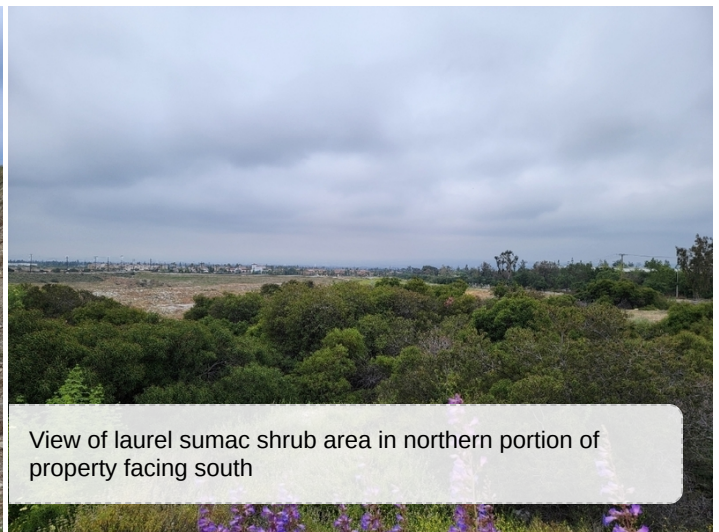
View of ponded water at lowest elevation point in southern portion of property, facing west.



View of low elevation area in southern portion of property and ponded water, facing west. Area was the previously mapped riparian area.



overview of the low elevation area in the southern portion of the property, facing southwest



View of laurel sumac shrub area in northern portion of property facing south



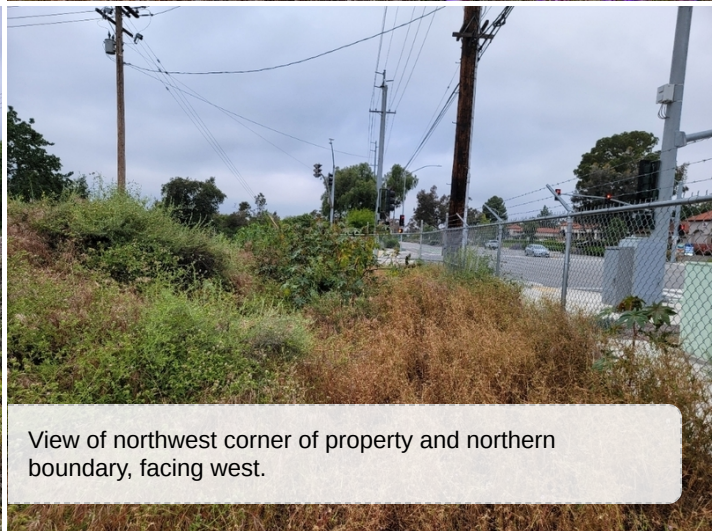
View of vegetated area along northern boundary of BSA, facing west



View of vegetated area along northern boundary of BSA, facing east



View from northwest corner of property, facing south



View of northwest corner of property and northern boundary, facing west.



View of vegetated area along northern boundary of BSA, facing east



View of vegetated area along northern boundary of BSA, facing east



View of vegetated area along northern boundary of BSA, facing east



View of laurel sumac shrubland in northern portion of property, facing north



view of recently cleared herbaceous vegetation in northwest portion of property, facing south



View of vegetated area along northern boundary of BSA, facing east

Bird

Bird Observation: (19 Items)

Bird Observation: - 1. 1 record, no

Bird (Common or Scientific Name): Anna's Hummingbird; Calypte anna; ANHU

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 2. 1 record, no

Bird (Common or Scientific Name): Allen's Hummingbird; Selasphorus sasin; ALHU

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 3. 1 record, no

Bird (Common or Scientific Name): Bushtit; Psaltriparus minimus; BUSH

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 4. 1 record, no

Bird (Common or Scientific Name): Mourning Dove; Zenaida macroura; MODO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 5. 1 record, no

Bird (Common or Scientific Name): Northern Mockingbird; Mimus polyglottos; NOMO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 6. 1 record, no

Bird (Common or Scientific Name): Lesser Nighthawk; Chordeiles acutipennis; LENI

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:



Notes:

Bird Observation: - 7. 1 record, no

Bird (Common or Scientific Name): Lesser Goldfinch; Spinus psaltria; LEGO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 8. 1 record, no

Bird (Common or Scientific Name): California Towhee; Melozone crissalis; CALT

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 9. 1 record, no

Bird (Common or Scientific Name): Common Raven; Corvus corax; CORA

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 10. 1 record, no

Bird (Common or Scientific Name): House Finch; Haemorhous mexicanus; HOFI

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 11. 1 record, no

Bird (Common or Scientific Name): Hooded Oriole; Icterus cucullatus; HOOR

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 12. 1 record, no

Bird (Common or Scientific Name): Ash-throated Flycatcher; Myiarchus cinerascens; ATFL

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 13. 1 record, no

Bird (Common or Scientific Name): Say's Phoebe; Sayornis saya; SAPH

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 14. 1 record, no

Bird (Common or Scientific Name): Northern Rough-winged Swallow; Stelgidopteryx serripennis; NRWS

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 15. 1 record, no

Bird (Common or Scientific Name): Spotted Towhee; Pipilo maculatus; SPTO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:

Notes:

Bird Observation: - 16. 1 record, no

Bird (Common or Scientific Name): Horned Lark; Eremophila alpestris; HOLA

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Number of Individuals:

Photo(s) of Bird:



Notes: | Juvenile

Bird Observation: - 17. 1 record, no

Bird (Common or Scientific Name): | Western Bluebird; Sialia mexicana; WEBL

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Number of Individuals: |

Photo(s) of Bird:**Notes:****Bird Observation: - 18. 1 record, no****Bird (Common or Scientific Name):** European Starling; Sturnus vulgaris; EUST**Is the Bird Sensitive ?** no**Sub-Species Info:** N/A**Number of Individuals:****Photo(s) of Bird:****Notes:****Bird Observation: - 19. 1 record, no****Bird (Common or Scientific Name):** Killdeer; Charadrius vociferus; KILL**Is the Bird Sensitive ?** no**Sub-Species Info:** N/A**Number of Individuals:**

Photo(s) of Bird:

Notes:

Butterfly/Moth

Butterfly/Moth Observation: (1 Item)

Butterfly/Moth Observation: - 1. 1 record

Butterfly/Moth (Common or Scientific Name): Painted Lady; Vanessa Cardui

Is the Butterfly/Moth Sensitive ? no

Sub-Species Info:

Photo(s) of Butterfly/Moth:

Notes:

Invertebrate

Invertebrate Observation: (1 Item)

Invertebrate Observation: - 1.

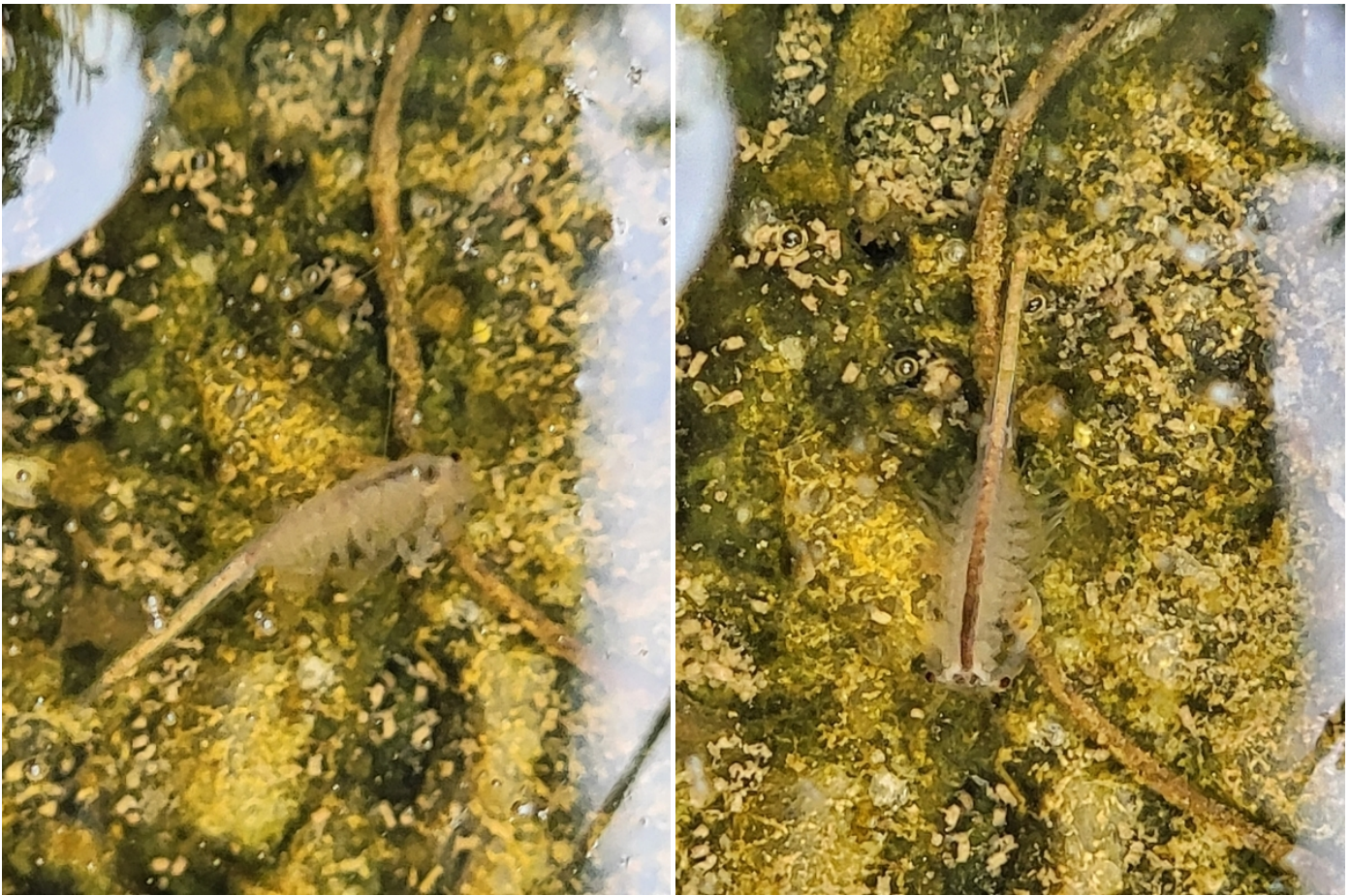
Invertebrate (Common or Scientific Name):

Other Invertebrate Species Branchinecta lindhali - versatile fairy shrimp

Is the Invertebrate Sensitive ? No

Sub-Species Info: N/A

Photo(s) of Invertebrate:



Notes:

Mammal

Mammal Observation: (2 Items)

Mammal Observation: - 1. 1 record

Mammal (Common or Scientific Name):	Brush Rabbit; Sylvilagus bachmani
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Is the Mammal Sensitive ?	no
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Sub-Species Info:	N/A
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Photo(s) of Mammal:

Notes:

Mammal Observation: - 2. 1 record

Mammal (Common or Scientific Name):	California Ground Squirrel; <i>Ostospermophilus beecheyi</i>
Is the Mammal Sensitive ?	no
Sub-Species Info:	N/A
Photo(s) of Mammal:	
Notes:	

Reptile

Reptile Observation: (2 Items)

Reptile Observation: - 1. 1 record

Reptile (Common or Scientific Name):	Western Fence Lizard; <i>Sceloporus occidentalis</i>
Is the Reptile Sensitive ?	no
Sub-Species Info:	N/A
Photo(s) of Reptile:	
Notes:	

Reptile Observation: - 2. 1 record

Reptile (Common or Scientific Name):	Common Side-blotched Lizard; <i>Uta stansburiana</i>
Is the Reptile Sensitive ?	no
Sub-Species Info:	N/A
Photo(s) of Reptile:	
Notes:	



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memorandum

date March 29, 2024

to Elizabeth Camacho, Loeb & Loeb, LLP

from Douglas Gordon-Blackwood, ESA
Michael Houlihan, ESA

subject Results of a 2024 Biological Reconnaissance Survey for the Claremont McKenna College Roberts Campus East Property

This memorandum documents the findings of a general biological reconnaissance survey conducted by Environmental Science Associates (ESA) for the Claremont McKenna Roberts Sports Bowl (Project) on the Roberts Campus East property located in the cities of Upland and Claremont. The 2024 biological reconnaissance survey was conducted to supplement a survey conducted by ESA in 2023.

Project Location

The Project site is a 74.4-acre site that encompasses the approximately 74-acre Roberts Campus East site and an area outside of Roberts Campus East that would contain a proposed tunnel (approximately 0.4 acres). Approximately 66.4 acres of the 74-acre Roberts Campus East site is proposed for the Roberts Campus Sports Bowl (Sports Bowl) while the remaining 7.6 acres are proposed to be graded as part of the landfill closure, but not developed. Roberts Campus East is located partially within the City of Upland on the east and the City of Claremont on the west. The proposed tunnel is located within the City of Claremont. The Project site is bound by Foothill Boulevard to the north, Arrow Route on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west. The proposed tunnel extends west of the Roberts Campus East under and west of Claremont Boulevard. The Project site is situated within an unsectioned portion of Township 1 South, Range 8 West of the Ontario CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.

Survey Methodology

Prior to the site visit, ESA reviewed relevant literature on the biological resources of the Project site and surrounding vicinity including the Claremont College East Campus Final EIR that was certified in May 2016. In addition to the Final EIR, the California Natural Diversity Database (CNDDDB), a California Department of Fish and Wildlife (CDFW) species account database, was reviewed for all pertinent information regarding the localities of known observations of special-status species and habitats in the vicinity of the Project site (CNDDDB, 2024a). The Project site is within the Ontario USGS quadrangle, and the vicinity of the Project site included the following surrounding USGS topographic quadrangles: Prado Dam, Guasti, Mt. Baldy, Cucamonga Peak, Corona North, San Dimas, Glendora, and Yorba Linda. Other data sources reviewed included USFWS critical habitat maps (USFWS, 2024) and United States Department of Agriculture Natural Resources Conservation Service

(NRCS) soils mapping (NRCS, 2024). In addition, the regional flora (Baldwin 2012) were utilized to assist in the identification of plant species, *California Natural Community List* for vegetation classification (CDFW, 2024b). Natural communities were mapped directly in the field utilizing Collector for ArcGIS and an EOS Arrow Surveyor GPS unit. Natural community names and descriptions follow *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evans 2009). A detailed description of each natural community and land use is provided in the *Natural Communities and Land Cover Types* section of this memorandum.

A biological reconnaissance survey was conducted by ESA biologist Douglas Gordon-Blackwood on March 13, 2024. The survey began at 6:37 a.m. and ended at 12:25 p.m. The weather included 100 percent cloud cover during the entire survey, and the temperature ranged from 53 degrees to 56 degrees. The survey consisted of walking transects throughout the Project site to determine the presence of special-status plants and wildlife species on the Project site. Those areas which were deemed inaccessible were scanned with binoculars. All incidental, visual observations of wildlife, including sign (i.e. presence of scat) and audible detections were noted during the assessment. The plant and wildlife species observed during the survey are provided in **Attachment 1, Floral and Faunal Compendia**. Photographs of the Project site were taken and have been included in **Attachment 2, 2024 Field Notes**.

Existing Conditions

Natural Communities and Land Cover Types

Based on observations during the 2024 biological reconnaissance survey, the natural communities and land cover types were mapped and are depicted in **Figure 1, Natural Communities and Land Cover**. A summary of acreages within the Project site is presented below in **Table 1, Natural Communities and Land Cover Types**.

TABLE 1
NATURAL COMMUNITIES AND LAND COVER TYPES

Natural Communities and Land Cover Types	Project Site (acres)
Laurel sumac scrub	1.98
California buckwheat scrub	9.89
Coyote brush scrub	2.42
Brittle Bush Scrub	1.50
Ruderal	46.64
Open Water	0.64
Disturbed	11.35
Total	74.42

Source: ESA, 2024.



SOURCE: Nearmap, 2022; ESA, 2024

Claremont McKenna Roberts Campus East

Figure 1
Natural Communities and Land Cover

Laurel Sumac Scrub

Laurel sumac scrub (*Malosma laurina* Shrubland Alliance) consists of laurel sumac (*Malosma laurina*) as the dominant scrub with an open or continuous canopy with other herbaceous plants in low cover. This community typically occurs on slopes, in shallow or fine textured soils.

California buckwheat scrub

California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance) consists of California buckwheat (*Eriogonum fasciculatum*) as dominant in the shrub canopy with California sagebrush (*Artemisia californica*) as subdominant and other shrub or herbaceous species present in low cover. This community naturally occurs on upland slopes, intermittently flooded arroyos, channels and washes in course, well drained soils. Within the BSA, this community is located along the eastern portion of the BSA along the west facing slope adjacent to Monte Vista Avenue and encompasses 9.89 acres. This community was established with the construction of Monte Vista Avenue adjacent to the Project site in the 1990s (Nationwide Environmental Title Research, LLC 2024).

Coyote brush scrub

Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance) consists of coyote brush as the dominant species in the shrub layer with a variable canopy and herbaceous layer. This community is found within stream terraces, open slopes, coastal bluffs, and ridges. Within the BSA, Coyote brush scrub is newly emergent in flat areas in the center of the site and encompasses 2.42 acres.

Brittle bush scrub

Brittle bush scrub (*Encelia farinosa* Shrubland Alliance) consists of a shrub canopy dominated by brittlebush (*Encelia farinosa*), interspersed with various other native and non-native herbaceous species. Brittle bush scrub typically occurs on steep, rocky sites, especially south-facing slopes. Within the BSA, brittle bush scrub is newly emergent in recently disturbed areas in the northern portion of the Project site and encompasses 1.50 acres.

Open Water

A small seasonally ponded area is present at the lowest elevation location in the BSA and is the result of storm runoff and sheet flow accumulation from the surrounding areas. The infiltration rate of the seasonal pond water has decreased over the past few years due to sediment build-up at the bottom of the pond area. Periodically, maintenance activities remove the sediment build-up to increase the infiltration rate. The size of the open water within the BSA fluctuates based on direct input from precipitation and the infiltration rate. At the time of the 2024 site visit, the open water encompassed 0.64 acres.

Ruderal

Ruderal communities are dominated by ruderal, non-native plant species in the herbaceous layer, with no single species identified as the dominant species. These communities frequently occur in areas where regular disturbance occurs, preventing the establishment of native cover. Within the BSA, ruderal lands encompass 46.64 acres and is the dominant community throughout the BSA.

Disturbed

Disturbed conditions occur throughout much of the Project site. The majority of the Project site is routinely subject to disturbance as a result of landfill maintenance activities for fuel modification purposes, and the disturbed areas encompass 11.35 acres. Vegetation in this area is largely absent.

General Plant Inventory

The natural communities discussed above are composed of numerous plant species. A list of all plant species observed is provided in Attachment 1, Floral and Faunal Compendium. Photographs of the Project site are provided in Attachment 2, 2024 Field Notes.

General Wildlife Inventory

The natural communities discussed above provide habitat for common wildlife species, including the following that were observed: American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), black phoebe (*Sayornis nigricans*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), white-crowned sparrow (*Zonotrichia leucophrys*), Say's phoebe (*Sayornis saya*), yellow-rumped warbler (*Setophaga coronata*), northern mockingbird (*Mimus polyglottos*), California towhee (*Melospiza crissalis*), brush rabbit (*Sylvilagus bachmani*), and raccoon (*Procyon lotor*). A list of all species observed is provided in Attachment 2, 2024 Field Notes.

Results

No special-status plant or wildlife species were observed within the BSA during the survey conducted on March 13, 2024. On-going landfill maintenance activities are anticipated to continue throughout the year. Natural communities throughout the Project site, including California buckwheat scrub, laurel sumac scrub, brittle bush scrub, and coyote brush scrub, may provide suitable foraging habitat for common and special-status species. However, due to the regular and ongoing maintenance activities, onsite natural communities are unlikely to provide suitable habitat for nesting or roosting.

List of Attachments

Attachment 1: Floral and Faunal Compendia

Attachment 2: 2024 Field Notes

References

Baldwin, B. G. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. Berkeley, CA: University of California Press.

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Attachment 1

Floral and Faunal Compendia

ATTACHMENT 1 – CLAREMONT COLLEGES EAST CAMPUS

Floral and Faunal Compendia

Family	Scientific Name	Common Name	Nativity	Special-Status?
AGAVACEAE		CENTURY PLANT FAMILY		
	<i>Hesperoyucca whipplei</i>	Whipple's yucca	Native	No
AMARANTHACEAE		AMARANTH FAMILY		
	<i>Amaranthus albus</i>	tumbleweed	Naturalized	
	<i>Amaranthus blitoides</i>	procumbent pigweed	Naturalized	
ANACARDIACEAE		SUMAC OR CASHEW FAMILY		
	<i>Malosma laurina</i>	laurel sumac	Native	No
	<i>Schinus molle</i>	pepper tree	Naturalized	No
	<i>Searsia lancea</i>	African sumac	Naturalized	No
	<i>Toxicodendron diversilobum</i>	western poison oak	Native	No
ARECACEAE		PALM FAMILY		
	<i>Washingtonia robusta</i>	Mexican fan palm	Naturalized	No
ASTERACEAE		SUNFLOWER FAMILY		
	<i>Ambrosia acanthicarpa</i>	annual bur-sage	Native	
	<i>Artemisia californica</i>	California sagebrush	Native	No
	<i>Baccharis salicifolia</i> subsp. <i>salicifolia</i>	mule fat	Native	No
	<i>Baccharis sarothroides</i>	broom baccharis	Native	No
	<i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i>	Italian thistle	Naturalized	No
	<i>Centaurea melitensis</i>	toalote	Naturalized	No
	<i>Corethrogyne filaginifolia</i>	common sandaster	Native	No
	<i>Cotula australis</i>	Australian cotula	Naturalized	No
	<i>Encelia farinosa</i>	brittlebush	Native	No

<i>Ericameria pinifolia</i>	pine-bush	Native	No
<i>Erigeron canadensis</i>	horseweed	Native	No
<i>Helianthus</i> spp.	sunflower	Native/Naturalized	No
<i>Heterotheca grandiflora</i>	telegraph weed	Native	No
<i>Heterotheca sessiliflora</i>	sessileflower goldenaster	Native	No
<i>Lactuca serriola</i>	prickly lettuce	Naturalized	No
<i>Laennecia coulteri</i>	Coulter's horseweed	Native	No
<i>Lepidospartum squamatum</i>	scalebroom	Native	No
<i>Pseudognaphalium biolettii</i>	two-color rabbit-tobacco	Native	No
<i>Pseudognaphalium californicum</i>	Ladies' tobacco	Native	No
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow thistle	Naturalized	No
<i>Stephanomeria virgata</i> subsp. <i>pleurocarpa</i>	tall stephanomeria	Native	No
<i>Verbesina encelioides</i> subsp. <i>exauriculata</i>	golden crownbeard	Naturalized	No
BORAGINACEAE	BORAGE FAMILY		
<i>Cryptantha intermedia</i>	common cryptanth	Native	No
<i>Eriodictyon trichocalyx</i> var. <i>trichocalyx</i>	hairy yerba santa	Native	No
<i>Heliotropium amplexicaule</i>	fragrant heliotrope	Naturalized	No
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	seaside heliotrope, alkali heliotrope	Native	No
BRASSICACEAE	MUSTARD FAMILY		
<i>Hirschfeldia incana</i>	short podded mustard	Naturalized	No
CACTACEAE	CACTUS FAMILY		
<i>Opuntia oricola</i>	Chaparral pricklypear	Native	No
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Chenopodium album</i>	lamb's quarters	Naturalized	No
<i>Chenopodium murale</i>	nettle leaf goosefoot	Naturalized	No
<i>Dysphania pumilio</i>	Tasmanian goosefoot	Naturalized	No
<i>Salsola tragus</i>	Russian thistle, tumbleweed	Naturalized	No
CONVOLVULACEAE	MORNING-GLORY FAMILY		
<i>Calystegia macrostegia</i>	island false bindweed	Native	No
CUCURBITACEAE	GOURD FAMILY		
<i>Marah macrocarpa</i>	chilicothe	Native	No

EUPHORBIACEAE

Croton californicus

Croton setiger

Euphorbia albomarginata

Ricinus communis

FABACEAE

Acmispon glaber

Lupinus succulentus

Parkinsonia aculeata

FAGACEAE

Quercus lobata

GERANIACEAE

Erodium cicutarium

GROSSULARIACEAE

Ribes aureum var. *gracillemum*

HYDROPHYLLACEAE

Phacelia ramosissima

LAMIACEAE

Marrubium vulgare

Salvia apiana

Salvia mellifera

LOASACEA

Mentzelia laevicaulis

LYTHRACEAE

Lythrum hyssopifolia

MALVACEAE

Abutilon theophrasti

Malacothamnus fasciculatus

ONAGRACEAE

Eulobus californicus

PLANTAGINACEAE

SPURGE FAMILY

desert croton

turkey-mullein

rattlesnake sandmat

castor bean

LEGUME FAMILY

deerweed, California broom

arroyo lupine

Mexican palo verde

OAK FAMILY

valley oak

GERANIUM FAMILY

redstem filaree

GOOSEBERRY FAMILY

golden currant

WATERLEAF FAMILY

branching phacelia

MINT FAMILY

white horehound

white sage

black sage

LOASA FAMILY

giant blazingstar

LOOSESTRIFE FAMILY

hyssop loosestrife

MALLOW FAMILY

velvet-leaf

chaparral mallow

EVENING-PRIMROSE FAMILY

California primrose

PLANTAIN FAMILY

Native No

Native No

Native No

Naturalized No

Native No

Native No

Naturalized No

Native No

Naturalized No

Native No

Native No

Naturalized No

Native No

Native No

Native No

Naturalized No

Naturalized No

Native No

Native No

<i>Kickxia elatine</i>	sharp-leaved kickxia	Naturalized	No
<i>Penstemon spectabilis</i>	showy penstemon	Native	No
POACEAE	GRASS FAMILY		
<i>Arundo donax</i>	giant reed	Naturalized	No
<i>Bromus diandrus</i>	ripgut grass	Naturalized	No
<i>Bromus rubens</i>	red brome	Naturalized	No
<i>Hordeum murinum</i>	wall barley	Naturalized	No
<i>Schismus barbatus</i>	old han schismus	Naturalized	No
<i>Stipa miliacea</i> var. <i>miliacea</i>	smilo grass	Naturalized	No
POLEMONIACEAE	PHLOX FAMILY		
<i>Eriastrum saphirinum</i>	sapphire eriastrum	Native	No
<i>Navarretia atractyloides</i>	holly leaf navarretia	Native	No
POLYGONACEAE	BUCKWHEAT FAMILY		
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	leafy California buckwheat	Native	No
<i>Polygonum aviculare</i>	knotweed, knotgrass	Naturalized	No
<i>Rumex crispus</i>	curly dock	Naturalized	No
SALICACEAE	WILLOW FAMILY		
<i>Salix goodingii</i>	Goodding's black willow	Native	No
SCROPHULARIACEAE	FIGWORT FAMILY		
<i>Verbascum blatteria</i>	moth mullein	Naturalized	No
SIMAROUBACEAE	QUASSIA FAMILY		
<i>Ailanthus altissima</i>	tree of heaven	Naturalized	No
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Datura wrightii</i>	Jimsonweed	Native	No
<i>Nicotiana glauca</i>	tree tobacco	Naturalized	No
<i>Solanum nigrum</i>	black nightshade	Native	No
ZYGOPHYLLACEAE	CALTROP FAMILY		
<i>Tribulus terrestris</i>	puncturevine	Naturalized	No
Key to Species Listing Status Codes			
FE	Federally Endangered	SE	State Listed as Endangered
FT	Federally Threatened	ST	State Listed as Threatened
FC	Federal Candidate	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened

FPT *Federally Proposed as Threatened*
FPD *Federally Proposed for Delisting*

SFP *State Fully Protected*

California Native Plant Society (CNPS)

<i>Rank 1A: Presumed extirpated in California and either Rare or Extinct elsewhere.</i> <i>Rank 1B: Rare, threatened, or endangered throughout their range.</i> <i>Rank 2A: Presumed extirpated in California, but more common elsewhere.</i> <i>Rank 2B: Rare, threatened, or endangered in California, but more common in other states.</i> <i>Rank 3: Plant species for which additional information is needed before rarity can be determined.</i> <i>Rank 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.</i>	<u><i>New Threat Code extensions and their meanings:</i></u> <i>1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)</i> <i>2 Fairly endangered in California (20-80% occurrences threatened)</i> <i>3 Not very endangered in California (<20% of occurrences threatened or no current threats known)</i>
Source: ESA 2024.	

ATTACHMENT 1 – CLAREMONT COLLEGES EAST CAMPUS

Faunal Compendium

Scientific Name	Common Name	Special-status?
VERTABRATES		
Birds		
<i>Callipepla californica</i>	California quail	No
<i>Calypte anna</i>	Anna's hummingbird	No
<i>Corvus brachyrhynchos</i>	American crow	No
<i>Falco sparverius</i>	American kestrel	No
<i>Haemorhous mexicanus</i>	house finch	No
<i>Mimus polyglottos</i>	northern mockingbird	No
<i>Melospiza crissalis</i>	California towhee	No
<i>Sayornis nigricans</i>	black phoebe	No
<i>Sayornis saya</i>	Say's phoebe	No
<i>Setophaga coronata</i>	yellow-rumped warbler	No
<i>Spinus psaltria</i>	lesser goldfinch	No
<i>Zenaidura macroura</i>	mourning dove	No
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	No
Mammals		
<i>Procyon lotor</i>	raccoon	No
<i>Sylvilagus bachmani</i>	brush rabbit	No

Key to Species Listing Status Codes

*Non-native or Invasive Species

FE	Federally Endangered	SE	State Listed as Endangered
FT	Federally Threatened	ST	State Listed as Threatened
FC	Federal Candidate	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SFP	State Fully Protected
FPD	Federally Proposed for Delisting		

Attachment 2

2024 Field Notes

1_Biology Surveys (SoCal Bio ONLY)

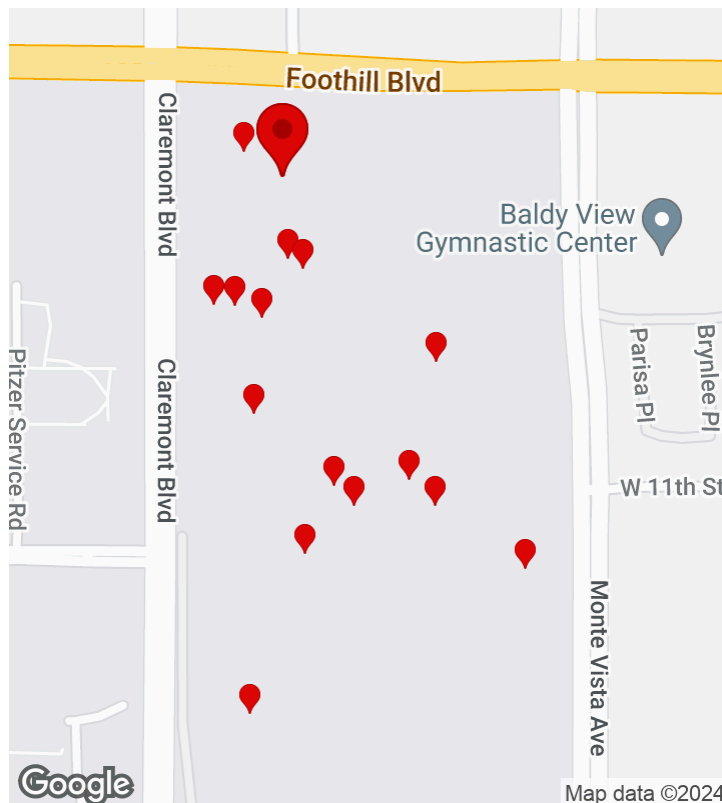
Biology Surveys (SoCal Bio ONLY)

Claremont Colleges Project

3/28/2024, 9:53:41 PM UTC



View of site from northwest corner of site facing southeast



CREATED

🕒 3/12/2024, 1:45:33 PM UTC

👤 by Douglas Gordon-Blackwood

UPDATED

🕒 3/28/2024, 9:53:41 PM UTC

👤 by SC Fulcrum01

LOCATION

📍 34.105917, -117.701595

Parent Form

Project Name:	Claremont Colleges Project
Specific Survey Type	General Survey/Habitat Assessment
Observer/Surveyor:	Douglas Gordon-Blackwood
Assistant Observer/Surveyor:	
Date:	March 12, 2024

START Weather Details:

Start - Time:	06:37
Start - Temperature:	53
Start - Wind Direction From (select one):	S
Start - Low Wind Speed:	0
Start - High Wind Speed:	4
Start - Average Wind Speed:	2
Start - Cloud Cover (%):	100
Start - Precipitation (select one):	Misting
Start - Visibility (select one):	Good
Start - Notes	Light mist on and off throughout the morning

END Weather Details:

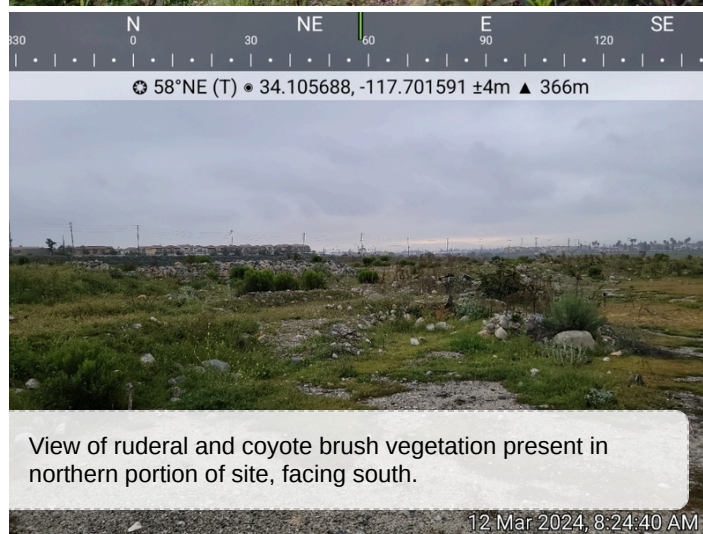
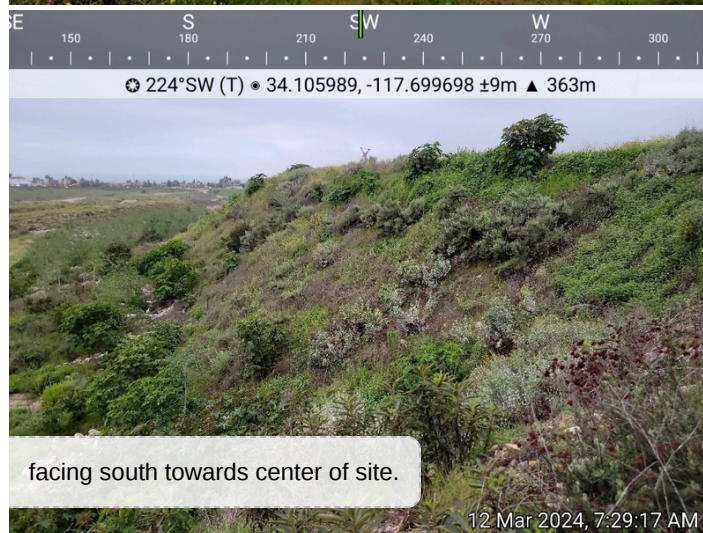
Time Out:	12:25
End - Temperature:	56
End - Wind Direction From (select one):	SW
End - Low Wind Speed:	0
End - High Wind Speed:	5
End - Average Wind Speed:	1
End - Cloud Cover (%):	100
End - Precipitation (select one):	None
End - Visibility (select one):	Good
End - Notes (if applicable):	Light mist at times
Total Hours:	

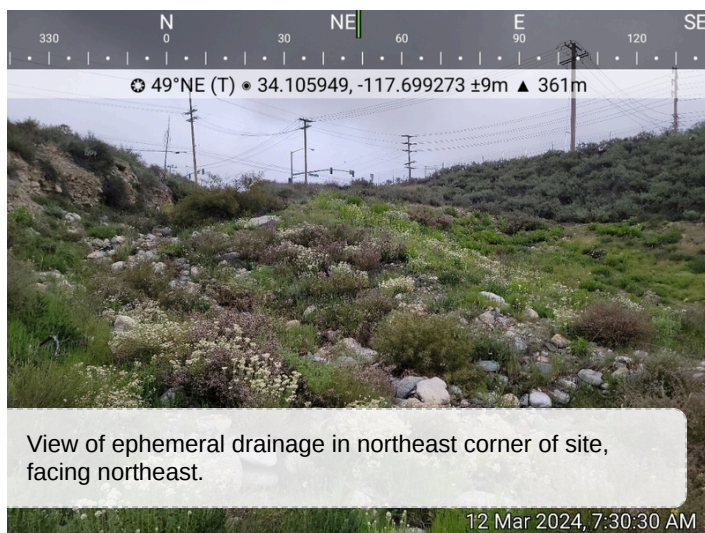
Project Location (description): Former landfill site bordered by Arrow Route, Monte Vista Ave, Claremont Blvd, and Foothill Blvd. This survey is being provided to update vegetation mapping and assess the site for special-status species and their potential to occur.

Notes

Observation Type: | Bird, Mammal

Photos









Bird

Bird Observation: (13 Items)

Bird Observation: - 1. 1 record, no

Bird (Common or Scientific Name):	California Towhee; Melozone crissalis; CALT
Is the Bird Sensitive ?	no
Sub-Species Info:	N/A
Photo(s) of Bird:	
Notes:	

Bird Observation: - 2. 1 record, no

Bird (Common or Scientific Name):	Northern Mockingbird; Mimus polyglottos; NOMO
-----------------------------------	---

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 3. 1 record, no

Bird (Common or Scientific Name): | Anna's Hummingbird; Calypte anna; ANHU

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 4. 1 record, no

Bird (Common or Scientific Name): | Yellow-rumped Warbler; Setophaga coronata; YRWA

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 5. 1 record, no

Bird (Common or Scientific Name): | American Crow; Corvus brachyrhynchos; AMCR

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 6. 1 record, no

Bird (Common or Scientific Name): | Black Phoebe; Sayornis nigricans; BLPH

Is the Bird Sensitive ? | no

Sub-Species Info: | N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 7. 1 record, no

Bird (Common or Scientific Name): House Finch; Haemorhous mexicanus; HOFI

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 8. 1 record, no

Bird (Common or Scientific Name): White-crowned Sparrow; Zonotrichia leucophrys; WCSP

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 9. 1 record, no

Bird (Common or Scientific Name): Say's Phoebe; Sayornis saya; SAPH

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 10. 1 record, no

Bird (Common or Scientific Name): Lesser Goldfinch; Spinus psaltria; LEGO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 11. 1 record, no

Bird (Common or Scientific Name): California Quail; Callipepla californica; CAQU

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 12. 1 record, no

Bird (Common or Scientific Name): Mourning Dove; Zenaida macroura; MODO

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Bird Observation: - 13. 1 record, no

Bird (Common or Scientific Name): American Kestrel; Falco sparverius; AMKE

Is the Bird Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Bird:

Notes:

Mammal

Mammal Observation: (2 Items)

Mammal Observation: - 1. 1 record

Mammal (Common or Scientific Name): Brush Rabbit; Sylvilagus bachmani

Is the Mammal Sensitive ? no

Sub-Species Info: N/A

Photo(s) of Mammal:

Notes:

Mammal Observation: - 2. 1 record

Mammal (Common or Scientific Name):	Raccoon; Procyon lotor
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Is the Mammal Sensitive ?	no
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Sub-Species Info:	N/A
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Photo(s) of Mammal:	
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Notes:	
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Appendix C

Cultural Resources Assessment



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memorandum

date May 8, 2024

to Loeb & Loeb, LLP

from Environmental Science Associates, Fatima Clark and Kyle Garica, M.A., RPA

subject Cultural Resources Assessment for the Claremont McKenna College Roberts Campus Sports Bowl, Cities of Upland and Claremont, California

Introduction

The Claremont Colleges East Campus Project was evaluated in a Final EIR that was certified and the Project approved (Approved Project) by the cities of Upland and Claremont in 2016. Following approval of the Approved Project, Claremont McKenna College (CMC) became owner of the entire East Campus (now known as Roberts Campus East) which comprises the site for the Approved Project. CMC currently proposes to modify and refine the approved conceptual site plan for Roberts Campus East, referred to as the Roberts Campus Sports Bowl (Revised Project). The Revised Project also includes an arcade connecting Roberts Campus East to CMC's campus west of Claremont Boulevard, a portion of which lies outside of Roberts Campus East.

In 2007, a Historical/Archaeological Resources Survey Report was conducted for Roberts Campus East. According to the Survey Report, a records search and an intensive-level, on-foot field survey of Roberts Campus East were conducted in 2007. Based on the record search and the field survey, no historical or archaeological resources were identified.

Environmental Science Associates (ESA) has prepared this cultural resources assessment to address potential effects of implementing the Revised Project pursuant to the California Environmental Quality Act (CEQA).

This assessment included review of the Final EIR for the Approved Project, and updated cultural resources records search through the South-Central Coastal Information Center (SCCIC), an updated Sacred Lands File (SLF) search through the California Native American Heritage Association (NAHC), review of known Native American villages in the vicinity, review of the *Geotechnical Investigation Report* prepared for the Revised Project, review of historic maps and aerial photographs, and preparation of an archaeological sensitivity assessment. This memorandum presents the methods, results, and recommendations of this assessment. ESA personnel involved in the preparation of this report are as follows: Kyle Garcia, M.A., RPA., Project Director; Fatima Clark, B.A., report author; and Jaclyn Anderson, GIS Specialist.

Project Location

The project site for the Revised Project (Project Site) is an approximately 74.4-acre site comprised of the approximately 74-acre Roberts Campus East and an approximately 0.4 acre area adjacent to but outside of Roberts Campus East that would contain a portion of the proposed arcade. Approximately 66.4 acres of the 74-acre Roberts Campus East site is proposed for development of the Roberts Campus Sports Bowl (Sports Bowl) while the remaining 7.6 acres are proposed to be graded, but not developed. Roberts Campus East is located partially within the City of Upland on the east and the City of Claremont on the west. The proposed arcade is located within the City of Claremont. Roberts Campus East is bound by Foothill Boulevard to the north, Arrow Route on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west. The proposed arcade extends west of Roberts Campus East under and west of Claremont Boulevard, connecting Roberts Campus East to CMC's campus west of Claremont Boulevard. The Project Site is situated within an unsectioned portion of Township 1 South, Range 8 West of the Ontario CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (**Figures 1 and 2**).

Project Description

Claremont McKenna College (CMC) proposes to modify and refine the Approved Project, which consists of collegiate sports facilities and associated improvements, on a portion of the Project Site, without changes of the type of use or intensity of use of the Project Site. In addition, CMC proposes the construction of a pedestrian and emergency/maintenance vehicle access and utility arcade extending from west of Claremont Boulevard to east of Claremont Boulevard. The Revised Project proposed sports facilities include a baseball field, softball field, football/track/lacrosse field multi-purpose fields, soccer/rugby field and golf practice facility. The Revised Project also includes surface parking and a parking structure along Claremont Boulevard, surface parking in the southeast and northeast corners of the Project Site and ancillary support structures. The City of Upland is the lead agency pursuant to CEQA and the City of Claremont is a Responsible Agency.

Archival Research

Cultural Resources Records Search

A cultural resources records search for the Revised Project was conducted on May 2, 2023 by ESA at the California Historical Resources Information System (CHRIS) - SCCIC housed at California State University, Fullerton. The records search included a review of all recorded cultural resources and previous studies within the Project Site and a 0.5-mile radius.

Previous Cultural Resources Investigations

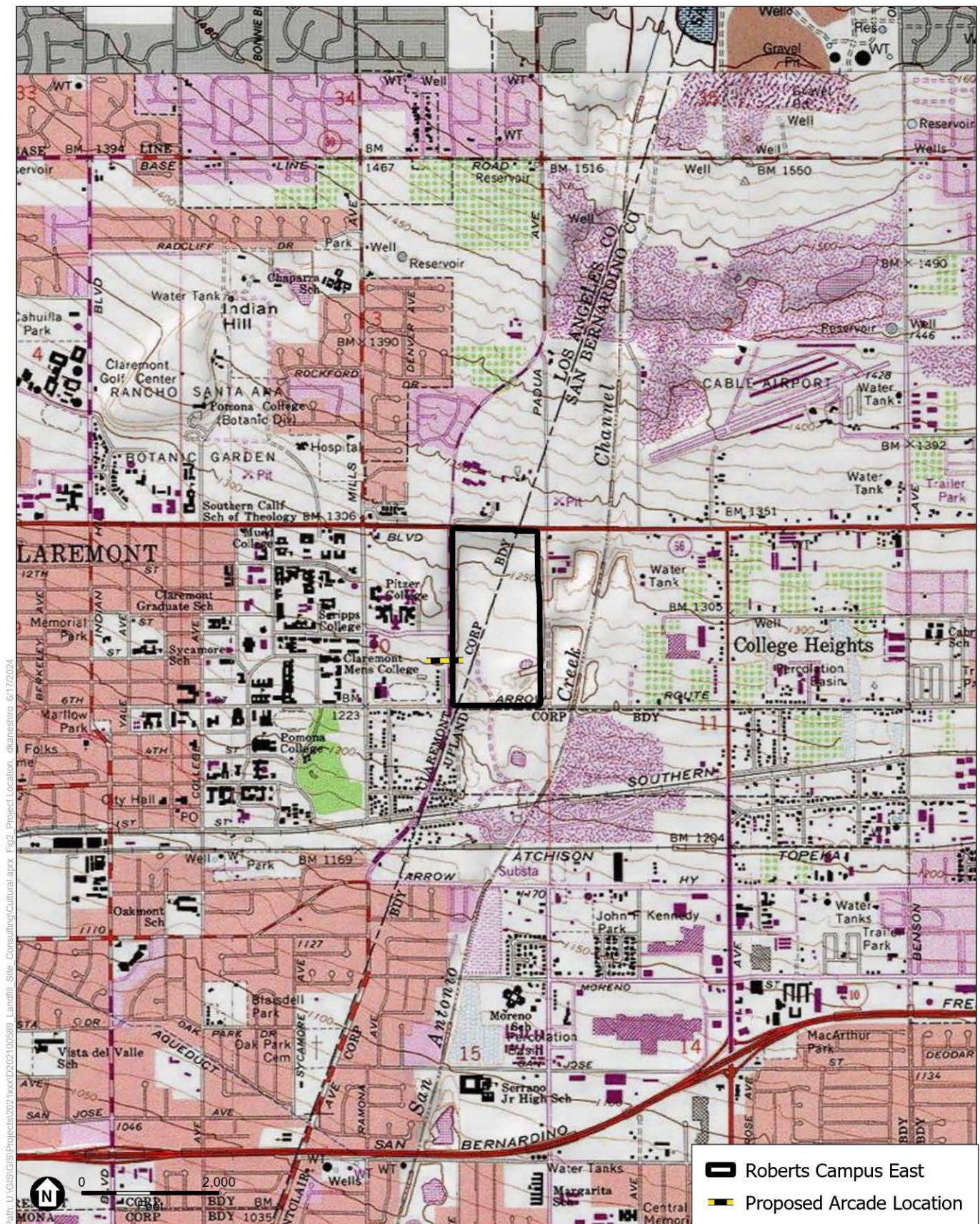
The records search results revealed 10 cultural resources studies have been conducted within a 0.5-mile radius of the Project Site (**Table 1**). Of the ten previous studies, one study (SB-05725) encompasses the entirety of Roberts Campus East. The area of the portion of the proposed arcade extending outside of Roberts Campus East was not included in study SB-05725. A summary of study SB-05725 is provided below Table 1. Approximately 25 percent of the 0.5-mile records search radius has been included in previous cultural resources studies.



SOURCE: ESRI

Claremont McKenna Roberts Campus Sports Bowl

Figure 1
Regional Location



SOURCE: USGS Topoquad, Ontario (1982)

Claremont McKenna Roberts Campus Sports Bowl

Figure 2
Project Location Map

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

Report Number	Author	Title	Year
SB-00525	Hearn, Joseph E.	<i>Archaeological - Historical Resources Assessment of Two Proposed Water-Well Drilling Sites</i>	1977
SB-02851	Landis, Daniel G.	<i>A Cultural Resources Survey for The Chino Basin Groundwater Storage Program, San Bernardino County, California</i>	1993
SB-02851	Landis, Daniel G.	<i>College Heights Addendum To: A Cultural Resource Survey for The Chino Basin Groundwater Storage Program, San Bernardino County, California</i>	1993
SB-04096	Harper, Caprice D.	<i>Cultural Resource Assessment: Cingular Wireless Facility No. Sb 279-01, Upland, San Bernardino County, California</i>	2004
SB-04503	Dice, Michael, Marnie Vianna, and Christeen Tanguichi	<i>An Archaeological Resource Evaluation and Paleontological Records Search for The College Park Project, Monte Vista Avenue and West Arrow Route, City of Upland, San Bernardino County, California.</i>	2004
SB-04703	Mckenna, Jeanette A.	<i>A Phase I Cultural Resources Investigation for The Upland Crossing Project Area, Foothill Blvd. And Monte Vista Ave., City of Upland, San Bernardino County, California</i>	2005
SB-05230	Mckenna, Jeanette A.	<i>Historic Resources Compliance Report: The Upland Crossing Project Area, Foothill Blvd. And Monte Vista Avenue, City of Upland, San Bernardino County, California.</i>	2006
SB-05230	Mckenna, Jeanette A	<i>Archaeological Survey Report: The Upland Crossing Project Area, Foothill Blvd. And Monte Vista Avenue, City of Upland, San Bernardino County, California</i>	2006
SB-05725*	Dahdul, Mariam, Ballester, Daniel, and Terri Jacquemain	<i>Historical/Archaeological Resources Survey Report: Claremont University Consortium Project, In the Cities of Claremont and Upland, Los Angeles and San Bernardino Counties, California</i>	2007
SB-07084	Tang, Bai "Tom"	<i>Preliminary Historical/Archaeological Resources Study, San Bernardino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties of Los Angeles and San Bernardino.</i>	2010
SB-07419	Frank, Myra L., Jones & Stokes, and Applied Earthworks	<i>(Draft) Historic Property Survey and Effects Report for The Gold Line Phase II Project (Pasadena to Montclair), Los Angeles and San Bernardino Counties, California.</i>	2004
SB-08139	Fulton, Phil and Casey Tibbet	<i>Cultural Resource Assessment Class I Inventory</i>	2015
SCCIC, 2023			
*Comprises Roberts Campus East			

SB-05725

This study was conducted in 2007 by CRM Tech and consisted of a cultural resources records search within a one-mile radius, historical research, and a pedestrian survey. The records search yielded the identification of a road, railroads, bridges, buildings, a railroad station and refuse scatters. The historical research indicates that two buildings once existed within Roberts Campus East; however, between 1894 and 1939 the buildings were removed. Roberts Campus East remained vacant into the early 1950s. By the mid-1950s, a gravel pit was established in the southern portion of the Roberts Campus East. By the late 1960s and 1970s, the gravel pit was expanded to include most of Roberts Campus East. In some areas, the gravel pit reaches depths of up to 100 feet. Grading and subsequent filling are also mentioned as having taken place within the Roberts Sports Bowl. No cultural resources were encountered during the field survey (CRM Tech, 2007).

Previously Recorded Archaeological Resources

The records search results revealed that 10 cultural resources are recorded within a 0.5-mile radius of the Project Site. Of the 10 resources, five are historic-period archaeological resources (CA-SBR-7792H, -7793H, -7794H, -33017H, and -33018H); one is a California Historical Landmark (CHL # 781/CA-SBR-2910H, an old Native American Trail); and four are historic architectural resources (P-36-18721, P-36-018723, P-36-020273, and P-36-024507) (**Table 2**). No prehistoric archaeological resources have been previously recorded within the Project Site or 0.5-mile radius. However, one resource (CHL # 781/CA-SBR-2910H) is recorded immediately north, but outside of the Project Site. A brief description of resource CHL # 781/CA-SBR-2910H is provided below Table 2.

TABLE 2
PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

Primary #	Permanent Trinomial	Resource Description	Dates Recorded	Eligibility	Direction from Project
P-36-002910	CA-SBR-002910H	California Historical Landmark: Segment of National Old Trails Highway/US Route 66, described as an old Native American trail. This is also the route followed by Francisco Garcés and Jedediah Smith. A portion of the resource in Needles is listed as a California Historical Landmark #781	1962-2020	CHL# 781	North
P-36-007792	CA-SBR-007792H	Historic-period archaeological resource: trash dump mostly including hole-in-top cans, but also other artifacts such as clear glass shards, a ceramic candle holder, a metal telephone box, baby food jars, oil cans, and miscellaneous pieces of metal	1993	Not eligible	East
P-36-007793	CA-SBR-007793H	Historic-period archaeological resource: sparse scatter of artifacts including one piece of sun-colored amethyst glass, 10 sherds of china/white ware, and yellow and red California color ware.	1993	Not eligible	East
P-36-007794	CA-SBR-007794H	Historic-period archaeological resource: trash dump (sun-colored amethyst glass, hole-in-top cans, brown and beige crockery, porcelain, china, and walls composed of cobbles and mesh of fence wire.	1993	Unknown	East
P-36-018721	-	Historic architectural resource: bridge #54-39 with 11 reinforced concrete T-beams on reinforced concrete struttled abutment on spread footings.	1979	Unknown	East
P-36-018723	-	Historic architectural resource: bridge #54-39 is a single span structure with 13 reinforced concrete T-beams on reinforced concrete struttled abutments, on spread footings.	1979	Unknown	East

Primary #	Permanent Trinomial	Resource Description	Dates Recorded	Eligibility	Direction from Project
P-36-020273*	-	Historic architectural resource: reinforced concrete bridge. Department of Parks and Recreation form indicates resource is immediately south of Project Site. However, per review of historic and current aerials, this resource does not appear to be located south of Project Site.	2004	Not eligible	South
P-36-024507	-	Historic architectural resource: industrial building	2004	Not eligible	Southeast
P-36-033017	CA-SBR-033017H	Historic-period archaeological resource: refuse deposit from the 1920s, including sanitary cans, condensed milk cans, paint cans, bottle and jar, debris.	2018	Not eligible	North
P-36-033018	CA-SBR-033018H	Historic-period archaeological resource: refuse deposit from the 1950s, including steel beverage cans and fragments, miscellaneous debris.	2018	Not eligible	Northeast

Resource P-36-002910/CA-SBR-002910H/CHL #781

Resource P-36-002910/CA-SBR-002910H consists of a paved segment (approximately 0.25-miles in length) of the National Old Trails Road/Highway (currently known as Route 66), which is located immediately north and outside of the Project Site. The resource is listed as California Historical Landmark # 781. The monument for the landmark was erected in Needles, California to commemorate the completion of the last portion of the National Old Trails Highway across the continental United States. The monument describes that the desert crossing was used by the Mojave Indians in the past, as well as by early explorers such as Francisco Garcés in 1776 and Jedediah Smith in 1826-1827 (Arbuckle, 1982). The segment of the resource located north of the Project Site does not appear to have been previously recorded. However, another recorded segment along Foothill Boulevard indicates that the Foothill Boulevard alignment was originally known as the San Bernardino Road in the 1850s. Later in the early 20th century, San Bernardino Road became linked to a larger network of trails/roads known as the “ocean-to-ocean” road and later renamed the National Old Trails Road (Lindgren, 2016).

Sacred Lands File Search

The NAHC maintains a confidential SLF which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on April 17, 2023 to request a search of the SLF. The NAHC responded to the request in a letter dated June 26, 2023. The results of the SLF search conducted by the NAHC returned negative results for the Project Site (Green, 2023).

Native American Villages

Archival research indicates that a Gabrielino village (*Tooypinga*) was once located near the present-day California Botanical Gardens in Claremont, and approximately 0.75 miles northwest of the Project Site (Claremontheritage.org, 2020).

Review of Historic Maps and Aerial Photographs

Historic maps and aerial photographs were examined to provide historical information about the Project Site and to contribute to an assessment of the Project Site's archaeological sensitivity. The available historic maps reviewed include the 1897 Cucamonga 15-minute quadrangle (TopoView, 2024) and the *Kirkman-Harriman Pictorial and Historical Map of Los Angeles County* (Kirkman, 1937). Aerial photographs were reviewed for the years of 1938, 1948, 1953, 1959, 1964, 1966, 1980, 1992, 2002, 2012, and 2022-2024 (historicaerials.com, 2024; Google Earth, 2024).

Review of the 1897 historic topographic map shows Roberts Campus East and proposed arcade area outside of Roberts Campus East as located within an alluvial fan of the San Antonio Canyon. Review of the 1928 historic aerial shows some gravel mining in the southeastern portion of Roberts Campus East. Review of the Kirkman (1937) map shows the Roberts Campus East area as located immediately south of the "LA County Road." Per review of the legend found in Kirkman's (1937) map, the LA County Road is described as an ancient road. Review of the 1938 aerial photograph continues showing Roberts Campus East and the proposed arcade area outside of Roberts Campus East within the alluvial fan of the San Antonio Canyon. The 1948 and 1953 aeriels depict the southern portion of the Roberts Campus East partially graded as part of gravel mining operations, while the proposed arcade area is undeveloped. By 1959, approximately 75 percent of Roberts Campus East is graded as part of the gravel mining operations, while the portion of the proposed arcade area outside of Roberts Campus East is undeveloped. No changes to Roberts Campus East or the proposed arcade area outside of Roberts Campus East are observed in the 1964 aerial photograph. The 1966 aerial photograph shows that approximately 90 percent of Roberts Campus East is graded, while no changes are observed in the proposed arcade area outside of Roberts Campus East. By 1972, Claremont Boulevard and a baseball field are observed as constructed within the portion of the proposed arcade area outside of Roberts Campus East. No major changes to Roberts Campus East or the proposed arcade area outside of Roberts Campus East are observed in the 1980, 1992, 2002, 2012 aerial photographs. The 2022-2024 aerial photographs show that a portion of the proposed arcade area outside of Roberts Campus East (west of Claremont Boulevard, where a baseball field once existed) has been graded in connection with the construction for the Robert Day Science Center.

Review of Geotechnical Report

ESA reviewed the *Geotechnical Investigation Report* dated March 1, 2024 (Geotechnical Report) prepared for the Revised Project (Langan, 2024). A total of 49 borings (B14 through B-62) were drilled by Langan (2024) within Roberts Campus East and the portion of the proposed arcade area outside of Roberts Campus East. The borings were drilled to depths ranging from 10 to 60 feet below ground surface. Figure 2, Proposed Roberts Campus Sports Bowl Conceptual Plan depicts the locations of the borings by Langan (2024). Per review of the boring logs (found in Appendix A of Langan, 2024), the majority of Roberts Campus East is underlain by documented fill materials, undocumented inert landfill debris, and older alluvial fan deposits. Younger alluvial fan deposits (Qyf) were found in the northeastern portion, as well as along the western perimeter of Roberts Campus East, and along the area of the portions of the proposed arcade outside of Roberts Campus East.

Review of Langan (2024) also indicates that prior geotechnical explorations (test pits and exploration borings) were conducted within the Roberts Campus East. Specifically, Figure 3A, Scenario 2 Conceptual Plan (Langan, 2024) depicts the previous work by GPI and indicates that younger alluvial fan deposits (Qyf) are located along the northeastern portion of the site and the perimeter of the Roberts Campus East site. (Langan, 2024).

Subsurface Sensitivity Assessment

The potential for finding buried prehistoric archaeological deposits during grading activities associated with the Revised Project within Roberts Campus East as well as the portions of the proposed arcade area outside of Roberts Campus East has been assessed based on the following concepts: 1) age of the underlying soil contemporaneous with period of human occupation of the area; 2) proximity to permanent or semi-permanent water sources capable of supporting long-term or seasonal occupation of the area; 3) flat or gently sloped topography conducive to human habitation, 4) proximity of the Project Site to known cultural resources, 5) land use history of the Project Site, and 6) the proposed excavation parameters of the Revised Project. Previous research conducted elsewhere in California has indicated that the presence of buried archaeological sites is positively correlated with proximity to water, as well as flat to gently sloped landforms (Meyer et al., 2010).

Roberts Campus East

The SLF search through the NAHC yielded negative results. However, the results of the SCCIC indicate that several historic-period refuse deposits have been recorded within the 0.50-mile radius of the Project Site. No prehistoric archaeological resources have been previously recorded within the 0.50-mile radius of the Project Site. However, a Native American village site known as *Tooypinga* is known to exist in the general vicinity of the Project Site (within 0.75 miles). A California Historical Landmark #781 known as the National Old Trails Highway/US Route 66 is also located immediately north of Roberts Campus East. The landmark has been described as an old Native American trail and as a route followed by early explorers Francisco Garcés and Jedediah Smith. These results would suggest that the Roberts Campus East has at least a moderate potential for yielding archaeological resources (historic and prehistoric). Nevertheless, review of the Geotechnical Report indicates that the majority of Roberts Campus East is underlain by documented fill materials, undocumented inert landfill debris, and older alluvial fan deposits. These soils are not conducive to the preservation of archaeological materials, as they are either man-made or too old. Only the periphery and an area in the northeastern portion of Roberts Campus East are underlain by younger alluvial fan deposits, which are contemporaneous with the period for which there is widely accepted evidence for human occupation of Southern California (Byrd and Raab, 2007). However, based on a review of historic maps, Roberts Campus East is known to have been located within an alluvial fan that was likely subject to periodic flood events. Additionally, Roberts Campus East served as a gravel pit facility that was graded from the 1920s until the 1970s and covered approximately 90 percent of the Roberts Campus East. Therefore, if resources once existed within Roberts Campus East, it is likely that either the flood events and/or the gravel pit operation have disturbed or displaced archaeological resource that may have existed. As a result, Roberts Campus East has a low potential for yielding buried archaeological resources.

Proposed Arcade Area

As previously mentioned, the SLF search through the NAHC yielded negative results. However, the results of the SCCIC have indicated that California Historical Landmark #781 is located immediately north of Roberts Campus East. A Native American village (*Tooypinga*) is also known to exist in the general vicinity of the Project Site. Several historic-period refuse deposits have also been recorded within the 0.50-mile radius. These results would indicate at least a moderate potential for yielding archaeological resources (historic and prehistoric). However, based on a review of historic maps, the proposed arcade area outside of Roberts Campus East is known to have been located within an alluvial fan that was likely subject to periodic flood events. Additionally, the proposed arcade area outside of Roberts Campus East has been subject to previous ground disturbance. For instance, by 1972, Claremont Boulevard and a baseball field had been constructed. Later, between 2022 and 2024, aerial

photographs show that a portion of the proposed arcade area (west of Claremont Boulevard) is graded as part of the construction for the Robert Day Science Center. As a result, if resources once existed within the proposed arcade area outside of Roberts Campus East, it is likely that the flood events and/or previous grading for Claremont Boulevard and the area west of Claremont Boulevard may have disturbed or displaced archaeological resource that may have existed. As a result, the proposed arcade area outside of Roberts Campus East has a low potential for yielding buried archaeological resources.

Conclusions and Recommendations

A total of 10 cultural resources were recorded within the 0.5-mile radius, none of which are located within the Roberts Campus East or the area of the portion of the arcade outside of Roberts Campus East. However, California Historical Landmark #781 known as the National Old Trails Highway/US Route 66 is located immediately north of Roberts Campus East. The archaeological sensitivity assessment conducted by ESA concluded that the Roberts Campus East and proposed arcade areas outside of Roberts Campus East have a low potential for yielding buried archaeological resources (historic and prehistoric) based on the previous flood events and/or ground disturbance which have likely disturbed or displaced any archaeological resource that may have existed. Based on the areas having a low potential for yielding buried archaeological resources (historic and prehistoric), no mitigation measures are required.

However, as a typical precaution (i.e., best management practice) for construction contractors, the Revised Project proposes that the project contractor will retain a Qualified Archaeologist in the event that archaeological resources are encountered during construction. As part of construction mobilization activities, the Qualified Archaeologist will conduct a cultural resources sensitivity training for construction personnel so that the personnel can be informed during construction activities of the types of resources that may be encountered. If resources are encountered, the construction personnel will halt construction activities in the vicinity of the find and notify the Qualified Archaeologist to assess and treat, if necessary, the resource in accordance with the Public Resources Code Sections 5024.1 and 21083.

In addition, as required by State Health and Safety Code Section 7050.5, in the unlikely event that human remains are discovered, no further disturbance of a site containing human remains shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98.

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Appendix D

Energy Assumptions and Modeling Data

Energy Construction Fuel Calculations

Claremont McKenna Phase 1 Fuel Emission Calculations

Annual CO₂T MT

3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated	
Off-road Equipment	2.64
Worker	0.44
Vendor	0.23
Hauling	0
3.3. Site Prep: Street Improvement (2024) - Unmitigated	
Off-road Equipment	3.21
Worker	0.3
Vendor	0.2
Hauling	0
3.5. Site Prep: Street Improvement (2025) - Unmitigated	
Off-road Equipment	0.54
Worker	0.05
Vendor	0.03
Hauling	0
3.7. Site Prep: Tunnel (2024) - Unmitigated	
Off-road Equipment	24
Worker	0.79
Vendor	0.23
Hauling	0
3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated	
Off-road Equipment	127
Worker	21.9
Vendor	2.32
Hauling	19
3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated	
Off-road Equipment	7.3
Worker	1.23
Vendor	0.13
Hauling	1.08
3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated	
Off-road Equipment	74.2
Worker	5.06
Vendor	1.04
Hauling	39.5
3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated	
Off-road Equipment	19.7
Worker	1.94
Vendor	1.04
Hauling	11.3
3.17. Grading: Tunnel (Rough) (2024) - Unmitigated	
Off-road Equipment	12.8
Worker	1.99
Vendor	0.59
Hauling	19.2
3.19. Grading: Tunnel (Fine) (2025) - Unmitigated	
Off-road Equipment	4.92
Worker	0.65
Vendor	0.35
Hauling	4.71
3.21. BC: Structures + Parking (2024) - Unmitigated	
Off-road Equipment	33.2
Worker	5.08
Vendor	6.22
Hauling	11.3
3.23. BC: Structures + Parking (2025) - Unmitigated	
Off-road Equipment	163
Worker	24.4
Vendor	30
Hauling	54.5
3.25. BC: Street Improvements (2025) - Unmitigated	
Off-road Equipment	31.4
Worker	5.53
Vendor	11.1
Hauling	0
3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated	
Off-road Equipment	3.08
Worker	0.3
Vendor	0.6
Hauling	0
3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated	
Off-road Equipment	43.7
Worker	4.2
Vendor	8.39
Hauling	0
3.31. BC: Pathways + Parking (2025) - Unmitigated	
Off-road Equipment	18.6
Worker	8.3
Vendor	9.22

Phase 1

Total CO ₂ T: Vendor and Hauling	269.96
Total CO ₂ T: Worker	101.87
Total CO ₂ T: Off-road Equipment	658.46
Total	1030.29

Diesel Emissions

Off-road Equipment	658.46 MT CO ₂ T
On-road (Vendor & Hauling)	269.96 MT CO ₂ T
Total Disel Emissions	928.42 MT CO ₂ T
	1000 kg/MT
Total CO ₂ Emissions	928420 kg
Off-road Equipment	658460 kg
On-road (Vendor & Hauling)	269960 kg

Diesel Fuel Combustion Rate	10.21 kg/gallon
Total Diesel Fuel Consumption	90932 gallons
Off-road Equipment	64,492 gallons
On-road (Vendor & Hauling)	26,441 gallons

Average Per Year	
	32,246
	13,220
	45,466

Gasoline Emissions

Worker Trips	101.87 MT CO ₂ T
	1000 kg/MT
Total CO ₂ Emissions	101870 kg/MT

Gasoline Combustion Rate	8.78 kg/gallon
Gasoline Consumption	11603 gallons

Average Per Year	
	5801

Note: (The Climate Registry, 2022) Combustion rates taken from
The Climate Registry 2022 default emission factors (Table 2.1)

Hauling	20.1
3.33. BC: Tunnel (2024) - Unmitigated	
Off-road Equipment	4.72
Worker	0.98
Vendor	1
Hauling	0
3.35. BC: Tunnel (2025) - Unmitigated	
Off-road Equipment	77.9
Worker	15.9
Vendor	16.3
Hauling	0
3.37. Arch Coating: Structures (2025) - Unmitigated	
Off-road Equipment	3.75
Worker	2.42
Vendor	0
Hauling	0
3.39. Arch Coating: Street Improvements (2025) - Unmitigated	
Off-road Equipment	2.8
Worker	0.41
Vendor	0.28
Hauling	0

Claremont McKenna Phase 2 Fuel Emission Calculations

Annual CO₂T MT

3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated

Off-road Equipment	1.5
Worker	0.22
Vendor	0.1
Hauling	0

3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated

Off-road Equipment	47.4
Worker	10.2
Vendor	0.95
Hauling	16.7

3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated

Off-road Equipment	37.4
Worker	7.94
Vendor	0.73
Hauling	12.9

3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated

Off-road Equipment	58.3
Worker	4.94
Vendor	0.87
Hauling	19.2

3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated

Off-road Equipment	32.4
Worker	3.91
Vendor	6.69
Hauling	0

3.11. BC: Pathways + Parking (2031) - Unmitigated

Off-road Equipment	15.6
Worker	8.72
Vendor	8.3
Hauling	36.8

Phase 2

Total CO ₂ T: Vendor and Hauling	103.24
Total CO ₂ T: Worker	35.93
Total CO ₂ T: Off-road Equipment	192.6
Total	331.77

Diesel Emissions

Off-road Equipment	192.6 MT CO ₂ T
On-road (Vendor & Hauling)	103.24 MT CO ₂ T
Total Disel Emissions	295.84 MT CO ₂ T
	1000 kg/MT
Total CO2 Emissions	295840 kg
Off-road Equipment	192600 kg
On-road (Vendor & Hauling)	103240 kg

Diesel Fuel Combustion Rate	10.21 kg/gallon	
Total Diesel Fuel Consumption	28976 gallons	Average Per Year
Off-road Equipment	18,864 gallons	9,432
On-road (Vendor & Hauling)	10,112 gallons	5,056
		14,488

Gasoline Emissions

Worker Trips	35.93 MT CO ₂ T
	1000 kg/MT
Total CO2 Emissions	35930 kg/MT

Gasoline Combustion Rate	8.78 kg/gallon	Average Per Year
Gasoline Consumption	4092 gallons	2046

Note: (The Climate Registry, 2022) Combustion rates taken from
The Climate Registry 2022 default emission factors (Table 2.1)

Energy Operational Usage

EMFAC Worker Summary

Vehicle Category (All)

Row Labels	Sum of Total VMT	Sum of Total VMT2	Sum of Fuel Consumption
Los Angeles (SC)	86.85%	281724837.5	11470.50635
Diesel	5.19%	14618311.92	1648.473033
Electricity	4.54%	12783688.76	0
Gasoline	87.68%	247019521.7	9504.514384
Natural Gas	0.32%	901725.6469	210.3397891
Plug-in Hybrid	2.27%	6401589.419	107.1791398
San Bernardino (SC)	13.15%	42656648.05	1823.148972
Diesel	7.77%	3312863.404	411.5948609
Electricity	3.89%	1660466.958	0
Gasoline	85.53%	36486331.27	1359.131405
Natural Gas	0.53%	226337.1717	37.43171504
Plug-in Hybrid	2.28%	970649.24	14.99099105
Grand Total	100.00%	324381485.5	13293.65532

Row Labels	Sum of Total VMT	Sum of Total VMT2	Sum of Fuel Consumption	MPG
Los Angeles (SC)	86.85%	281724837.5	11470.50635	
Diesel	5.19%	14618311.92	1648.473033	8.86779
Electricity	4.54%	12783688.76	0	
Gasoline	87.68%	247019521.7	9504.514384	25.9897
Natural Gas	0.32%	901725.6469	210.3397891	4.286995
Plug-in Hybrid	2.27%	6401589.419	107.1791398	59.72794
San Bernardino (SC)	13.15%	42656648.05	1823.148972	
Diesel	7.77%	3312863.404	411.5948609	8.048845
Electricity	3.89%	1660466.958	0	
Gasoline	85.53%	36486331.27	1359.131405	26.84533
Natural Gas	0.53%	226337.1717	37.43171504	6.046668
Plug-in Hybrid	2.28%	970649.24	14.99099105	64.74884
Grand Total	100.00%	324381485.5	13293.65532	

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Los Angeles (SC), San Bernardino (SC)

Calendar Year: 2027

Project Operation Fuel Use

Worker VMT 2,724,654 miles/year

Los Angeles County

Fuel Type:1	Gasoline	Diesel	Electricity	Plug-in Hybrid
Percent:	87.7%	5.2%	4.5%	2.3%
Miles per Gallon Fuel:	26.0	8.9		59.7
Annual VMT by Fuel Type (miles):	2,389,007	141,379	123,635	61,912
Annual Fuel Usage (gallons):	91,921	15,943	-	1,037
Annual Fuel Savings from Electric Vehicles:2	-	-	4,757	

Notes:

1. California Air Resources Board, EMFAC2021 (Los Angeles County/San Bernardino County 2027, Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

San Bernardino County

Fuel Type:1	Gasoline	Diesel	Electricity	Plug-in Hybrid
Percent:	85.5%	7.8%	3.9%	2.3%
Miles per Gallon Fuel:	26.8	8.0		64.7
Annual VMT by Fuel Type (miles):	2,330,531	211,606	106,061	61,999
Annual Fuel Usage (gallons):	86,813	26,290	-	958
Annual Fuel Savings from Electric Vehicles:2	-	-	3,951	

Project Operational Energy Uses

Electricity	476886 kWh
Natural Gas	2144306 kBTU
Water	46603700 gal/year
	46.6037 Mgal/year
Electricity	476.886 MWh
Natural Gas	2.144306 MMBTU
	2144.306 cf

From CalEEMod Users Guide Appendix G, Table G-32, for South Coast Hydrologic Region

Electricity Intensity Factor to supply water	3044	kWhr/Mgal
Electricity Intensity Factor to treat water	725	kWhr/Mgal
Electricity Intensity Factor to distribute water	1537	kWhr/Mgal
Total Electricity Intensity Factor for Water	5306	kWhr/Mgal
Total annual energy use for water	247,279	kWhr/year
	247	MWh/year

CalEEMod Assumptions and Output

Claremont McKenna Phase 1 Construction Detailed Report

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- 3.33. BC: Tunnel (2024) - Unmitigated
- 3.34. BC: Tunnel (2024) - Mitigated
- 3.35. BC: Tunnel (2025) - Unmitigated
- 3.36. BC: Tunnel (2025) - Mitigated
- 3.37. Arch Coating: Structures (2025) - Unmitigated
- 3.38. Arch Coating: Structures (2025) - Mitigated
- 3.39. Arch Coating: Street Improvements (2025) - Unmitigated

3.40. Arch Coating: Street Improvements (2025) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 1 Construction
Construction Start Date	8/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.10354503733571, -117.7007727686169
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

Unenclosed Parking Structure	470	Space	4.23	10,500	0.00	0.00	—	—
Parking Lot	240	Space	2.16	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Mit.	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
% Reduced	92%	94%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Mit.	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
% Reduced	87%	90%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Mit.	0.24	0.20	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
Mit.	0.04	0.04	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307

2025	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
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2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	NaN	NaN	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307
2025	NaN	NaN	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Prep: Street Improvement (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Prep: Street Improvement (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Site Prep: Street Improvement (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Site Prep: Street Improvement (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Site Prep: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Site Prep: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.10. Grading: Roberts Sports Bowl Site (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13

3.12. Grading: Roberts Sports Bowl Site (Rough) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
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3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.14. Grading: Roberts Sports Bowl Site (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.16. Grading: Street Improvements (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.17. Grading: Tunnel (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2

3.18. Grading: Tunnel (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61

Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2
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3.19. Grading: Tunnel (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.20. Grading: Tunnel (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.21. BC: Structures + Parking (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.22. BC: Structures + Parking (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9
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3.23. BC: Structures + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150
Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.24. BC: Structures + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150

Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.25. BC: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.26. BC: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.28. BC: Roberts Sports Bowl Utilities (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.30. BC: Roberts Sports Bowl Utilities (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.31. BC: Pathways + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.32. BC: Pathways + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250

Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.33. BC: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.34. BC: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.35. BC: Tunnel (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.36. BC: Tunnel (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.37. Arch Coating: Structures (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	1.14	1.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.38. Arch Coating: Structures (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.39. Arch Coating: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	0.46	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.40. Arch Coating: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	8/1/2024	8/14/2024	5.00	10.0	—

Site Prep: Street Improvement	Site Preparation	12/20/2024	1/2/2025	5.00	10.0	—
Site Prep: Tunnel	Site Preparation	11/1/2024	11/14/2024	5.00	10.0	—
Grading: Roberts Sports Bowl Site (Rough)	Grading	8/15/2024	1/8/2025	5.00	105	—
Grading: Roberts Sports Bowl Site (Fine)	Grading	3/13/2025	5/14/2025	5.00	45.0	—
Grading: Street Improvements (Fine)	Grading	3/26/2025	5/27/2025	5.00	45.0	—
Grading: Tunnel (Rough)	Grading	11/15/2024	12/19/2024	5.00	25.0	—
Grading: Tunnel (Fine)	Grading	4/25/2025	5/15/2025	5.00	15.0	—
BC: Structures + Parking	Building Construction	10/31/2024	10/31/2025	5.00	262	—
BC: Street Improvements	Building Construction	4/30/2025	8/19/2025	5.00	80.0	—
BC: Roberts Sports Bowl Utilities	Building Construction	12/26/2024	3/26/2025	5.00	65.0	—
BC: Pathways + Parking	Building Construction	5/1/2025	8/20/2025	5.00	80.0	—
BC: Tunnel	Building Construction	12/20/2024	7/17/2025	5.00	150	—
Arch Coating: Structures	Architectural Coating	9/1/2025	10/8/2025	5.00	28.0	—
Arch Coating: Street Improvements	Architectural Coating	9/15/2025	9/30/2025	5.00	12.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37

Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

Grading: Tunnel (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85

Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT
Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—

Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT
BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—

BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT
Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT

Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT

Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—
Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT

BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—
BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT

Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT
Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Arch Coating: Structures	0.00	0.00	59,265	18,444	11,883
Arch Coating: Street Improvements	0.00	0.00	24,026	7,477	4,818

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sports Bowl Site (Rough)	0.00	3,700	8.53	0.00	—
Grading: Street Improvements (Fine)	8,000	1,000	20.8	0.00	—
Grading: Tunnel (Rough)	0.00	4,300	9.91	0.00	—
Grading: Tunnel (Fine)	0.00	1,000	2.31	0.00	—
BC: Structures + Parking	16,000	0.00	36.9	0.00	—

BC: Pathways + Parking	4,000	0.00	9.22	0.00	—
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Unenclosed Parking Structure	4.23	100%
Parking Lot	2.16	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6

Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—

Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353
Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6

Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0
Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—

Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific Information
Construction: Construction Phases	Project Specific Schedule
Construction: Off-Road Equipment	Project Specific Equipment and Tier 4 Final Project Design Feature
Construction: Dust From Material Movement	Project Specific Information

Construction: Trips and VMT	Project Specific Information, Updated Trips
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Claremont McKenna Phase 2 Construction Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 2 Construction
Construction Start Date	11/3/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.103620476606324, -117.70105472026464
County	Los Angeles-South Coast
City	Claremont
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5052
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	25.7	Acre	25.7	1,120,799	0.00	—	—	—

Parking Lot	80.0	Space	0.72	0.00	0.00	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Mit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Mit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567

Mit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
Mit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6

3.4. Grading: Roberts Sport Bowl (Rough) (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6
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3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.6. Grading: Roberts Sport Bowl (Rough) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686

Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement:	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement:	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.8. Grading: Roberts Sport Bowl (Fine) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. BC: Roberts Sport Bowl Utilities (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. BC: Pathways + Parking (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299

Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

3.12. BC: Pathways + Parking (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299
Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	11/3/2030	11/7/2030	5.00	4.00	—
Grading: Roberts Sport Bowl (Rough)	Grading	11/10/2030	2/10/2031	5.00	66.0	—
Grading: Roberts Sport Bowl (Fine)	Grading	3/11/2031	4/28/2031	5.00	35.0	—
BC: Roberts Sport Bowl Utilities	Building Construction	1/28/2031	3/31/2031	5.00	45.0	—
BC: Pathways + Parking	Building Construction	4/8/2031	7/9/2031	5.00	67.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38

Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Rough)	—	—	—	—

Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT

Grading: Roberts Sport Bowl (Rough)	—	—	—	—
Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sport Bowl (Rough)	0.00	8,000	11.9	0.00	—
Grading: Roberts Sport Bowl (Fine)	3,000	2,000	7.46	0.00	—
BC: Pathways + Parking	10,000	0.00	14.9	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Parking Lot	0.72	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	84.6
AQ-PM	94.4
AQ-DPM	81.2
Drinking Water	98.0
Lead Risk Housing	—
Pesticides	19.8
Toxic Releases	56.7
Traffic	28.1
Effect Indicators	—
CleanUp Sites	2.59
Groundwater	49.0
Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	12.5
Solid Waste	64.9
Sensitive Population	—
Asthma	29.2
Cardio-vascular	45.1
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	2.71
Housing	—
Linguistic	—
Poverty	—
Unemployment	93.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	64.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	88.7
Physically Disabled	99.2
Heart Attack ER Admissions	43.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	5.3
SLR Inundation Area	0.0

Children	98.7
Elderly	99.3
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	83.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.4
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project Specific Information
Construction: Off-Road Equipment	Project Specific Equipment, Tier 4 Final
Construction: Dust From Material Movement	Project Specific Information
Construction: Trips and VMT	Project Specific Information, Updated Trips
Construction: Off-Road Equipment EF	Crushing/Proc. Equipment Change to Diesel

Claremont McKenna | Operations v2 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Operations v2
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.1033741482496, -117.70077931750569
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Mit.	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Mit.	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Mit.	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
Mit.	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Total	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.44	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387

Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.38	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipme Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	75,000	25,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250
-------------	--------	-----

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
----------------	-----------	----------------	---------------	----------------	------------	-------------

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
-----------	--------	------------------------------	------------------------------

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6
Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—
Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353

Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6
Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0

Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—
Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific
Operations: Vehicle Data	Project Adjusted Vehicle Trip Rates

Appendix E

Geotechnical Investigation Report

GEOTECHNICAL INVESTIGATION REPORT

for

PROPOSED ROBERTS CAMPUS SPORTS BOWL Claremont McKenna College West Arrow Route and Claremont Boulevard Claremont and Upland, California

Prepared For:

**Claremont McKenna College
888 North Columbia Avenue
Claremont, California 91711**

Prepared By:

**Langan CA, Inc.
18575 Jamboree Road, Suite 150
Irvine, California 92612**

January 12, 2024

Langan Project No.: 700114101

LANGAN

January 12, 2024

Michelle Barlow, Andres Ramirez and Matthew Bibbens
Claremont McKenna College
888 North Columbia Avenue
Claremont, California 91711
Attn.: Michelle Barlow

**Geotechnical Investigation Report
Proposed Roberts Campus Sports Bowl
Claremont McKenna College
Claremont and Upland, California
Langan Proposal No. 700114101**

Dear Michelle, Andres and Matt:

Langan Engineering & Environmental Services, Inc. is pleased to submit this geotechnical engineering report for the Proposed Roberts Campus Sports Bowl to be constructed for Claremont McKenna College (CMC) in Claremont and Upland, California.

This report was prepared in general accordance with our proposal dated March 21, 2022 and our contract for professional services with CMC that was executed on June 28, 2022.



We sincerely appreciate the opportunity to be of service to you on this project. Please contact us if you have questions regarding this report.

Sincerely,
Langan Engineering & Environmental Services, Inc.



Christopher J. Zadoorian, G.E., F. ASCE
Senior Associate

cc: Aran Coakley and Linqi Dong, BIG Architects
Steve Methot, IDS Real Estate
AJ Whitaker and Tyler Johnson, Atlas Civil Design
Paul Rohrer and Elizabeth Camacho, Loeb and Loeb, LLP
Michael Collins, Independent Consultant

BW:SHW:CJZ:
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1.0 INTRODUCTION

1.1 General

Langan Engineering and Environmental Services, Inc. (LANGAN) has completed a geotechnical investigation for the proposed Roberts Campus Sports Bowl development. The proposed development will be constructed primarily within a portion of the existing Claremont Landfill (aka Roberts Campus East; previously known as East Campus) noting a pedestrian tunnel is also planned that will extend from the Claremont Landfill west beneath Claremont Boulevard and provide access to the Sports Bowl from the main campus. The site location is shown on Figure 1.

The existing landfill site is approximately 74 acres and is bound on the east by Monte Vista Avenue, on the west by Claremont Boulevard, on the north by Foothill Boulevard and on the south by West Arrow Route. The proposed Roberts Campus Sports Bowl is to be developed on approximately 66.5 acres of the 74-acre site.

The boundary between the City of Claremont (Los Angeles County) and the City of Upland (San Bernardino County) crosses the site diagonally with the northwesterly approximately 29 acres located with the City of Claremont and the southeasterly approximately 45 acres located in the City of Upland (San Bernardino County).

1.2 Site Background

The existing inert debris landfill site began as a quarry in the 1920s. Quarry operations ended in 1972. In late 1972, the site was permitted for disposal of inert debris consisting of non-decomposable, non-water soluble, inert solids. In 1984, landfilling operations were suspended pending potential development. Inert debris landfill operations resumed in 1991. By 1994, significant inert debris fills were placed in the northwestern corner and along the western side of the site.

The landfill is in Los Angeles and San Bernardino counties, however, in 1987 staff from the Regional Water Quality Control Board (RWQCB) for both Los Angeles and Santa Ana agreed that the Los Angeles RWQCB would assume jurisdictional responsibility for the entire landfill, including those portions within San Bernardino County.

In 1998, the inert debris landfill was purchased by The Claremont Colleges Services (TCCS) (formerly known as the Claremont University Consortium) which is the central coordinating and support organization for the seven independent colleges (including CMC) known as The Claremont Colleges.

Following TCCS's purchase of the inert debris landfill, waste disposal was restricted to inert debris from construction projects within TCCS, including CMC, Pomona College, Scripps College, Harvey Mudd College, Pitzer College, and Claremont Graduate University.

On May 4, 2000, updated Waste Discharge Requirements (WDR) were adopted by Los Angeles RWQCB Order 00-070, reflecting, among other things, the change to TCCS's ownership. Because TCCS limited disposal to material from construction sites or projects by TCCS or its associated colleges, the updated WDR included exemptions from certain provisions including the waste load checking program.

On August 19, 2019, a superseding WDR was issued, Order R4-2019-0087 (Current WDRs; 2019 RWQCB). These superseding WDRs were issued in anticipation of the commencement of an Inert Debris Engineered Fill Operation (IDEFO) on the site, which would have accepted inert debris from the general public (i.e. sources other than construction projects within TCCS). An IDEFO also would have been regulated by the California Department of Resources Recycling and Recovery (CalRecycle), through its Local Enforcement Agencies (LEAs), in accordance with Division 7, Chapter 3 of Title 14

of the California Code of Regulations (Title 14). Accordingly, the WDRs were revised to include updated requirements, including waste characterization, waste load checking, and groundwater quality monitoring, as required for the anticipated IDEFO. These superseding WDRs also reflected a change of the operator (to Arcadia Reclamation Inc.). The superseding WDRs did not change the acceptable materials that include soil, rock, gravel, broken concrete, broken asphalt, glass, brick, and other inert debris. Additionally, the superseding WDRs state that asphaltic material shall not be dumped into standing water, nor shall it be placed below the highest anticipated groundwater elevation.

However, despite the fact that the Current WDR (Order R4-2019-0087) anticipated operation of an IDEFO, the landfill was never operated as an IDEFO. Instead, the site has consistently continued to operate as it had since acquisition by TCCS. Thus, with one exception, operations since at least May, 2000 have been continuously limited to acceptance of inert debris waste from TCCS and its associated colleges, and this limited use continues to the present. The one exception consisted of disposal of soil and construction debris from a City of Upland stormwater basin expansion project in 2004 and 2007. The Los Angeles RWQCB approved waivers to allow the one-time acceptance of waste material from projects outside of TCCS. Although an IDEFO was never commenced on the site, the Detection Monitoring Program (DMP) reporting has occurred as required by the Current WDR. Because the landfill has only accepted inert debris, the landfill is unlined and does not include environmental control provisions for gas and leachate collection.

In 2021, CMC completed acquisition of all parcels comprising the inert debris landfill. CMC plans to close the landfill and implement existing entitlements approved by the cities of Claremont and Upland in 2016, with some modifications, to develop the majority of the property (i.e. approximately 66.5 acres) with sports fields, parking and related uses.

Based on our review of a topographic survey prepared by Atlas Civil Design, the ground surface level around the site perimeter ranges from approximately 1,330 feet at the northeast corner to 1,240 at the southwest corner. Existing slopes descend from the perimeter to a low point of approximately Elevation 1,184 near within the southerly portion of the site.

Concurrent with this geotechnical investigation and report, Langan also prepared a landfill closure plan dated December 15, 2023.

1.3 Proposed Sports Bowl Development

1.3.1 General

The following information describes currently contemplated development scenarios and is presented in this report to provide context for evaluation of geotechnical feasibility and development of geotechnical design recommendations provided herein. The development scenarios summarized herein may be subject to change as the planning process evolves.

Three alternative development options are currently contemplated for the site and are designated as Scenarios 1, 2 and 2B.

We were furnished with conceptual plans for the three alternative scenarios dated December 6, 2023, provided by BIG Architects and grading plans dated April 27, 2023 and December 11, 2023 for Scenarios 1 and 2/2B, respectively, provided by Atlas Civil Design.

The contemplated scenarios include development of athletic playing fields, a pedestrian access tunnel and various 'minor' structures with relatively small footprints, limited occupancy and relatively light foundation loading to service the planned athletic field development.

Scenarios 2 and 2B will also include a large-footprint parking structure and an adjacent maintenance facility structure.

The proposed pedestrian tunnel will be constructed by cut-and-cover methodology and the invert will be established approximately 21 feet below Claremont Boulevard and four to approximately nine feet of soil cover are planned above the top of the tunnel structure.

Surface parking is also planned along the northern end of the site, and along portions of the east and west sides of the site. Vehicular access driveways will be located along Claremont Boulevard, Foothill Boulevard and Monte Vista Avenue. Parking and vehicular access driveways vary with the three alternative development scenarios.

Another component of the proposed development is a network of paths and trails surrounding the proposed playing fields.

Mass grading will be required to accomplish the planned finish grades and the mass grading will include excavation, processing, and re-placement of the existing landfill materials. The planned grading will establish permanent slopes and will likely require construction of retaining walls at one or more locations.

Each of the alternate scenarios will include development of approximately 66.5 acres of the landfill site. The 66.5 acres encompass lots 1-4 of the Upland Parcel Maps 18989 and Lots 1-2 of the Claremont Parcel Map 70243.

Development is not currently contemplated as part of the Sports Bowl project within the southerly 10 acres, approximately 15 percent of the site (Lot 3 of the Claremont Parcel Map 70243 and Lots 5 and 6 of Upland Parcel Map 18989).

The following sections describe each of the alternate development scenarios.

1.3.2 Development Scenario 1

Scenario 1 would develop the northerly 66.5 acres and would consist of construction of a football / track / lacrosse field, three multi-purpose fields, a soccer / rugby field, and a baseball field, a softball field, and a golf practice facility.

Minor structures are planned that include an approximately 15,000 square foot (sf) sports pavilion (Field Sports Pavilion) along the north side of the football / track / lacrosse field, an approximately 14,000 sf field house (North Field House) south of the proposed baseball and softball fields, and an approximately 11,000 sf maintenance facility structure northeast of the proposed softball field. Dugout structures, batting cages and bullpens are planned adjacent to the baseball and softball fields.

A pedestrian access tunnel is planned to connect the Sports Bowl to the main (west) CMC campus adjacent to the football / track / lacrosse field. The invert of the tunnel will be established approximately 21 feet below Claremont Boulevard grade.

Surface parking lots are also planned along the southeast, west, and northerly sides of the site. Scenario 1 is depicted on Figure 2A.

1.3.3 Development Scenario 2

Scenario 2 would also develop the northerly 66.5 acres and would consist of construction of a football / track / lacrosse field, three multi-purpose fields, a soccer / rugby field, a baseball field, a softball field, and a golf practice facility.

A large-footprint subterranean parking structure is planned along the west side of the site. A preliminary concept for the proposed parking structure indicates it will consist of one-subterranean level that will be established approximately 11.5 feet below the existing ground surface level (bgs).

Minor structures are planned that include an approximately 11,200 sf field house (North Field House) south of the baseball and softball fields, an approximately 3,200 sf press box along the south side of the football / track / lacrosse field, three field storage support structures ranging from approximately 4,000 sf to 9,000 sf at the east, west and north sides of the football / track / lacrosse field. Dugout structures, batting cages, bullpens and approximately 1,800 sf support facilities are planned adjacent to the baseball and softball fields.

A pedestrian access tunnel is planned to connect the Sports Bowl to the main (west) CMC campus adjacent to the football / track / lacrosse field. The invert of the tunnel will be established approximately 21 feet below Claremont Boulevard grade.

A maintenance facility structure is planned immediately south of the parking structure and pedestrian tunnel. The lowest finish floor level for the maintenance facility structure will be established at Elevation 1,235.5.

Surface parking lots are also planned at the southeast, northerly and southwestern sides of the site. Scenario 2 is depicted on Figure 3A.

Phasing of Scenario 2 development is also being considered wherein the football / track / lacrosse fields, baseball and softball fields and golf practice facility will be constructed first and will utilize fill materials borrowed from the northerly side of the site.

1.3.4 Development Scenario 2B

Scenario 2B would also develop the northerly 66.5 acres and would consist of construction of a football / track / lacrosse field, three multi-purpose fields, a soccer / rugby field, a baseball field, a softball field, and a golf practice facility.

A large-footprint subterranean parking structure is planned along the west side of the site. A preliminary concept for the proposed parking structure indicates it will consist of one-subterranean level that will be established approximately 11.5 feet below the existing ground surface level (bgs).

Minor structures are planned including an approximately 29,200 sf field house (aka North Field House) along the north side of the football / track / lacrosse field, and an approximately 3,200 sf press box along the south side of the football / track / lacrosse field. Please note the North Field House planned in Scenario 2B consolidates several smaller structures planned in Scenario 2. Dugout structures, batting cages, bullpens, and approximately 1,800 sf support facilities are planned adjacent to the baseball and softball fields.

A pedestrian access tunnel is planned to connect the Sports Bowl to the main (west) CMC campus adjacent to the football/ track/ lacrosse field. The invert of the tunnel will be established approximately 21 feet below Claremont Boulevard grade.

Surface parking lots are also planned at the southeast, northerly, and southwestern sides of the site. Scenario 2B is depicted on Figure 3B.

Phasing of Scenario 2B development is also being considered wherein the football / track / lacrosse fields, baseball and softball fields and golf practice facility will be constructed first and will utilize fill materials borrowed from the northerly side of the site.

1.3.5 Summary of Alternative Development Scenarios 1, 2 and 2B

Each of the proposed alternative development concepts will require mass grading and the installation temporary shoring. To achieve the planned playing field finish surface level, cuts up to approximately 46 feet and fills up to approximately 24 feet are required for Scenario 1 and cuts and fills each up to approximately 40 feet are required for Scenarios 2 and 2B as summarized in Tables 1 and 2.

Table 1 – Summary of Development Scenario 1

Playing Field / Structure	Finish Playing Field Surface Level or Lowest Finish Floor Level (feet, msl)	Approximate Cut/Fill ¹ (Feet)	
		Max Cut	Max Fill
Football / Track / Lacrosse Field	1,209.0	31	24
Multi-purpose Field	1,224.0	21	9
Soccer / Rugby Field	1,243.0	7	15
Baseball Field	1,257.0	46	20
Softball Field	1,257.0	3	7
Golf Practice Area	1,257.0	39	7
Pedestrian Tunnel	1,233.0	21	0

¹To achieve finish playing surface level / lowest finish floor level

Table 2 – Summary of Development Scenarios 2 and 2B

Playing Field / Structure	Finish Playing Field Surface Level or Lowest Finish Floor Level (feet, msl)	Approximate Cut/Fill ¹ (Feet)	
		Max Cut	Max Fill
Football / Track / Lacrosse Field	1,216.0	24	31
Multi-purpose Field	1,260.0	40	17
Soccer / Rugby Field	1,251.0	4	16
Baseball Field	1,226.0	19	0
Softball Field	1,226.0	14	11
Golf Practice Area	1,226.0	19	11
Maintenance Facility Structure	1,235.5	27	0
Parking Structure	1,243.0 to 1,263.0	13	0
Pedestrian Tunnel	1,233.0	21	0

¹To achieve finish playing surface level / lowest finish floor level

Lowest finish floor elevations for the proposed structures remain a work in progress and will be provided in an addendum once finalized.

1.3.6 Stormwater Management

The proposed stormwater management concept will include infiltration as well as retention beneath the football / track / lacrosse field playing surface.

1.4 Prior Geotechnical Investigation

We have reviewed reports of prior geotechnical investigations for the landfill site dated December 23, 2020 and January 28, 2022 that were prepared by Geotechnical Professionals Inc. (GPI).

We have also reviewed a prior geotechnical report for the landfill site dated June 6, 2001, June 15, 2005, and August 21, 2007 prepared by RMA that summarize RMA's field observations during earthwork and grading within the southerly portion of the site.

We have reviewed the data presented in the prior reports and assume the responsibility for the use and interpretation of the prior available geotechnical data.

2.0 SUBSURFACE EXPLORATIONS AND CONDITIONS

2.1 Current Geotechnical Explorations

We drilled 49 borings (B-14 through B-62) at the site using truck-mounted and track-mounted hollow-stem auger drilling equipment. The borings were drilled to depths ranging from ten to 60 feet below the existing ground surface level (bgs).

We also performed field percolation testing at six locations (FP-1 through FP-6) and installed three soil gas (methane) wells at the site during subsequent mobilizations. Field percolation testing and soil-gas (methane) testing are summarized in Sections 2.5 and 2.6, respectively.

During each of our initial and subsequent exploration programs, our field representative maintained a log of the subsurface conditions, collected relatively undisturbed and bulk samples and performed standard penetration tests (SPT) at regular intervals during drilling. The samples collected from the borings were transported to our office for further review, classification, and assignment of geotechnical laboratory testing. Our laboratory testing program is summarized in Section 3.0.

Upon completion of drilling and/or percolation testing, the borings were backfilled with the drill cuttings.

The locations of our current explorations are shown on Figures 2A, through 3B and logs of our current explorations are presented in Appendix A.

2.2 Prior Geotechnical Explorations

GPI excavated 32 test pits to depths ranging from approximately three to 21 feet bgs, drilled 13 exploration borings to depths ranging from approximately six to 61 feet bgs as part of a prior investigation.

GPI also engaged a subconsultant to perform seismic refraction testing at 11 locations. Seismic refraction is a passive geophysical technique that utilizes a low-strain signal at the ground surface level that propagates through the subsurface materials and is redirected (refracted) at interfaces between subsurface materials. The refracted waves are detected by the geophones and a subsurface profile is developed to estimate the stiffness and/or uniformity of the subsurface conditions.

The locations of the prior test pits, exploration borings and seismic refraction lines are shown on Figures 2A through 3B and logs of the prior explorations and geophysical testing are presented in Appendix B.

2.3 Subsurface Conditions

Documented fill materials were encountered at the south side of the site and ranged from one to 45 feet in thickness. The documented fill materials consisted of dry to moist silty sand with various amount of gravel and cobbles.

Undocumented inert landfill debris was encountered over a majority of the site. Fill thickness ranges from a few feet to over 30 feet in the central portion of the site to as much as 55 feet thick in the western and northern portions of the site. These materials consisted of dry silty sand with various amounts of gravel and cobbles, and various amounts of asphalt, brick, concrete, and metallic debris. A thin layer of scattered fills, less than a few feet thick, cover most of the old quarry bottom. Local stockpiles scatter the bottom of the quarry, consisting of undocumented fill soils and inert debris. A majority of the quarry bottom contains surficial undocumented fill that form a thin mantle over native alluvial soils.

Native soils consist of young and old alluvial fan deposits. Younger alluvial fan deposits are present at the northern end of the site and along the site boundaries, generally near street grade. Older alluvial fan deposits are present near surface and underlying fill soils. These units primarily consist of dense to very dense silty sands with various amounts of gravel and cobbles. More detailed description of on-site soils and units is presented in Sections 4.1 and 4.2.

Generalized subsurface conditions are presented on Figures 4A through 4H for development Scenario 1 and Figures 5A through 5H for development Scenarios 2 and 2B.

2.4 Groundwater

The site is somewhat unique in that a distinctive groundwater barrier, the San Jose fault, transects the site diagonally from the northeast to the southwest. The San Jose fault acts as a groundwater barrier and the depth to groundwater is very deep on the east side of the fault and is shallower on the west side of the fault as discussed below.

Based on our review of the California Geologic Survey (CGS) Seismic Hazard Zone Report (SHZR) 040 for the Ontario Quadrangle, the historical high groundwater level at the site ranges between depths of approximately 50 to 150 feet bgs (CGS, 2000) as shown on Figure 6 west of the San Jose fault.

Groundwater contour data prepared by Carson and Matti (1985) indicates that groundwater is estimated to be greater than 600± feet in depth east of the San Jose fault.

Groundwater data for a well located less than 2,000± feet to the west (Well 341006N1177096W001), indicates that groundwater has ranged from a depth of approximately 156 to 184 feet between the time period of 2011 to 2022 (CDWR, 2022). This well is west of the San Jose Fault.

In 1983 groundwater was reported to be at a depth of 195 and 140 feet in the northwest and southwest portions of the site, respectively (RMA, 2007).

Three groundwater monitoring wells are located on the site. Pit Well No. 1, located at the north end of the site was installed in the 1980's and has been used for periodic water quality testing. r Additional groundwater monitoring wells we installed in August 2021, and, along with Pit Well No.1, make up the revised ground water monitoring network. Anacapa Geoservices has performed groundwater

monitoring and prepared semi-annual reports that are submitted to the State Water Board and available for reference on the GeoTracker data system (GeoTracker Global ID L10002913798).

Groundwater was measured in Pit Well 1 in 2004 at a depth of 417 feet bgs. Attempts in 2010 and 2011 to read this well were unsuccessful due to access limitations and/or complications with the measuring devices. No other measurements were made available.

Groundwater was not encountered to the maximum explored depths during prior field explorations at the site.

Tri-annual groundwater sampling events were conducted at the inert debris landfill from 2001 through 2017 as required by the Los Angeles RWQCB. These sampling events were conducted in accordance with the guidelines set by WDR (File No. 66-016) and Amended Monitoring and Reporting Program (MRP) No. 5766.

Groundwater data was collected from the one monitoring well located on site during this time period, Pit Well No. 1 (formerly Well No. A), located at the northernmost area of the Site, approximately 200 feet south of Foothill Boulevard. No exceedances of the California Primary or Secondary MCLs were reported, indicating that the inert landfill has not impacted the quality of groundwater represented by Pit Well No. 1 (Earthcon, 2017).

On 21 August 2019, the Los Angeles RWQCB issued the current WDRs (file No. 66-016, order number R4-2019-0087), which require semi-annual groundwater monitoring at Pit Well No. 1 and two additional groundwater wells. The two additional groundwater wells (CMW-1 and CMW-2) were installed by Arcadia Reclamation, Inc. (Arcadia) as the downgradient Point of Compliance as shown on Figures 2A through 3B. The wells were installed to the depth of approximately 150 below ground surface (bgs) (Arcadia, 2021).

Semi-annual monitoring and testing have been provided by Anacapa Geoservices Inc. (Anacapa) since 2021. Due to drought-induced declining groundwater elevation, none of the two onsite monitoring wells detected water during monitoring and sampling events. Therefore, calculation of the gradient and flow direction was not possible and no samples were collected. The production well (Pit Well No. 1) was reconditioned (repair pump, repair electrical, etc.) and was not monitored and sampled in 2021 (Arcadia, 2021).

Geotechnical and multiple phases of environmental investigations and on-going monitoring programs have been completed at the landfill, as described above. The investigation results and monitoring data obtained have not indicated any contamination of groundwater at the site. Because the former quarry and landfill have only accepted inert debris, the landfill is unlined and does not include environmental control measures for gas and leachate collection.

2.5 Field Percolation Testing

FP-1 was located within Los Angeles County and we performed field percolation testing in FP-1 within general conformance with the *Boring Percolation Test Procedure* outlined in the *County of Los Angeles, Department of Public Works, Guidelines for Geotechnical Investigation and Reporting Low Impact Development Stormwater Infiltration Manual (LA County Guidelines, GS200.2)*, dated June 30, 2021.

FP-2 through FP-6 were located within San Bernardino County and we performed field percolation testing within FP-2 through FP-6 in general conformance with the *Technical Guidance Document Appendix VII. – Infiltration Rate Evaluation Protocol and Factor of Safety Recommendations*, provided in the *San Bernardino County technical guidance document* dated May 19, 2011.

Upon the completion of drilling, we installed solid and slotted 3-inch outside diameter PVC piping and filled the annular space between the PVC piping and the borehole sidewalls with gravel. The borings were drilled between approximately 10 to 70 feet bgs. The slotted PVC pipe was installed within the lower five feet of each boring to allow introduction of water for the percolation test.

After completion of the well construction, the well was pre-soaked in advance of field percolation testing. Pre-soaking and subsequent field percolation testing was performed in general conformance with LA County Guidelines (FP-1) and San Bernardino Guidelines (FP-2 through FP-6).

The testing was repeated in the test well until the measured rate of percolation stabilized and county testing requirements were achieved. Six trials were performed within each test well.

The results of the field percolation testing are presented in the Tables 3 (LA County) and 4 (San Bernardino County).

Table 3 – Field Percolation Test Results (LA County)

Field Percolation Test #	Depth (Feet)	Ground Surface Elevation (feet/msl)	Soil Type ¹	Measured Field Percolation Rate (inches/hour)
FP-1	12	1,235	SM	1.08

Table 4 – Field Percolation Test Results (SB County)

Field Percolation Test #	Depth (Feet)	Ground Surface Elevation (feet/msl)	Soil Type ¹	Measured Field Percolation Rate (inches/hour)
FP-2	10	1,215	SP-SM	3.79
FP-3	10	1,229	SP-SM	3.18
FP-4	19	1,195	SP-SM	1.14
FP-5	70	1,247	SP-SM	5.37
FP-6	40	1,185	SP-SM	9.69

¹Field percolation testing was performed in native soils, in each case

The results of the field percolation testing are presented in Appendix C.

Please note the above test results do not include factors of safety that may be required by each respective county.

2.6 Soil-Gas (Methane) Monitoring Well Installation

We installed three soil-gas (methane) monitoring probes on site, MW-1 through MW-3, within the footprint of the proposed parking structure along the west side of the site (included in Scenarios 2 and 2B) on August 14th and 15th, 2023.

The methane wells boreholes were drilled using track-mounted hollow-stem auger drilling equipment and the construction of the methane wells consisted of installing a four-inch diameter PVC pipe within the borehole. Three one-inch diameter PVC pipes were installed within the four-inch diameter PVC section and the HDPE tubing was installed within the one-inch PVC pipes. The one-inch PVC pipes consisted of solid casing with the exception the sampling interval that consisted of slotted casing to allow soil-gas testing, also referred to as screened intervals. Screened intervals were established at depths of 17, 22, and 33 feet bgs, corresponding with depths of approximately five, ten and 20 feet below the currently planned lowest finish floor level of the parking structure. Each depth interval was

isolated from the below interval by placing concrete slightly above and the remaining annular space was filled with fine gravel.

Soil-gas testing was performed in MW-1 through MW-3 using a Landtec GEM 5000 Plus Landfill Gas Monitor on two subsequent days. The results of the testing indicated zero methane gas was present at each screened depth interval.

Logs of the methane wells and results of the methane testing are presented in Appendix D.

3.0 GEOTECHNICAL LABORATORY TESTING

3.1 Current Laboratory Testing

As part of our current investigation, we performed the following geotechnical laboratory testing:

- In-situ moisture content and in-place dry-density
- Maximum dry density and optimum moisture content
- Direct Shear Strength
- Consolidation
- Corrosion Potential
- Expansion Index
- Percent Passing # 200 Sieve

The results of our current geotechnical laboratory testing are presented in Appendix A.

3.2 Prior Laboratory Testing

As part of their prior investigations, GPI performed the following geotechnical laboratory testing:

- Moisture Content and Dry Density
- Maximum Dry-Density and Optimum Moisture Content
- Direct Shear
- Grain-size Distribution

The results of the prior geotechnical laboratory testing are presented in Appendix B.

4.0 GEOLOGIC AND SEISMIC HAZARDS EVALUATION

4.1 Regional and Local Geologic Setting

The site is located in the northern portion of the Peninsular ranges Geomorphic Province along the southern side of the San Gabriel Mountains.

Regional topography is dominated by the presence of the faults that define the mountains and hills of the Southern California region including the Cucamonga Fault that locally defines the southern boundary of the San Gabriel Range, the Chino Fault to the west of the site that bounds the Chino Hills in that area, and the San Jacinto and San Andreas Faults to the east of the site. The Santa Ana River is located about ten miles south of the site where it flows to the southwest through the Prado Dam area (CDMG, 2007 and Morton & Miller, 2006). Figure 7 presents a local geologic map.

Based on review of available geologic maps (Morton & Miller, 2006), the site is specifically on the western extent of an alluvial fan deposit emanated from the San Antonio Creek at the base of the San Gabriel Mountains. The large, well-formed fan is largely mapped as mixtures of unconsolidated sand, gravel, and boulders deposited through braided streams.

Sediments at the site were mined for sand and gravel beginning in the 1920s and ending in 1972. In late 1972, the site was permitted for disposal of inert debris consisting of non-decomposable, non-water soluble, inert solids. In 1984, landfilling operations were suspended pending potential development. Inert debris landfill operations resumed in 1991. By 1994, significant inert debris fills were placed in the northwestern corner and along the western side of the site. Since at least May 2000, waste disposal has been restricted to inert debris from construction projects within TCCS and its associated colleges. Because the landfill only accepted inert debris, the landfill is unlined and does not include environmental control measures for gas and leachate collection. Previous filling operations were undocumented except for fill placed the southeast corner of the site. Large quantities of landfill generally consisting of silty sand were placed across the site up to thicknesses of approximately 55 feet.

Figures 2A through 3B also include geologic mapping conducted in this investigation in conjunction with GPI (2022) overlaying the Sports Bowl site plan. Figures 4A through 5H present geotechnical cross-sections of subsurface soils. A description of units in order of relative age, from youngest to oldest is presented below.

A historical summary of aerial photographs for the site is presented in Appendix E.

4.1.1 Undocumented Surficial Fill

Local stockpiles scatter the bottom of the quarry, consisting of undocumented fill soils and inert debris. A majority of the quarry bottom contains surficial undocumented fill that form a thin mantle over native alluvial soils.

4.1.2 Compacted Fill (a_{fc})

Between 2004 and 2005, up to approximately 75 feet of compacted fill was placed within Parcel 6 of Upland Parcel Map 18989 and a portion of Parcel 5 in the southeastern portion the site along Arrow Route (RMA, 2004 & 2005). Prior to placement of the compacted fill, undocumented fills and loose soils were reportedly removed, and a keyway was excavated along the toe of the north facing fill slope. Removals did not include the road embankment fill on the east side of Parcel 6 or landfill materials on the west side within Parcel 5. The compacted fill was reportedly benched into the road embankment fill placed along Monte Vista Avenue. Based on the report by RMA and the explorations, the compacted fill consists of silty sands and gravelly sands with variable amounts of silt, gravel, and cobbles and was compacted to at least 90 percent relative compaction.

4.1.3 Undocumented Fill (a_{fu})

Undocumented fill soils stockpiled and spread over the central portion of the site on the former quarry bottom range in thickness from a few feet to over 30 feet. These deposits consist generally of inert construction debris (concrete and asphalt rubble), sand, gravel, cobbles and occasional boulders. These undocumented rubble fills were likely end dumped and spread and contain significant voids. A thin layer of scattered fills, less than a few feet thick, cover most of the old quarry bottom.

4.1.4 Undocumented Inert Debris Landfill (a_{lr})

Undocumented inert debris fills up to approximately 55 feet thick were encountered overlying older alluvial fan deposits near the upper terrace area in the northwest and southwest corners and western side of the site. These materials consist of sand and gravel with varying amounts of silts, cobbles and local boulders and inert debris consisting primarily of concrete and asphalt rubble were encountered at variable depths throughout the unit. Pieces of concrete and asphalt up to three feet in size were

encountered by GPI (2022) in their test pits. Larger pieces of concrete and asphalt debris, and lesser deposits of clay pipe, brick, masonry block, and pieces of metal were observed near the surface. The inert debris fill soils were likely placed in an uncontrolled manner resulting in poorly compacted conditions. Based on surface expression, as well as drilling and sampling characteristics, these deposits likely include layers of nested concrete and asphalt rubble intermixed with layers of sand, gravel, cobbles, and boulders.

4.1.5 Old Access Road Fill (a_{rf})

Based on historic aerial photography, old access road fill was placed for site access to the quarry beginning between 1953 and 1959. Fill was likely placed on an ongoing basis as the quarry deepened. Where investigated near the quarry bottom, soils consisted of loose gray silty sand with zones of gravel, and some buried metal. Fill depth was observed at nine feet bgs, though actual depths may be deeper toward Monte Vista Avenue.

4.1.6 Road Embankment Fill (a_{re})

Research conducted by GPI (2020) utilized historic aerial photos to constrain the age of the road embankment fill associated with the construction of Monte Vista Avenue on the eastern side of the site to the early 1990s. The approximately 2:1 (horizontal:vertical, h:v) slope was constructed with fills between 30 to 50 feet in thickness, with a mid-slope terrace drain. GPI reports (2022) that the fill was placed under the jurisdiction of San Bernardino County prior to incorporation into the City of Upland, though geotechnical documentation of the fill has not been made available.

4.1.7 Alluvial Fan Deposits (Q_{yf} and Q_{of})

Native alluvial soils encountered in explorations generally consisted of sand and silty sands with gravel and cobbles. Surficial boulders mantle a majority of the site. The younger alluvial fan deposits were observed near the ground surface in the northeastern and perimeter portions of the site at higher elevations. The older alluvial fan deposits are exposed sporadically on the quarry bottom, and beneath landfill deposits at variable depths. Where observed, these deposits generally consist of an orangish brown silty sand with gravel. Many of these deposits contain manganese oxide-stained clasts and signs of oxidation.

4.2 Reclamation Backfill

Undocumented fill soils were encountered in a majority of geotechnical borings and test pits. These fill soils were divided into categories based on relative age to generalize materials imported to the site. Based on field explorations and surface mapping, these units consisted of soil, concrete, asphalt, brick, and metal debris and rubble. These units are delineated on Figures 2A, 2B, 3A and 3B. These units are classified into four generalized fill units based on prevailing material as soil fill (more than 50 percent soil), oversize cobbles and boulders (more than 50 oversize), concrete debris (more than 50 percent concrete), asphalt (more than 50 percent asphalt), brick (more than 50 percent brick), and miscellaneous debris including rebar, old pipes, plastic, and variable metals (misc. debris more than 50 percent). The estimated percentages of materials from each boring and their weighted averages are summarized in Table 5 and presented in detail in Appendix F.

Table 5: Weighted Average Summary of Debris in Reclamation Fill Units

Fill Type	Approximate Percentage of Debris Generalized Fill Units Weighted Averages %				
	>50% Oversize	>50% Concrete	>50% Asphalt	>50% Brick	Miscellaneous Debris
a _{sf}	12	1	1	0	1
a _{fc}	28	0	1	1	1
a _{fu}	14	2	2	3	2
a _{lf}	14	4	6	1	1

Based on the weighted averages of the fill units listed in the above table, fill units are predominately composed of soil, complemented by significant amounts of oversized cobbles and boulders, and lesser amounts of concrete, asphalt, brick, and other miscellaneous debris. The distributions of these materials with depth in each fill unit is highly variable.

4.3 Geologic and Seismic Hazard Evaluation

We evaluated the geologic and seismic hazards at the site in general accordance with California Geological Survey (CGS) Special Publication 117A, "Guidelines for Evaluating and Mitigating Seismic Hazards in California." The results of our evaluation are summarized below.

4.4 Regional Faulting

We reviewed the CGS 2010 Fault Activity Map (FAM) of California and the USGS Quaternary Fault and Fold Database (QFFD), to identify mapped faults within 100 kilometers of the site. The FAM and QFFD show that the closest mapped fault to the site is the Indian Hills fault, located approximately 1 mile (1.6 km) to the northwest and the San Jose Fault, located approximately 1.1 mile (1.8 km) to the southwest. A queried portion of the San Jose fault has been mapped beneath the site. Additional discussions are presented in Section 4.6.

Figures 8A and 8B show the site location relative to the nearby seismic sources.

4.5 Regional Seismicity

The site is located in an active seismic area that has historically been affected by generally moderate to occasionally high levels of ground motion. Therefore, the proposed development will probably experience moderate to occasionally high levels of ground motion from nearby faults as well as ground motions from other active seismic areas of the southern California region.

A search of the USGS ANSS Comprehensive Earthquake Catalog (ComCat) using a web-based Earthquake Archive Search and URL builder tool, found that as of December 17, 2023, 66 earthquakes with magnitudes of 5.0 or greater have occurred within a 100-km radius of the site since 1800 as shown on Figure 8A and 8B.

4.6 Ground Surface Rupture Potential

Historically, ground surface displacements closely follow the traces of geologically young faults. The site is not located within a California Geological Survey (CGS) Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act.

GPI noted that a queried strand of the San Jose Fault running across the site warranted a surface rupture fault hazard investigation by RMA Group in 2001 to investigate suspected mapped traces. It

was concluded that the San Jose Fault does not pose a hazard toward surface fault rupture, and no setbacks were required.

Since active or potentially active faults are not present at the site, the potential for ground surface rupture is considered very low.

4.7 Liquefaction Potential

Liquefaction may occur in loose to medium dense granular soils and low-plasticity silts and clays below the groundwater level due to strong ground shaking.

Liquefaction occurs when the cyclic loading to the soil due to strong ground shaking results in a buildup of excessive pore-water pressure in the pore spaces between the soil grains and the grain-to-grain contact of the soils is disrupted temporarily resulting in settlement as the soil particles reconstitute.

Typically, liquefaction occurs within the upper approximately 50 feet bgs; at greater depths, the confining stress of the overburden soils is typically sufficient to preclude liquefaction.

The site is not located within a City- or State-designated liquefaction hazard zone as shown on Figure 9. Groundwater was not encountered within the upper 50 feet and the soils encountered in the explorations consist of medium dense to very dense granular material.

Thus, the potential for liquefaction at the site is negligible.

4.8 Lateral Spreading Potential

Lateral spreading is a seismically-induced slope instability phenomenon wherein slope failure can occur as a result of liquefaction. The site is not located within a liquefaction hazard zone as noted in Section 5.7, the potential for liquefaction at the site is negligible and therefore by definition, the potential for lateral spreading is also considered to be negligible.

4.9 Seismic (aka 'Dry') Settlement

Seismically-induced (aka 'dry') settlement may occur in loose granular soils due to strong ground shaking as the loose granular particles tend to redistribute during shaking resulting in settlement.

The native soils on site consist of dense to very dense granular deposits that are not subject to seismically induced settlement based on field blow count data.

Existing engineered fill materials present at the southerly portion of the site are also sufficiently dense to preclude seismically-induced settlement.

Existing landfill materials, however, are more challenging to evaluate since the field blow count data available is in some cases skewed (overly high) due to the presence of large concrete rubble or other similar debris.

As an alternative method to evaluate the potential for seismically-induced settlement of the existing landfill debris, we reviewed the geophysical data available from the prior GPI report noting that the prior data provides an indication of the stiffness of on-site materials as well as data available from shear strength testing on samples of the inert landfill materials. Based on our evaluation, the stiffness of the on-site landfill materials is generally comparable or greater than the stiffness of the engineering fill materials.

Therefore, the potential for seismically-induced settlement within the landfill debris very low.

4.10 Earthquake-Induced Landslides

Portions of the site are located in a zone of potential earthquake induced landsliding per the CGS Seismic Hazard Zones map for the Ontario Quadrangle as shown on Figure 9.

These areas consist of steep natural and man-made quarry slopes. However, the planned grading will generally remove the overly-steep existing slopes and the permanent condition will consist of slopes with a gradient of 2:1 (horizontal:vertical) or flatter. Therefore, the risk for earthquake-induced landsliding subsequent to site improvement is considered low.

4.11 Flood Mapping

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06037C1750F, the landfill site is located outside the 0.2 percent annual chance floodplain (Zone X).

4.12 Tsunamis, Seiche, and Dam Inundation

Based on information and maps available from the CGS, the site is not located within a Tsunami inundation hazard zone. Based on review of adjacent water bodies, the site is not subject to inundation from seiche. A review of the California Dam Breach Inundation Maps hosted by the California Division of Safety of Dams shows that the site is not located within an inundation boundary in the case of dam breach. Based on the City of Claremont General plan, the subject site is located within a flood zone from failure of the San Antonio Dam.

4.13 Subsidence

Land subsidence may be induced from withdrawal of oil, gas, or water from wells. Based on a search of the CalGEM (formerly known as Division of Oil, Gas, and Geothermal Resources [DOGGR]) GIS Well Finder online tool, there are no wells within 2.5 miles of the site. Thus, the likelihood of land subsidence caused by oil or gas withdrawal from oil wells is very low.

4.14 Expansive Soils

Expansive soils swell and shrink when the moisture content in the soil changes as a result of cyclic - wet/dry weather cycles, installation of irrigation systems, change in landscape plantings, or changes in grading.

Swelling and shrinking soils can result in differential movement of structures including floor slabs and foundations, and site work including hardscape, utilities, and sidewalks.

The materials encountered during the current and prior investigations at the site generally consist of sand with gravels, cobbles, and boulders and associated debris (primarily concrete and asphalt) and these materials have a low potential for expansion.

4.15 Soil-gas (Methane)

We installed three soil-gas wells at the site and performed soil gas measurements; the results of the soil-gas readings do not indicate the presence of methane gas at the site. These results are consistent with the inert (non-reactive) nature of the landfill materials.

Based on the data available, the potential for the accumulation of methane gas in confined spaces at the site is negligible.

5.0 CONCLUSIONS

5.1 General

The site is generally free from geologic or seismic hazards that would preclude the proposed development. Proposed development Scenarios 1, 2 and 2B are each feasible from a geotechnical perspective, provided that the recommendations presented herein are followed.

The proposed development will include mass grading and consist of construction of athletic playing fields and various support structures, a pedestrian tunnel, surface parking lots, and, in some scenarios, a large-footprint subterranean parking structure and a maintenance facility. Walking paths and site retaining walls are also planned as part of each alternate development scenario.

The primary geotechnical condition at the site that will impact the proposed development is the presence of undocumented landfill materials where these materials are present below the planned finish playing field surface levels and/or below the foundation and floor slab levels of the proposed structures.

The planned mass grading will include cuts into on-site landfill materials. Thus, sorting and processing of these materials will be required to allow reuse in required fills.

Existing landfill debris is not considered suitable for support of the proposed pedestrian tunnel planned for each scenario nor the proposed parking structure the maintenance facility structure planned as part of Scenarios 2 and 2B. For these structures, existing landfill debris should be removed and replaced as properly compacted fill as recommended herein.

Existing landfill debris may remain in place beneath the planned minor structures provided the recommendation presented herein are followed. In this regard, it's worth noting that the data collected from the existing landfill debris including field blow count data, laboratory test data, and the results of the prior geophysical testing, indicate these materials are reasonably firm and dense with isolated, discontinuous zones that are less firm and dense. Notably, the seismic refraction data collected as part of the prior investigation generally shows the landfill debris to be comparable to or stiffer than engineered fill that was placed at the south side of the site and generally comparable to the upper native soils at the site.

5.2 Parking Structure, Pedestrian Tunnel and Maintenance Facility Structure (Primary Structures)

The lowest finish floor level for each the proposed parking structure, the pedestrian tunnel and maintenance facility support structure are underlain by varying thickness of undocumented landfill materials. Although foundation loading information was not available for these structures at the time this report was prepared, we anticipate the magnitude of foundation loading and/or variation in thickness of landfill materials beneath the structures would preclude allowing existing landfill materials to remain in place beneath these structures.

Therefore, existing landfill materials present beneath foundation and floor slab level for these structures should be removed and replaced as properly compacted fill. Each structure may be supported on spread, continuous and/or mat-type foundations established in properly compacted fill and/or dense native soils where dense native soils are present at the foundation levels for the westerly side of the pedestrian tunnel.

For general reference, Table 6 summarizes the approximate thickness of landfill materials present beneath the lowest finish floor level for the proposed parking structure and maintenance facility structure and invert of the proposed pedestrian tunnel.

Table 6 – Summary of Landfill Materials Thickness Beneath Primary Structures

Structure	Lowest Finish Floor Level (feet, msl)	Landfill Thickness Beneath Lowest Finish Floor Level (feet)
Parking Structure	1,243.0 to 1,263.0	Up to ~ 35 feet
Maintenance Facility Structure	1,235.5	Up to ~ 26 feet
Pedestrian Tunnel	1,233.0	Up to ~ 33 feet

Recommendations for foundation design for the proposed structures are presented in Section 6.1. and recommendations for permanent walls below grade are presented in Section 6.4.

5.3 Press Box, Field House, Storage, Field Structures, Dugouts (Minor Structures)

As noted above, the existing landfill materials are generally firm and dense noting there are localized and apparently discontinuous zones that are less firm and dense. Based on this information, minor structures may be supported on spread and continuous footings established in a nominally thick layer of properly compacted select fill so that existing landfill materials present below the recommended properly compacted select fill may remain in place provided the recommendations presented herein are followed.

Spread and continuous footings should also be connected by grade beams to minimize potential differential settlement.

It would also be prudent to install settlement monuments after and possibly during the placement of the fill within the footprints of the planned minor structures to assure that any settlement due to placement of new fill, although expected to be minor, has sufficiently occurred to allow foundation and floor slab construction.

Recommendations for foundation support for minor structures are presented in Section 6.1.

5.4 Building Floor Slabs / Pedestrian Tunnel Bottom Slab

The proposed building floor slabs and pedestrian tunnel bottom slab may be established in properly compacted select fill and/or in dense native soils.

Properly compacted select fill should extend a minimum of two feet vertically below building and tunnel floor slabs on-grade and a minimum of two feet horizontally beyond the outside edges of the floor slabs-on-grade.

Recommendations for floor slab support are presented in Section 6.2.

5.5 Seismic Design

The site is also subject to strong ground shaking that would result from an earthquake occurring on a nearby or distant fault source; however, this hazard is common in Southern California and can be mitigated by following the seismic design requirements of the 2019 California Building Code and ASCE 7-16.

Due to the presence of undocumented landfill materials, the seismic site classification should be taken as S_D . Recommendations for seismic design are presented in Section 6.3.

5.6 Playing Fields

The finish levels of the planned playing field surfaces range from Elevation 1,209.0 to 1,257.0 for Scenario 1 and from 1216.0 to 1260.0 for Scenarios 2 and 2B. In each case, existing undocumented landfill materials are present beneath the planned playing field surfaces ranging on the order of seven to 36 feet as summarized in Tables 7 and 8 for development Scenarios 1 / 1B and 2 / 2B.

Table 7 – Scenario 1
Summary of Landfill Materials Thickness by Playing Field

Playing Field	Lowest Playing Surface (msl)	Existing Ground Surface Level (msl)	Planned Grading	Landfill Thickness Beneath Lowest Playing Surface
Football / Track / Lacrosse Field	1,209.0	1,185 to 1,240	Cut up to 31 feet Fill up to 24 feet	Up to ~ 29 feet
Multi-purpose Field	1,224.0	1,215 to 1,245	Cut up to 21 feet Fill up to 9 feet	Up to ~ 26 feet
Soccer / Rugby	1,243.0	1,228 to 1,250	Cut up to 7 feet Fill up to 15 feet	Up to ~ 23.5 feet
Golf Practice Area	1,257.0	1,250 to 1,296	Cut up to 39 feet Fill up to 7 feet	Up to ~ 7 feet
Baseball Field	1,257.0	1,237 to 1,303	Cut up to 46 feet Fill up to 20 feet	Up to ~ 13 feet
Softball Field	1,257.0	1,250 to 1,260	Cut up to 3 feet Fill up to 7 feet	Up to ~ 25 feet

Table 8 – Scenarios 2 and 2B
Summary of Landfill Materials Thickness by Playing Field

Playing Field	Lowest Playing Surface (msl)	Existing Ground Surface Level (msl)	Planned Grading	Landfill Thickness Beneath Lowest Playing Surface
Football / Track / Lacrosse Field	1,216.0	1,185 to 1,240	Cut up to 24 feet Fill up to 31 feet	Up to ~ 36 feet
Multi-purpose Field (Phase 2)	1,260.0	1,243 to 1,300	Cut up to 40 feet Fill up to 17 feet	Up to ~ 36 feet
Soccer / Rugby (Phase 2)	1,251.0	1,235 to 1,255	Cut up to 4 feet Fill up to 16 feet	Up to ~ 36 feet
Golf Practice Area	1,226.0	1,215 to 1,245	Cut up to 19 feet Fill up to 11 feet	Up to ~ 10 feet
Baseball Field	1,226.0	1,230 to 1,245	Cut up to 19 feet Fill up to 0 feet	Up to ~ 15 feet
Softball Field	1,226.0	1,215 to 1,240	Cut up to 14 feet Fill up to 11 feet	Up to ~ 28 feet

Based on the field blow count and geophysical data from our current and the prior investigations, landfill materials present below the lowest playing surface levels is generally stiff to dense noting there are localized and apparently discontinuous zones that are less dense and less stiff.

The only significant load increase within the planned playing fields is where new fill is planned to raise the ground surface level. In these areas, it would be prudent to install settlement monuments after and possibly during the placement of the fill to document the performance of the underlying landfill materials on a case-by-case basis.

Noting that the landfill materials are typically coarse-grained and/or over-sized particles, it's reasonable to conclude that settlement due to new loading may be considered 'immediate' meaning the settlement will occur as the fill is placed.

To assure uniform performance within each playing field, it would also be prudent to place a rigid cap of select backfill materials to bridge local softer or less stiff zones. Recommendations for each playing field are presented herein.

Recommendations for playing field support are presented in Section 6.5.

5.7 Pavement and Site Flatwork

To assure uniform support for pavement and site flatwork, the upper 12 inches of existing materials should be removed and replaced as properly compacted select fill. The results of laboratory testing indicate an R-value of 40 may be assumed for pavement design.

Recommendations for pavement are presented in Section 6.6 and recommendations for site flatwork are presented in Section 6.7.

5.8 Free-standing Site Retaining Walls

Free-standing site retaining walls may be supported on a properly compacted selected fill materials as recommended in Section 6.8.

5.9 Temporary Shoring

Temporary shoring may be utilized during construction of the pedestrian tunnel, parking structure and maintenance facility structure. A suitable method of temporary shoring is soldier pile and timber lagging and recommendations for temporary shoring are presented in Section 6.9.

5.10 Groundwater

The groundwater level at the site is relatively deep and in general is not anticipated to impact the proposed development scenarios. Localized zones of perched water, however, may be seasonally present on less permeable layers within the overall granular landfill materials and coarse-grained native deposits at the site.

If encountered, localized perched groundwater could be routed away from excavations and discharged off-site through a groundwater discharge permit process, removed from site in pump trucks and disposed off-site. Alternatively localized perched groundwater may be re-injected into the permeable native soils at the site if allowed to do so by permit.

5.11 Slope Stability, Earthwork and Grading

Permanent unreinforced slopes should not exceed a gradient of 2:1 (h:v) and earthwork and grading for the planned mass grading will need to be performed in accordance with an approved landfill closure plan and post closure land use plan, when available.

Recommendations for grading for permanent slopes as well as for general earthwork and grading are presented in Section 6.10.

5.12 Soil-Gas (Methane) Considerations

Based on the results of soil-gas testing performed as part of our current investigation, special provisions for methane gas are not required for the planned buildings, parking structure and pedestrian tunnel.

5.13 Corrosion Potential

Corrosion testing was performed as part of our investigation and the prior RMA investigation. The results of the current and prior testing indicate that the on-site materials have negligible potential for sulfate attack on concrete and are not corrosive to ferrous metals.

6.0 RECOMMENDATIONS

6.1 Foundation Design

6.1.1 Parking Structure, Pedestrian Tunnel and Maintenance Facility Structure (Primary Structures)

The proposed parking structure, pedestrian tunnel and maintenance facility structure may be supported on spread and continuous or mat-type footings established in properly compacted select fill materials or dense native soils where present noting that native soils are present at the planned foundation level within the pedestrian tunnel alignment west of the landfill west property line.

Where required, the select fill should extend a minimum of three horizontal feet beyond the limits of the footings.

Existing landfill materials should be removed to expose dense native soils and the exposed excavation bottoms should be observed and documented by a Langan field representative. Excavation bottoms should be scarified for a depth of eight inches, moisture conditioned and compacted as recommended in Section 6.10.

Spread and continuous footings a minimum of two feet in width and established at least two feet below the lowest adjacent grade or top of floor slab in properly compacted select fill and/or dense native soils may be designed using an allowable bearing pressure of 5,500 psf. The recommended bearing pressure may be increased by one-third when considering short term wind and seismic loading conditions.

We estimate the total static settlement for foundations designed as recommended herein will be on the order of one inch or less and the differential static settlement will be on the order of ¼ inch or less.

Lateral loading may be resisted by passive pressure of the soils acting against the sides of the footings and friction along the bottom of the footing.

To resist lateral loading, an ultimate passive resistance equal to 800 psf per foot of embedment up to a maximum value of 8,000 psf and an ultimate coefficient of friction equal to 0.6 may be used. The ultimate passive pressure and the ultimate coefficient of friction may be combined noting that the ultimate passive resistance should be reduced in this case by 50 percent in consideration of the deformation required to mobilize the full passive resistance.

An allowable passive resistance equal to 400 psf per foot of embedment up to a maximum value of 6,000 psf and an allowable coefficient of friction equal to 0.4 may be used. The allowable passive pressure and the allowable coefficient of friction may be combined without reduction.

6.1.2 Press Box, Field House, Storage, Field Structures, Dugouts (Minor Structures)

Proposed minor structures may be supported on three feet of properly compacted select fill materials. The select fill should extend three horizontal feet beyond the limits of the footings.

The exposed excavation bottom should be compacted using a minimum 16-ton steel-drum vibratory compactor or similarly heavy vibratory equipment. The intent of the vibratory roller is to impart vibration to the existing landfill materials and provided an added measure of densification to these materials.

Settlement monitoring should be performed during and/or after the placement of the fill to confirm that any settlement due to the placement of the new fill has occurred to a sufficient degree to allow the construction of the support structure building foundations in the properly compacted select fill materials. A settlement monitoring program shall be developed by Langan in collaboration with the selected grading contractor prior to the start of earthwork.

Spread and continuous footings a minimum of two feet in width and established at least two feet below the lowest adjacent grade or top of floor slab in properly compacted select fill may be designed using an allowable bearing pressure of 2,500 psf. The recommended bearing pressure may be increased by one-third when considering short term wind and seismic loading conditions.

We estimate the total static settlement for foundations designed as recommended herein will be on the order of 1 ½ inch or less and the differential static settlement will be on the order of ½ inch or less.

Lateral loading may be resisted by passive pressure of the soils acting against the sides of the footings and friction along the bottom of the footing.

To resist lateral loading, an ultimate passive resistance equal to 600 psf per foot of embedment up to a maximum value of 6,000 psf and an ultimate coefficient of friction equal to 0.6 may be used. The ultimate passive pressure and the ultimate coefficient of friction may be combined noting that the ultimate passive resistance should be reduced in this case by 50 percent in consideration of the deformation required to mobilize the full passive resistance.

An allowable passive resistance equal to 400 psf per foot of embedment up to a maximum value of 6,000 psf and an allowable coefficient of friction equal to 0.4 may be used. The allowable passive pressure and the allowable coefficient of friction may be combined without reduction.

6.2 Building Floor Slabs / Pedestrian Tunnel Bottom Slab

The proposed building floor slabs and entire pedestrian tunnel bottom slab may be established in properly compacted select fill and/or in dense native soils.

Properly compacted select fill should extend a minimum of two feet vertically below building and tunnel floor slabs on-grade and a minimum of two feet horizontally beyond the outside edges of the floor slabs-on-grade.

Where moisture-sensitive flooring is planned, a capillary break section should be installed beneath the building floor slab. The capillary break section should consist of six inches of gravel underlying a 15-mil visqueen moisture barrier. A capillary break section is not required for floor slabs where moisture-sensitive flooring is not planned.

6.3 Seismic Design Considerations

Considering undocumented landfill materials will remain in place, we determined the seismic site class to be Site Type D in accordance with Chapter 20 of ASCE-7-16. Seismic design parameters for Site Type D are presented in Table 9.

Table 9 – CBC Prescriptive Seismic Design Parameters

Criteria	Value
MCE_R Ground Motion at Short Periods, S_s	1.697
MCE_R Ground Motion at 1Second Period, S_1	0.638
Site-Modified Spectral Acceleration Value at Short Periods, S_{MS}	1.697
Site-Modified Spectral Acceleration Value at 1 Second Period, S_{M1}	0.893
Design Spectral Response Acceleration at short periods, S_{DS}	1.131
Design Spectral Response Acceleration at 1 second period, S_{D1}	0.595
MCE_G Peak Ground Acceleration, PGA_M	0.794

Requirements outlined in Chapter 11 of ASCE 7-16 should be followed in determining the base shear for each proposed structure.

6.4 Permanent Below Grade Walls

6.4.1 Design Lateral Earth Pressures

For static conditions, drained below-grade building internally braced walls should be designed to resist a trapezoidal-shaped at-rest lateral earth pressure distribution equal to 28H psf as shown on Figure 10.

For seismic loading conditions, drained below-grade internally-braced building walls should be designed to resist a triangular-shaped active lateral earth pressure distribution equal to 35H psf in conjunction and a triangular-shaped seismic lateral earth pressure distribution equal to 15H psf as shown on Figure 11.

The upper 10 feet of the below-grade building walls should also be designed to resist a uniform lateral pressure of 100 psf to account for normal traffic loading as shown on Figures 10 and 11.

The recommended traffic surcharge is applicable where traffic loading is anticipated adjacent to walls below grade. Please note that the recommended surcharge should be increased by 50 percent when considering fire truck loading. For other areas subject to live loading conditions (non-traffic), we recommend applying one-third of the live load to the wall-below grade within the upper 10 feet. The geotechnical engineer of record can review any such cases and provide specific recommendations if needed.

The load combination (active and seismic earth pressure) and the shape of the seismic pressure distribution are each based on *Seismic Earth Pressures on Cantilevered Retaining Structures* (Atik and Sitar, 2010) and *Seismic Earth Pressures: Fact or Fiction* (Lew, Sitar, and Atik, 2010).

If the surface at the top of the wall is sloped, the recommended lateral earth pressures should be increased as indicated in Table 10.

Table 10 - Permanent Below-Grade Walls – Lateral Earth Pressures

Slope Inclination at Top of Wall (H:V)	Increase in Lateral Earth Pressure (percent)
1:1	200
1.5:1	165
2:1	150

6.4.2 Wall Back Drainage

For static conditions, drained below-grade permanent retaining walls should be constructed with adequate back-drainage to prevent the buildup of hydrostatic pressure behind the walls.

For shored walls, we recommend the use of a pre-fabricated geo-composite drainage board that is fixed to the shoring wall, and the below-grade building wall is constructed by the placement of shotcrete directly against the drainage board.

In cases where temporary construction slopes and retaining walls are utilized, a perimeter collector pipe could be installed at the base of the walls noting a suitable discharge outlet for the collector pipe will be required.

6.5 Playing Fields

Cuts up to approximately 46 feet in height and fills up to approximately 24 feet will be required for development Scenario 1 and cuts up to approximately 40 feet and fills up to approximately 31 feet will be required for development Scenarios 2 and 2B.

The finish levels of the planned playing field surfaces range from Elevation 1,209.0 to 1,257.0 for Scenario 1 and from 1216.0 to 1260.0 for Scenarios 2 and 2B. In each case, existing undocumented landfill materials are present beneath the planned playing field surfaces ranging on the order of seven to 39 feet.

The proposed playing fields may be established on three feet of properly compacted select fill materials where greater than ten feet of landfill materials are present and two feet of properly compacted select fill materials where ten feet or less.

The exposed excavation bottom should be compacted using a minimum 16-ton steel-drum vibratory compactor. The intent of the vibratory roller is to impart vibration to the existing landfill materials and provided an added measure of densification to these materials.

Settlement monitoring should be performed during and/or after the placement of the fill to confirm that any settlement due to the placement of the new fill has occurred to a sufficient degree to allow the construction of the playing fields on the properly compacted select fill materials.

Settlement monitoring requirements are presented in Section 6.10.

6.6 Pavement Design Recommendations

6.6.1 General

To provide uniform support for the proposed perimeter surface parking lot pavement sections, the upper 12 inches of existing soil should be removed and replaced as properly compacted fill. Based on the results of prior geotechnical laboratory testing, an R-value of 40 may be assumed in the design of AC and PCC pavement sections.

Excavation bottoms for pavement support should be carefully evaluated by a Langan field representative during construction to assure locally loose, soft or otherwise unsuitable materials are not present.

Pavement design recommendations for asphalt concrete (AC) and Portland cement concrete (PCC) are presented below.

6.6.2 Asphalt-Concrete Pavement Design

AC pavement for surface parking shall be designed in accordance with the CALTRANS method. Table 11 summarizes our AC pavement recommendations for assumed TIs of 4.5, 5, 6, and 7.

Table 11 – AC Pavement Design Recommendations

Traffic Use	TI	AC (inches)	AB (inches)
Parking Areas	4.5	3.0	4.0
Automobile Drive Lanes	5.0	3.5	4.0
Truck and Trailer Drive Lanes	6.0	4.0	6.0
Delivery Access and Loading Docks	7.0	5.0	6.5

Our Langan team can determine the recommended pavement and aggregate base thickness for other TIs if required. Careful inspection is recommended to confirm that the recommended thickness or greater is achieved and that proper construction procedures are followed.

The aggregate base should conform to requirements of Section 26 of State of California Standard Specifications for Public Works Construction (Green Book). The aggregate base should be compacted to at least 95 percent relative compaction.

6.6.3 Portland Concrete Pavement Design

Table 12 summarizes our Portland cement concrete (PCC) pavement recommendations for assumed TIs of 4.5, 5, 6, and 7 based on minimum compressive strength of 3,000 psi for the PCC.

Table 12. PCC Pavement Design Recommendations

Traffic Use	TI	PCC (inches)	AB (inches)
Parking Areas	4.5	5.0	4.0
Automobile Drive Lanes	5.0	5.5	4.0
Truck and Trailer Drive Lanes	6.0	6.0	4.0
Delivery Access and Loading Docks	7.0	7.0	4.0

Our Langan team can determine the recommended pavement and aggregate base thickness for other TIs if required. Careful inspection is recommended to confirm that the recommended thickness or greater is achieved and that proper construction procedures are followed.

PCC pavement should be reinforced with Number 3 bars spaced 24 inches on-center in each direction.

Careful inspection is recommended to check that the recommended thickness or greater is achieved and that proper construction procedures are followed.

State of California Department of Transportation Type 2 base, or equivalent, should be used in the required sections. The base should be compacted to at least 95 percent relative compaction.

6.7 Site Flatwork

Site flatwork, including sidewalks, shall consist of five inches decomposed granite (DG) placed on a geotextile fabric placed on 12 inches of properly compacted select fill materials.

The select fill should be processed, placed and compacted as recommended in Section 6.10.

6.8 Site Retaining Walls

Site retaining walls may be supported on continuous footings established on 12 inches of properly compacted select fill. The select fill should consist of 1-inch minus crushed rock and should extend at least two horizontal feet beyond the limits of the footing.

Continuous retaining wall footings a minimum of two feet in width and established at least 18 inches below the lowest adjacent grade or top of floor slab in properly compacted select fill may be designed using an allowable bearing pressure of 2,000 psf. The recommended bearing pressure may be increased by one-third when considering short term wind and seismic loading conditions.

We estimate the total static settlement for retaining wall foundations designed as recommended herein will be on the order of 1 inch or less and the differential static settlement will be on the order of ½ inch or less.

For drained conditions, unrestrained, free-standing retaining walls should be designed to resist a triangular lateral earth pressure distribution with a maximum value equal to $35H$ psf, where H is the height of the wall.

Per Section 1807A.2.2 of the 2019 CBC, seismic loading conditions shall be included in design of retaining walls supporting at least six feet of soil. Seismic lateral earth pressure distribution in this case should be taken as a triangular-shaped active lateral earth pressure with the maximum value equal to $35H$ psf in conjunction with a triangular-shaped seismic lateral earth pressure distribution with the maximum value equal to $15H$ psf.

In cases where free-standing below grade walls are situated adjacent to roadways, parking areas, or loading docks the upper 10 feet of the below-grade walls should also be designed to resist a uniform lateral earth pressure equal to 100 psf to account for normal traffic loading.

Additional surcharge loading may be required if below grade walls are situated in close proximity to any of the proposed building foundations and can be provided on a case-by-case basis.

If the surface at the top of the walls is slope, the recommended lateral earth pressures should be increased as indicated in Table 10.

Below-grade walls should be constructed with adequate back-drainage to prevent the build-up of hydrostatic pressure behind the walls. Pre-fabricated geo-composited drainage boards affixed to the back of the wall prior to backfill may be utilized.

Alternatively, a 12-inch wide zone of relatively free-draining aggregate material can be utilized behind walls to provide adequate drainage. To prevent water accumulation at the bottom of the wall weep holes should be provided or otherwise suitably discharged.

6.9 Temporary Shoring

6.9.1 Design Lateral Earth Pressure

Typically, cantilevered shoring is feasible for temporary shoring when the retained height is less than approximately 15 feet. Braced shoring typically becomes economical for retained heights in excess of 15 feet.

Cantilever shoring may be designed to resist a triangular lateral earth pressure distribution where the maximum value is $30H$ psf.

Internally brace shoring may be designed to resist a trapezoidal lateral earth pressure distribution where the maximum value is $26H$ psf.

Temporary shoring, should also be designed to resist a nominal surcharge load of 100 psf distributed uniformly within the upper 10 feet to account for vehicular traffic where adjacent to temporary roadways and parking areas.

For cantilevered shoring design, where the surface at the top of the shoring is sloped, the recommended lateral earth pressures should be increased as indicated in Table 10.

The design of temporary shoring walls should consider the location of construction cranes and other potentially heavy equipment or loads that may act against the shoring system. Surcharge loading for these features may be determined by using NAVFAC DM 7.2 Chapter 3, Section 4. If needed, we can provide additional surcharge loading on a case-by-case basis.

6.9.2 Soldier Pile Design and Installation

For the design of soldier piles spaced at least two diameters on-center, the allowable lateral bearing value (passive pressure) of the native soils below the planned bottom of the excavation may be assumed to be 400 psf per foot of depth, up to a maximum value of 6,000 psf. To develop the full lateral bearing value, provisions should be taken to assure firm contact between the soldier piles and the undisturbed native soils.

If the embedded portion of the soldier pile shafts are filled with lean-mix concrete, the effective width of the soldier pile shaft for use in developing passive resistance may be assumed to be twice the diameter of the soldier pile shaft. If the embedded portion of the soldier pile shaft is filled with other material (such as low-strength sand-cement slurry, for instance), the effective width of the soldier pile should be limited to be the diagonal dimension of the soldier beam.

The portion of the soldier piles below the bottom of the excavation may also be relied on to support downward loading. For soldier piles that are drilled and filled with structural concrete below the bottom of the excavation, the frictional resistance between the concrete and surrounding soil may be taken as 600 psf. For soldier piles that are vibrated into place, the frictional resistance may be taken as 800 psf.

6.9.3 Timber Lagging Design

Continuous lagging will be required between the soldier piles. The soldier piles should be designed for the full anticipated lateral earth pressure; however, the pressure on the lagging will be less due to arching in the soil. For clear spans of up to six feet, we recommend the lagging be designed for a triangular where the maximum pressure is 400 psf at the mid-point between the soldier piles and zero at the soldier piles.

6.9.4 Tiebacks

The capacities of anchors should be determined by testing the initial anchors as outlined below. We anticipate that gravity-filled anchors will achieve an allowable bond strength of 1 kips to 2 kips per lineal foot of anchor in the on-site terrace deposits, depending on the method of construction. A variety of methods are available for construction of anchors. If post-grouted anchors are used, we estimate the anchors will develop resistance on the order of three times the estimated value. We recommend that the shoring designer and contractor be responsible for selecting the appropriate bond length and installation methods to achieve the required capacity. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. If the anchors are spaced at least 6 feet on-center, reduction in the capacity of the anchors do not need to be considered due to group action.

The anchors are commonly installed at angles of 15 to 40 degrees below the horizontal; however, in some cases it is necessary to use steeper inclinations where adjacent private property is present. Caving of the anchor holes should be anticipated and provisions made to minimize such caving.

The geotechnical engineer of record representative should select a representative number of the initial anchors for 24-hour, 200 percent tests and 200 percent quick tests. The purpose of the 200 percent test is to verify the friction value assumed in design. The anchors should be tested to develop twice the assumed friction value. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

For post-grouted anchors where concrete is used to backfill the anchor along its entire length, the test load should be computed as required to develop the appropriate friction along the entire bonded length of the anchor. We estimate that the influence of the post-grouting and the adjacent soil within the bonded length of the anchors will be less than 5 feet from the anchor.

Total deflection during the 24-hour, 200 percent test should not exceed 12 inches during loading. Anchor deflection should not exceed 0.75 inch during the 24-hour period. Measured after the 200 percent test load is applied. If the anchor movement after the 200 percent load has been applied for six hours is less than 0.5 inch and the movement over the previous four hours has been less than 0.1 inch, the test may be terminated.

For the quick 200 percent tests, the 200 percent test load should be maintained for 30 minutes. The total deflection of the anchor during the quick 200 percent tests should not exceed 12 inches. Anchor deflection after the 200 percent test load has been applied should not exceed 0.75 inch during the 30 minute period. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

All the production anchors should be pre-tested to at least 150 percent of the design load. Total deflection during the tests should not exceed 12 inches. The rate of creep under the 150 percent test should not exceed 0.1 inch over a 15-minute period for the anchor to be approved for the design loading.

After satisfactory test, each production anchor should be locked off at the design load. The locked-off load should be verified by rechecking the load in the anchor. If the locked-off load varies by more than 10 percent from the design load, the load should be until the anchor is locked off within 10 percent of the design load. Installation of the anchors and testing of the completed anchors should be observed by a representative of the geotechnical engineer of record.

6.9.5 Lateral Deflection and Shoring Monitoring

Some means of monitoring the performance of the shoring system is recommended. The monitoring should consist of periodic surveying of the lateral and vertical deflections of top of each soldier pile. When design of the shoring system is finalized, the geotechnical engineer of record can discuss appropriate monitoring methods with the design consultants and shoring contractor.

It is difficult to accurately predict the amount of deflection of a shoring system and it should be understood that the shoring system is designed to deflect at the top. We recommend the shoring system be designed to limit deflection at the top to be 0.5 inch or less where the shoring provides lateral support for existing buildings, and 1 inch or less where existing buildings are not present. If greater deflection occurs during construction, additional vertical support or lateral bracing may be required.

6.9.6 Construction Considerations

Drilling for soldier piles will encounter large-size granular particles and will likely require the use of core barrels or chopping buckets to advance. Additionally, caving of the soldier pile shaft walls is also possible since the shafts will be advanced through predominantly granular materials. It's unlikely drilling mud will be very effective in the on-site soil conditions as we anticipate that circulation of the drilling mud will be difficult due to the large-particle sizes and corresponding void spaces. Casing or other provisions to mitigate caving may be required to advance the soldier pile shafts to the design depths.

The shoring contractor should include appropriate provisions to achieve soldier pile installation.

6.10 Earthwork Considerations

6.10.1 Temporary Construction Slopes

Temporary, unsurcharged slopes may be excavated into the on-site engineering fill, undocumented fill and landfill materials may be constructed at a 1:1 (h:v) gradient for slopes less than 15 feet in height, 1¼:1 (h:v) for slopes less than 25 feet in height, and 1½:1 (h:v) for slopes greater than 25 feet in height.

Temporary construction slopes should be protected from erosion by directing surface water away from the top of the slope, by placing sand-bags at the top of the slope cuts, and/or covering the slopes with plastic sheeting during rain events.

6.10.2 Permanent Slope Construction

The planned mass grading includes construction of permanent slopes. Permanent slopes should be constructed at a maximum gradient of 2:1 (h:v). In cases where steeper permanent slopes are planned, the steeper slopes should include geotextile reinforcement and/or soil-cement. Design of either geotextile reinforced or cement-improved permanent slopes should be done in collaboration with the selected grading contractor and/or specialty contractor.

Permanent slopes should be over-filled and trimmed back. Horizontal benches should be included for every 25 vertical feet of permanent slope; noting that if only one bench is required it should be constructed at the mid-height of the slope.

New fill should be benched into the existing slope using a minimum horizontal bench width of two feet for every four vertical feet. All benches should be observed by a representative of our firm noting that we anticipate significant degree of variation throughout the site.

A keyway should be constructed at the toe of each planned permanent slope; the keyway should be a minimum of five feet in width and four feet in height for slopes less than 25 feet in height and a minimum of ten feet in width and six feet in height for slopes great than 25 feet in height. The bottom of the keyway inclined two degrees towards the slope in each case.

6.10.3 Excavation Bottom Preparation

Exposed excavation bottoms should be carefully probed or otherwise evaluated by our field representative and any localized deposits of loose, soft or otherwise unsuitable soils should be removed and replaced as determined in the field with our Langan field technician.

The exposed bottom should be scarified for a depth of six inches to the extent possible, moisture-conditioned and compacted as recommended below.

If the exposed bottom of the excavation consists of soft, compressible, wet and/or otherwise unsuitable materials, removal of an additional six to 12 inches of soil and replacement with $\frac{3}{4}$ -inch crushed rock should be placed to provide a firm working surface suitable to receive new fill.

As recommended previously, where existing landfill materials are present in excavation bottoms, and these materials are allowed to remain in place as recommended herein, these materials should be densified using a 16-ton vibratory roller, or other suitable equipment, prior to placement and compaction of new fill.

6.10.4 Materials for Fill

Existing landfill materials are suitable for use in required fill provided these materials are processed so that less than one third of the materials is larger than one inch in maximum dimension and only five percent of the materials exceed eight inches in maximum particle size.

On-site alluvial materials are also suitable for use in required fills noting also the alluvial materials should be processed, if necessary, so that less than one third of the materials is larger than one inch in maximum dimension and only five percent of the materials exceed eight inches in maximum particle size.

In general, suitable materials to be included within inert debris fill include soil, gravel, rock, concrete, fully cured asphalt, glass, plaster products (except for plasterboard), brick, and clay products. Deleterious materials, materials other than those listed, should be removed; noting that reinforcing steel that is embedded in concrete should be cut flush to allow re-use.

Landfill debris and alluvial materials great than 12 inches in any dimension may be used in deep fills provided these materials are placed at least ten feet below the finish fill surface and placed in windrows are recommended in Section 6.10.5.

6.10.5 Fill Placement and Compaction

Fill soils shall be moisture conditioned as recommended herein, placed in loose lifts not exceeding 12-inches in thickness and mechanically compacted using heavy equipment. If lightweight equipment is used, the lift thickness should be limited to 8 inches in thickness.

The processed fill materials should be moisture conditioned within two percent of the optimum moisture content and compacted to at least 90 percent of the maximum dry density obtained per ASTM D-1557 when possible, and using large ring tests in accordance with ASTM D4914 or D5030 or other methods deem suitable and/or practical.

It should be understood that while performing field density testing is key quality control quality assurance provision, documentation of the number of passes (compactive effort), the response of the fill materials to the equipment (i.e. yielding / non-yielding bottom) and frequent probing of the fill as compacted by a qualified geotechnical engineer noting that these observations are equally important to confirm the adequacy of the compacted fill as field density testing.

Materials greater than 12 inches in largest dimension and up to 36 inches in largest dimension may be utilized in the deeper fills, defined as at least ten feet below the finish surface. The over-sized particles may be placed in trenches to create windrows that are spaced at least 15 horizontal feet center-to-center and at least five vertical feet. Windrows should be less than 100 feet in length. The trenches containing the over-sized particles should be filled with granular materials and densified using heavy compaction equipment.

6.10.6 Development of Detailed Grading Control and Settlement Monitoring Plan

A customized grading control plan should be developed prior to start of mass grading that takes into consideration the geotechnical requirements outlined herein and well as applicable environmental requirements outlined in our landfill closure report.

Settlement monitoring should be performed during the mass grading at locations where more than ten feet of new fill is planned over existing landfill materials. The primary purpose of the monitoring is to observe any potential settlement that may occur within existing landfill materials due to the increased weight of the new fill. The settlement monuments can be established at the planned finish surface.

Foundation and floor slab construction should not commence until satisfactory readings are obtained from the settlement monuments in accordance with a formal settlement monitoring program. The formal settlement monument program should be developed as part of the pre-construction phase of the project and included in the grading control plan.

7.0 GEOTECHNICAL FIELD OBSERVATION AND TESTING

Geotechnical field observation and testing is necessary during the construction phase of the project and that testing should be performed by a licensed geotechnical engineer including the following primary items:

- Observation and approval of excavation bottoms
- Processing and sorting of proposed fill materials
- Moisture-conditioning, placement and compaction of fill materials
- Installation of temporary shoring and lagging
- Observation and approval of foundation bottoms
- Observation and testing of utility trench backfill
- Observation and testing of pavement subgrade and base materials
- Observation and testing of retaining wall backfill and wall backdrainage provisions

8.0 LIMITATIONS

The conclusions and recommendations provided in this report are based on subsurface conditions inferred from available boring and test pit data, as well as project information provided to date. This report was prepared for CMC, their design consultants and subcontractors for use in the proposed development.

If changes to the proposed development are made, we should be notified to review our conclusions and recommendations. Information on subsurface strata and groundwater levels shown on the logs represent conditions encountered only at the locations indicated and at the time of investigation.

9.0 CLOSING

We sincerely appreciate the opportunity to provide professional services for this project and look forward to working with you on this project. Please contact us at your convenience to discuss any questions you may have regarding this report.

Sincerely,

Langan Engineering and Environmental Services, Inc.



Claudia Rangel
Staff Engineer



Christopher J. Zadoorian
Senior Associate



signed 1/12/24

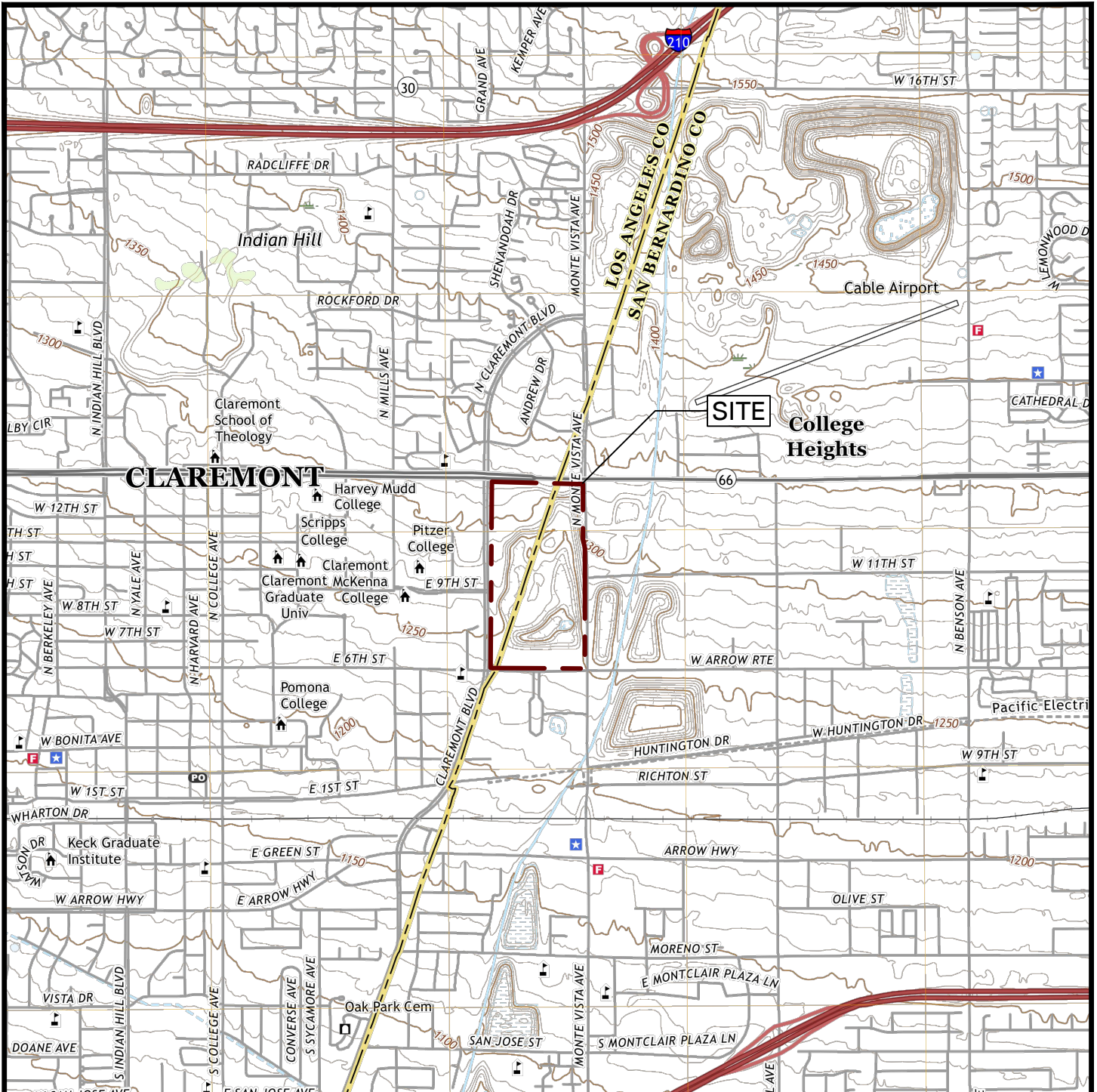


Andrew Nieblas
Project Geologist



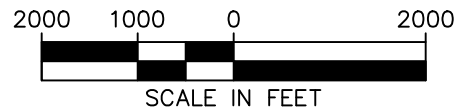
signed 1/12/24

FIGURES



LEGEND:

--- SITE LIMITS



REFERENCE: USGS 7.5-MINUTE TOPOGRAPHIC MAP OF THE ONTARIO QUADRANGLE (201)

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Project

**PROPOSED
ROBERTS
CAMPUS SPORTS
BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY

CALIFORNIA

Figure Title

**SITE LOCATION
MAP**

Project No.

700114101

Date

JANUARY 2024

Scale

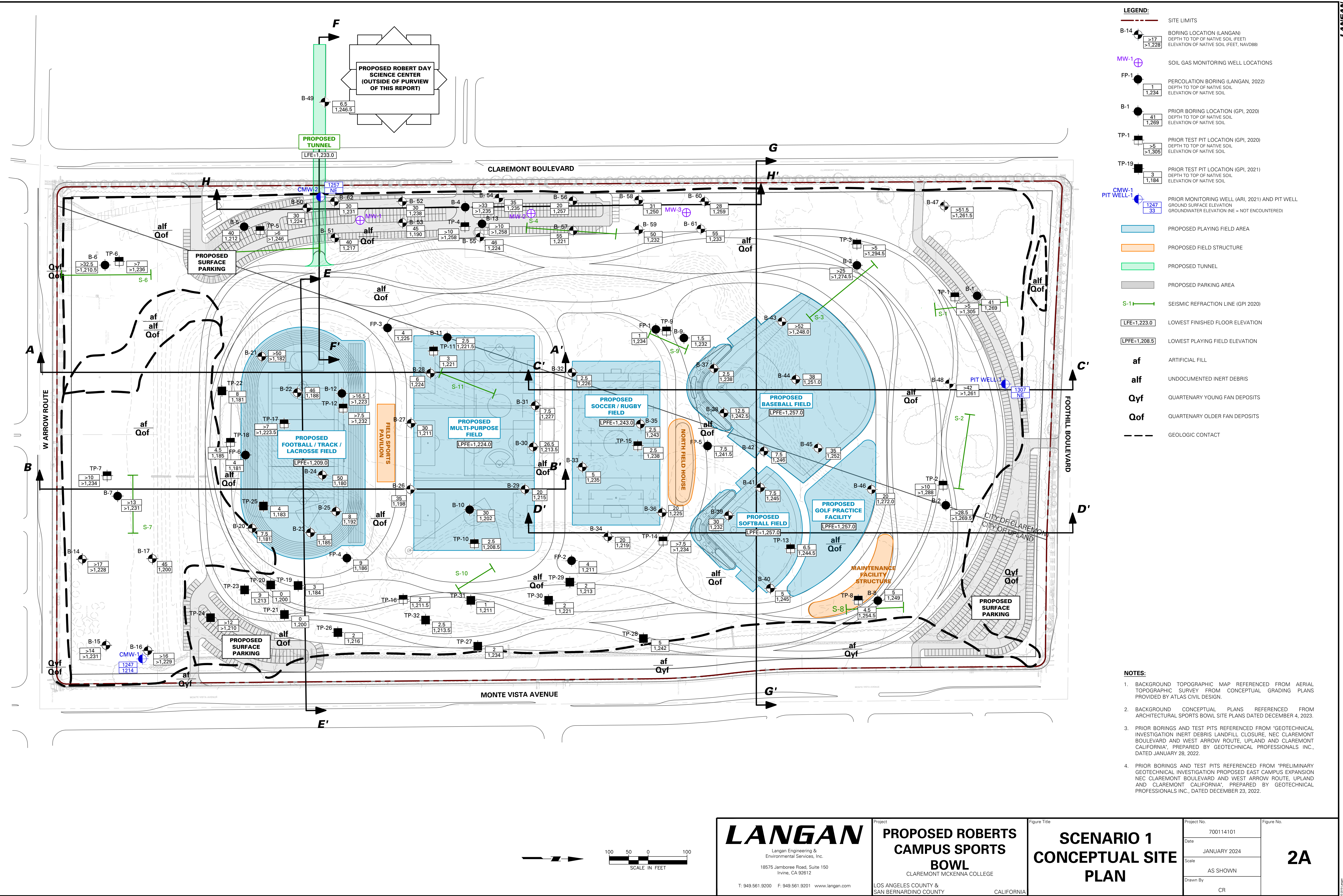
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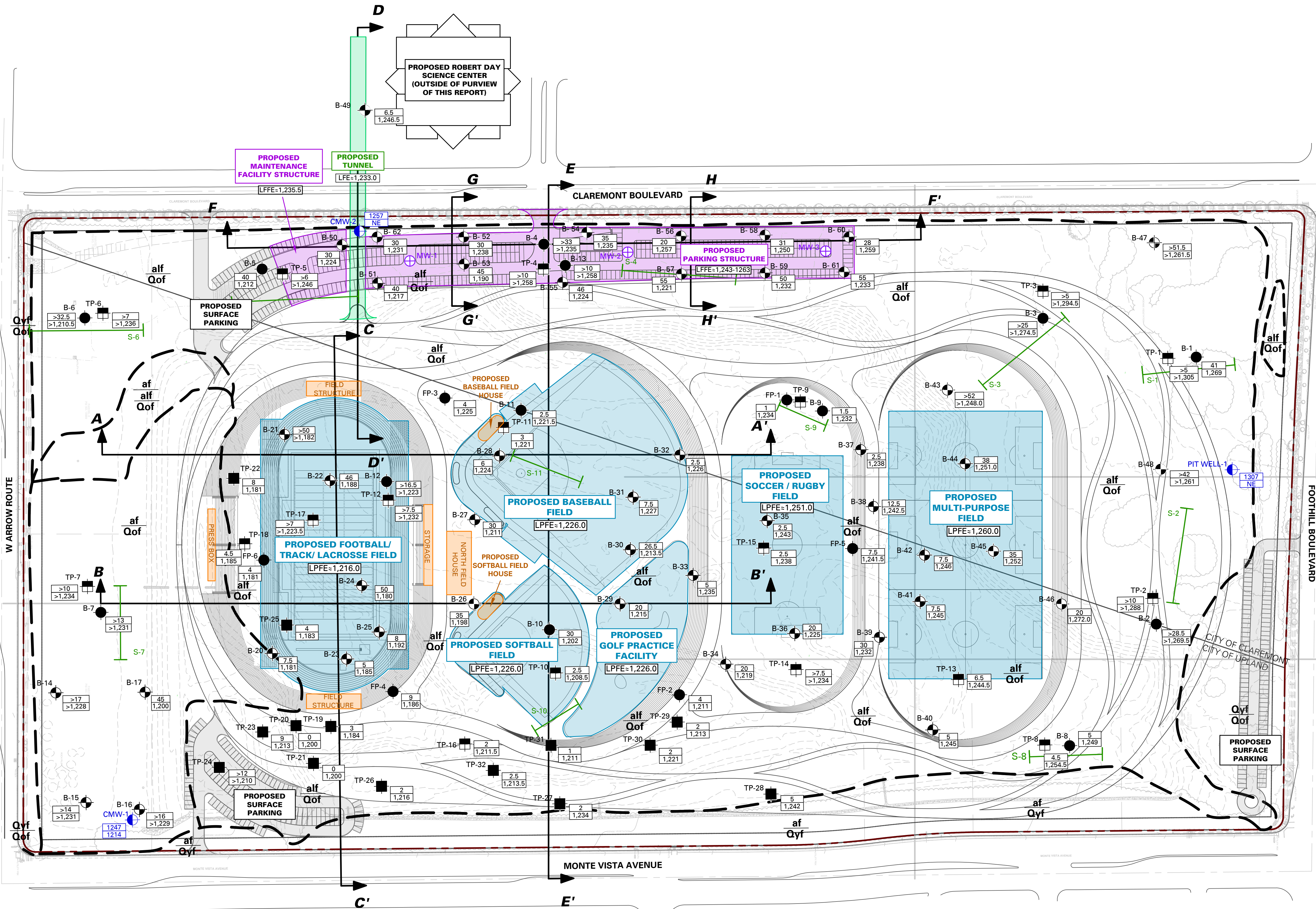
1



- LEGEND:**
- SITE LIMITS
 - BORING LOCATION (LANGAN)
DEPTH TO TOP OF NATIVE SOIL (FEET)
ELEVATION OF NATIVE SOIL (FEET, NAVD83)
 - SOIL GAS MONITORING WELL LOCATIONS
 - PERCOLATION BORING (LANGAN, 2022)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - PRIOR BORING LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - PRIOR TEST PIT LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - PRIOR TEST PIT LOCATION (GPI, 2021)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - PRIOR MONITORING WELL (ARI, 2021) AND PIT WELL
GROUND SURFACE ELEVATION
GROUNDWATER ELEVATION (NE = NOT ENCOUNTERED)
 - PROPOSED PLAYING FIELD AREA
 - PROPOSED FIELD STRUCTURE
 - PROPOSED TUNNEL
 - PROPOSED PARKING AREA
 - SEISMIC REFRACTION LINE (GPI 2020)
 - LOWEST FINISHED FLOOR ELEVATION
 - LOWEST PLAYING FIELD ELEVATION
 - af** ARTIFICIAL FILL
 - alf** UNDOCUMENTED INERT DEBRIS
 - Qyf** QUATERNARY YOUNG FAN DEPOSITS
 - Qof** QUATERNARY OLDER FAN DEPOSITS
 - GEOLOGIC CONTACT

- NOTES:**
- BACKGROUND TOPOGRAPHIC MAP REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
 - BACKGROUND CONCEPTUAL PLANS REFERENCED FROM ARCHITECTURAL SPORTS BOWL SITE PLANS DATED DECEMBER 4, 2023.
 - PRIOR BORINGS AND TEST PITS REFERENCED FROM 'GEOTECHNICAL INVESTIGATION INERT DEBRIS LANDFILL CLOSURE, NEC CLAREMONT BOULEVARD AND WEST ARROW ROUTE, UPLAND AND CLAREMONT CALIFORNIA', PREPARED BY GEOTECHNICAL PROFESSIONALS INC., DATED JANUARY 28, 2022.
 - PRIOR BORINGS AND TEST PITS REFERENCED FROM 'PRELIMINARY GEOTECHNICAL INVESTIGATION PROPOSED EAST CAMPUS EXPANSION NEC CLAREMONT BOULEVARD AND WEST ARROW ROUTE, UPLAND AND CLAREMONT CALIFORNIA', PREPARED BY GEOTECHNICAL PROFESSIONALS INC., DATED DECEMBER 23, 2022.

 Langan Engineering & Environmental Services, Inc. 18675 Jamboree Road, Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	SCENARIO 1 CONCEPTUAL SITE PLAN	Project No. 700114101	Figure No. 2A
			Date JANUARY 2024	
		Scale AS SHOWN	Drawn By CR	



- LEGEND:**
- SITE LIMITS
 - B-14 BORING LOCATION (LANGAN)
DEPTH TO TOP OF NATIVE SOIL (FEET)
ELEVATION OF NATIVE SOIL (FEET, NAVD83)
 - MW-1 SOIL GAS MONITORING WELL LOCATIONS
 - FP-1 PERCOLATION BORING (LANGAN, 2022)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - B-1 PRIOR BORING LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - TP-1 PRIOR TEST PIT LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - TP-19 PRIOR TEST PIT LOCATION (GPI, 2021)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
 - CMW-1 PIT WELL-1 PRIOR MONITORING WELL (ARI, 2021) AND PIT WELL
GROUND SURFACE ELEVATION
GROUNDWATER ELEVATION (NE = NOT ENCOUNTERED)
 - PROPOSED PLAYING FIELD AREA
 - PROPOSED FIELD STRUCTURE AND MAINTENANCE FACILITY
 - PROPOSED TUNNEL
 - PROPOSED PARKING STRUCTURE AND MAINTENANCE FACILITY
 - PROPOSED PARKING AREA
 - S-1 SEISMIC REFRACTION LINE (GPI 2020)
 - LFE=1,223.0 LOWEST FINISHED FLOOR ELEVATION
 - LPFE=1,208.5 LOWEST PLAYING FIELD ELEVATION
 - af ARTIFICIAL FILL
 - alf UNDOCUMENTED INERT DEBRIS
 - Qyf QUATERNARY YOUNG FAN DEPOSITS
 - Qof QUATERNARY OLDER FAN DEPOSITS
 - GEOLOGIC CONTACT

- NOTES:**
- BACKGROUND TOPOGRAPHIC MAP REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
 - BACKGROUND CONCEPTUAL PLANS REFERENCED FROM ARCHITECTURAL SPORTS BOWL SITE PLANS DATED DECEMBER 4, 2023.
 - PRIOR BORINGS AND TEST PITS REFERENCED FROM 'GEOTECHNICAL INVESTIGATION INERT DEBRIS LANDFILL CLOSURE, NEC CLAREMONT BOULEVARD AND WEST ARROW ROUTE, UPLAND AND CLAREMONT CALIFORNIA', PREPARED BY GEOTECHNICAL PROFESSIONALS INC., DATED JANUARY 28, 2022.
 - PRIOR BORINGS AND TEST PITS REFERENCED FROM 'PRELIMINARY GEOTECHNICAL INVESTIGATION PROPOSED EAST CAMPUS EXPANSION NEC CLAREMONT BOULEVARD AND WEST ARROW ROUTE, UPLAND AND CLAREMONT CALIFORNIA', PREPARED BY GEOTECHNICAL PROFESSIONALS INC., DATED DECEMBER 23, 2022.

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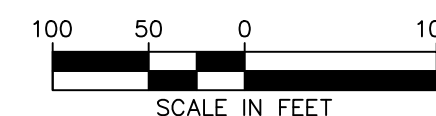
Project
**PROPOSED ROBERTS
CAMPUS SPORTS
BOWL**
CLAREMONT MCKENNA COLLEGE
LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY
CALIFORNIA

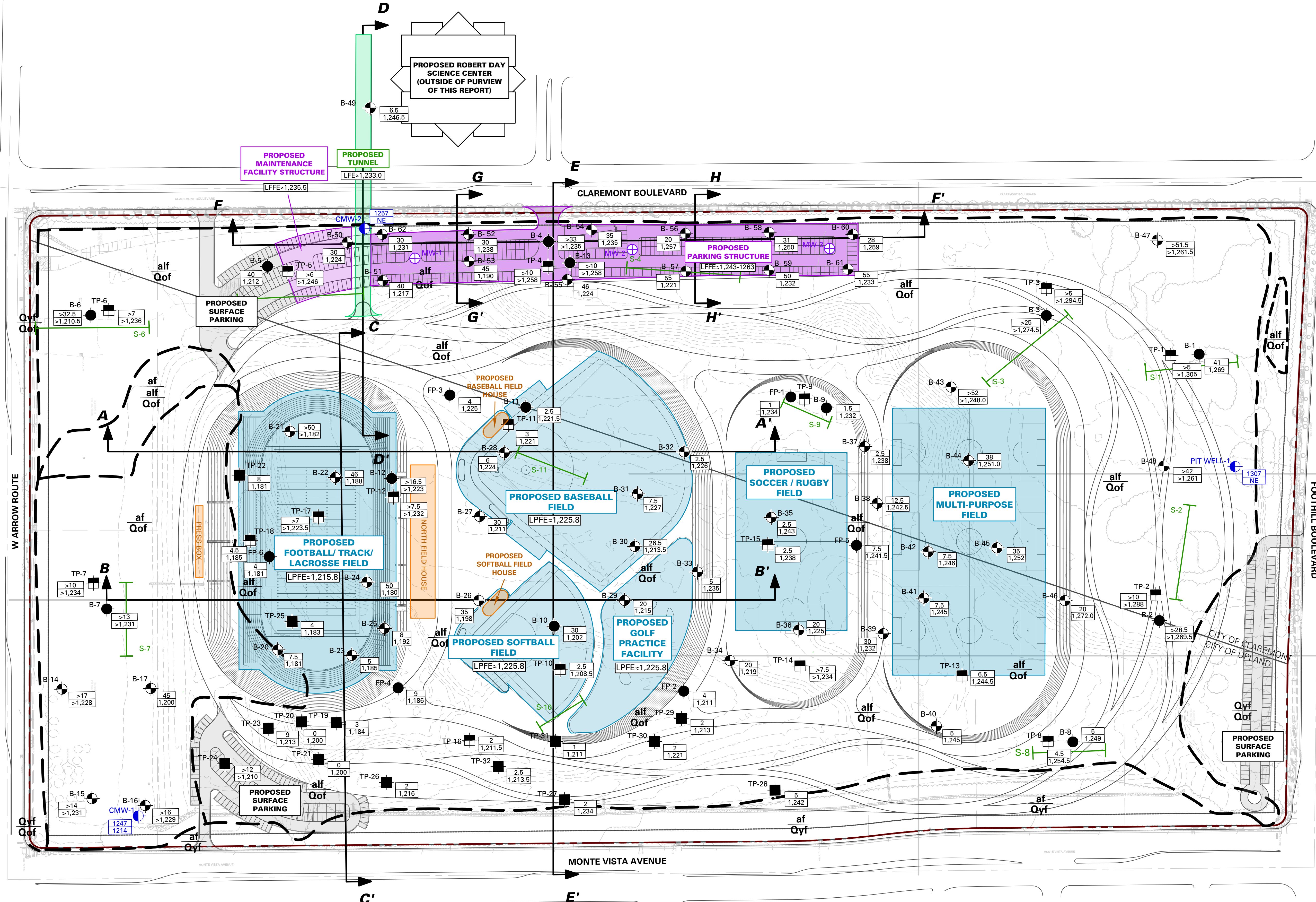
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**SCENARIO 2
CONCEPTUAL SITE
PLAN**

Project No.
700114101
Date
JANUARY 2024
Scale
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Figure No.

3A

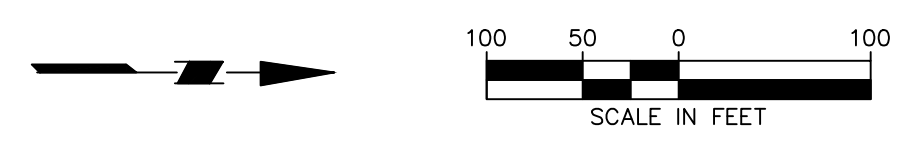




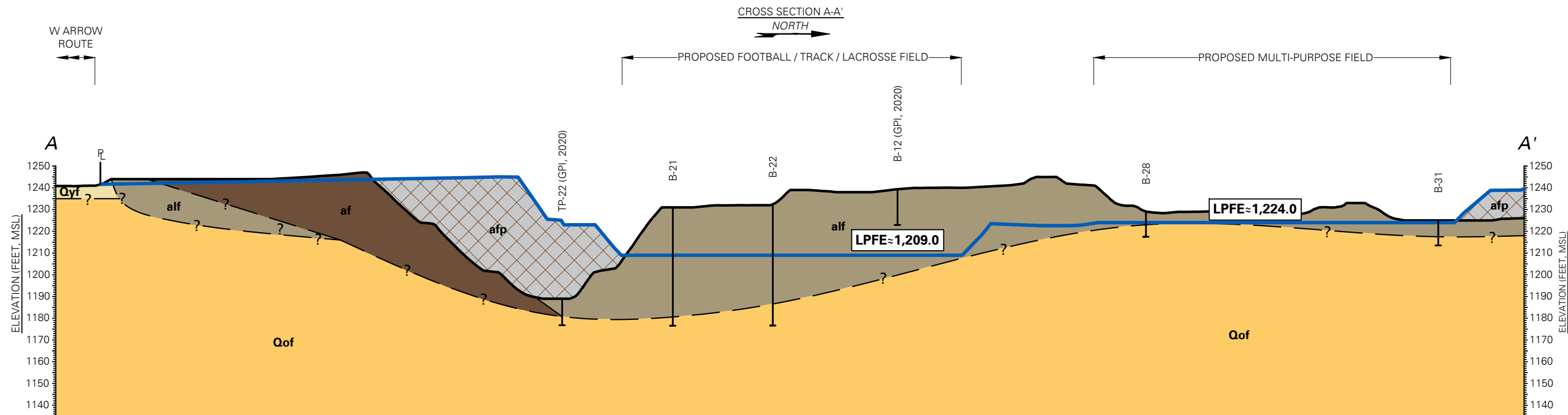
LEGEND:

- SITE LIMITS
- BORING LOCATION (LANGAN)
DEPTH TO TOP OF NATIVE SOIL (FEET)
ELEVATION OF NATIVE SOIL (FEET, NAVD83)
- SOIL GAS MONITORING WELL LOCATIONS
- PERCOLATION BORING (LANGAN, 2022)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
- PRIOR BORING LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
- PRIOR TEST PIT LOCATION (GPI, 2020)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
- PRIOR TEST PIT LOCATION (GPI, 2021)
DEPTH TO TOP OF NATIVE SOIL
ELEVATION OF NATIVE SOIL
- PRIOR MONITORING WELL (ARI, 2021) AND PIT WELL
GROUND SURFACE ELEVATION
GROUNDWATER ELEVATION (NE = NOT ENCOUNTERED)
- PROPOSED PLAYING FIELD AREA
- PROPOSED FIELD STRUCTURE AND MAINTENANCE FACILITY
- PROPOSED TUNNEL
- PROPOSED PARKING STRUCTURE AND MAINTENANCE FACILITY
- PROPOSED PARKING AREA
- SEISMIC REFRACTION LINE (GPI 2020)
- LOWEST FINISHED FLOOR ELEVATION
- LOWEST PLAYING FIELD ELEVATION
- ARTIFICIAL FILL
- UNDOCUMENTED INERT DEBRIS
- QUARTENARY YOUNG FAN DEPOSITS
- QUARTENARY OLDER FAN DEPOSITS
- GEOLOGIC CONTACT

- NOTES:**
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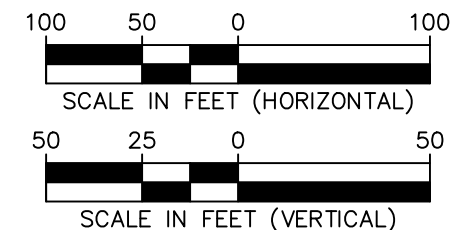


LANGAN Langan Engineering & Environmental Services, Inc. 18675 Jamboree Road, Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	SCENARIO 2B CONCEPTUAL SITE PLAN	Project No. 700114101 Date JANUARY 2024 Scale AS SHOWN Drawn By CR	Figure No. 3B
	Figure Title			

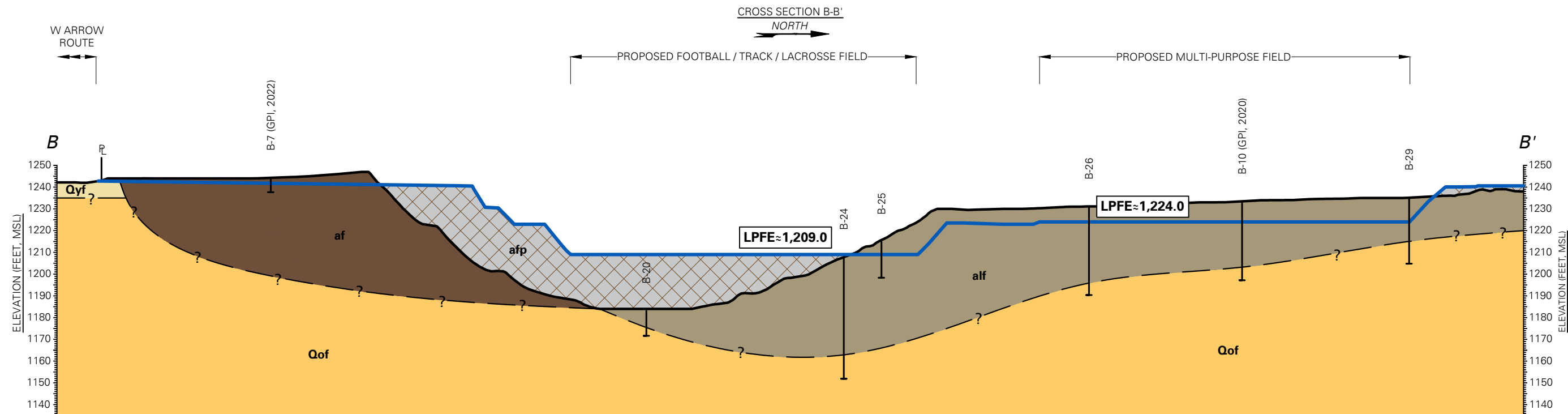


- LEGEND:**
- PROPOSED GROUND SURFACE
 - EXISTING GROUND SURFACE
 - APPROXIMATE GEOLOGIC CONTACT
 - PROPOSED FILL (afp)
 - ARTIFICIAL FILL (af)
 - UNDOCUMENTED INERT DEBRIS (alf)
 - YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
 - OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
 - LPFE ≈ 1,208.5** LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

- NOTES:**
- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
 - GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
 - REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	

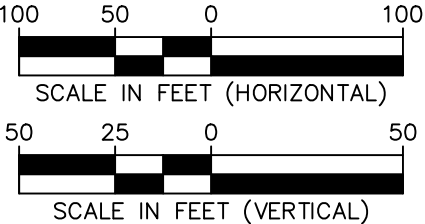


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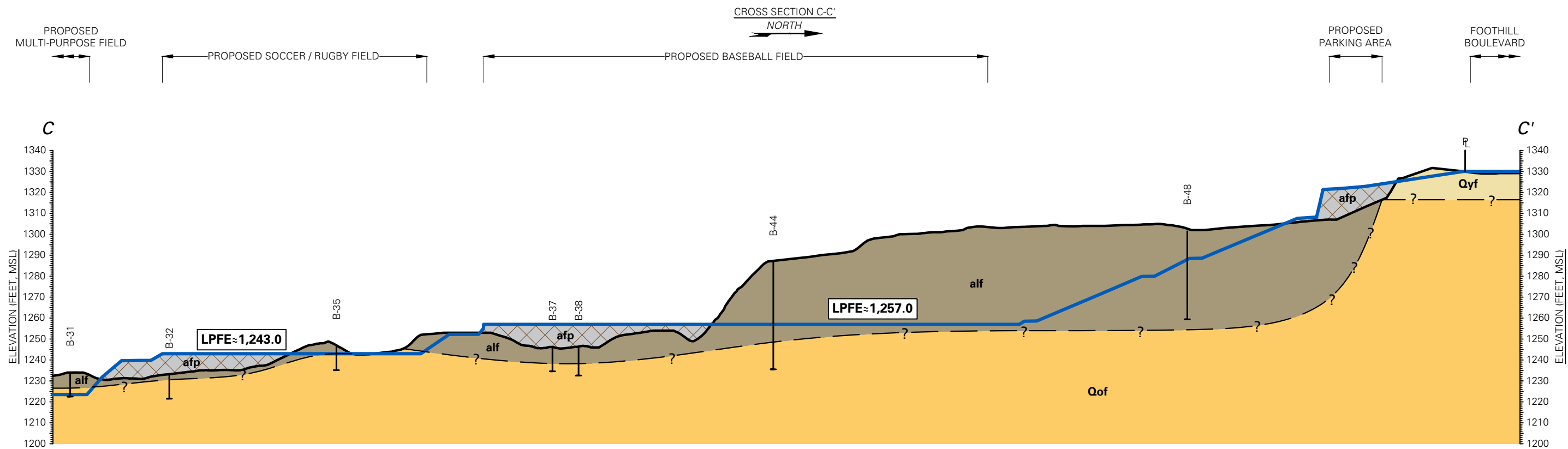
- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE≈1,208.5** LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

NOTES:

- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
- GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
- REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



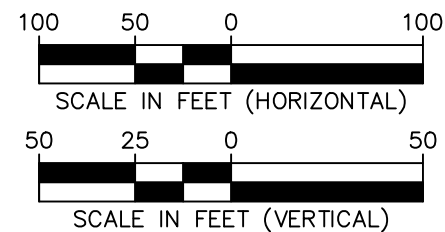
LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	Figure Title SCENARIO 1 CROSS SECTION B-B'	Project No. 700114101	Figure No. 4B
			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	



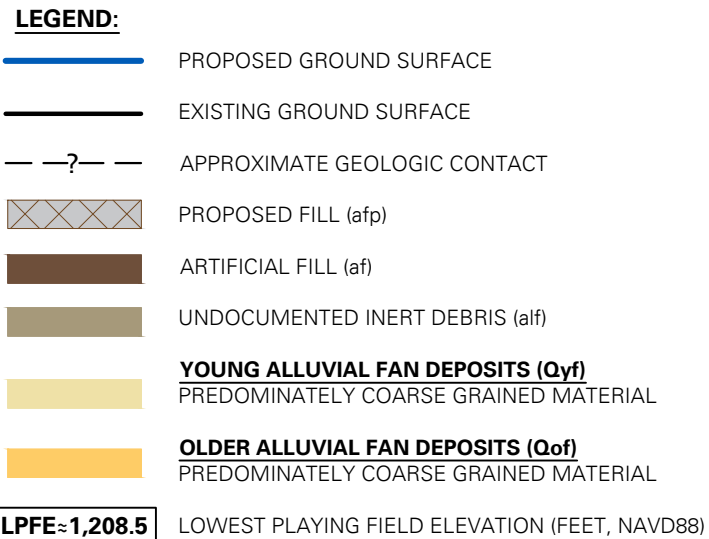
LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE $\approx$ 1,208.5 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

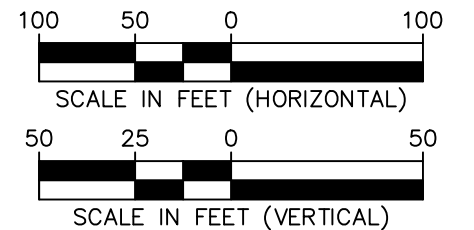
- NOTES:**
- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
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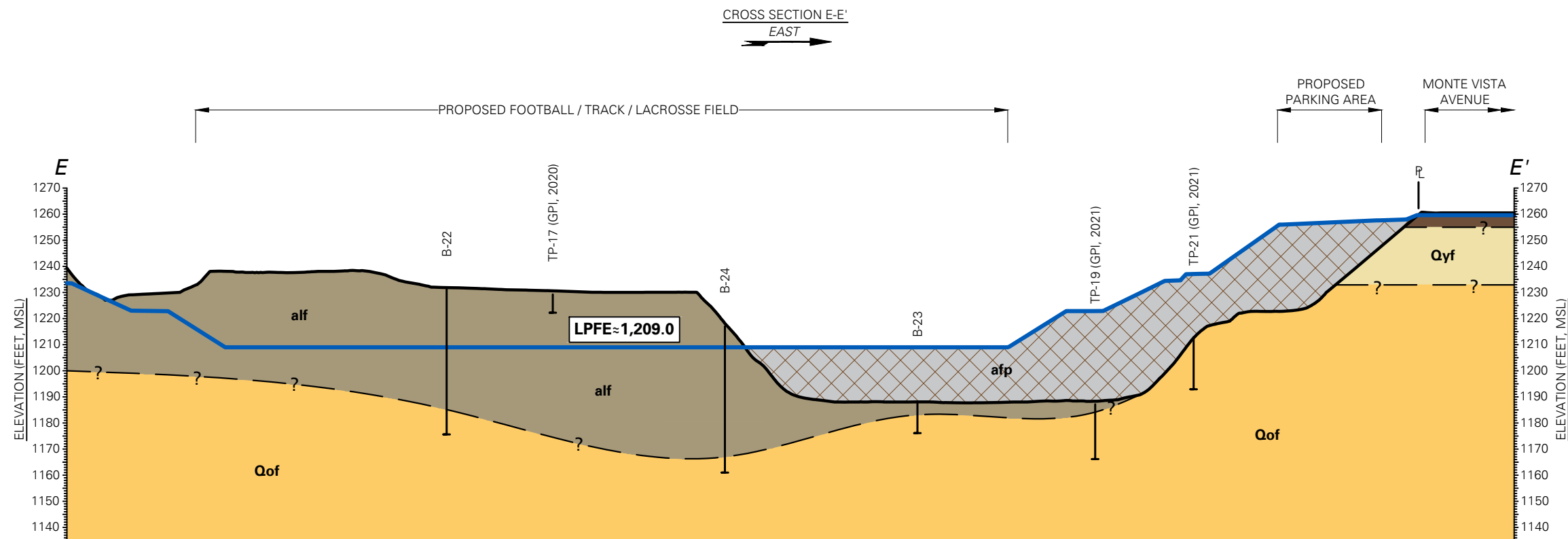
LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	Figure Title SCENARIO 1 CROSS SECTION C-C'	Project No. 700114101	4C
			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	



1. CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
2. GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
3. REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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	PROPOSED ROBERTS CAMPUS SPORTS BOWL	SCENARIO 1 CROSS SECTION D-D'	Date JANUARY 2024	
	CLAREMONT MCKENNA COLLEGE		Scale AS SHOWN	
	LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA		Drawn By CR	

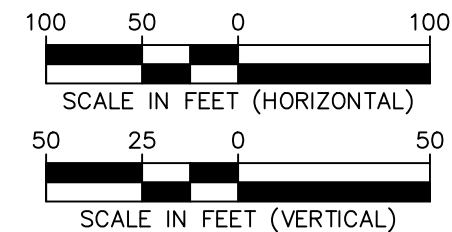


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE≈1,208.5 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

NOTES:

- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
- GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
- REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 1
CROSS SECTION
E-E'**

Project No.

700114101

Date

JANUARY 2024

Scale

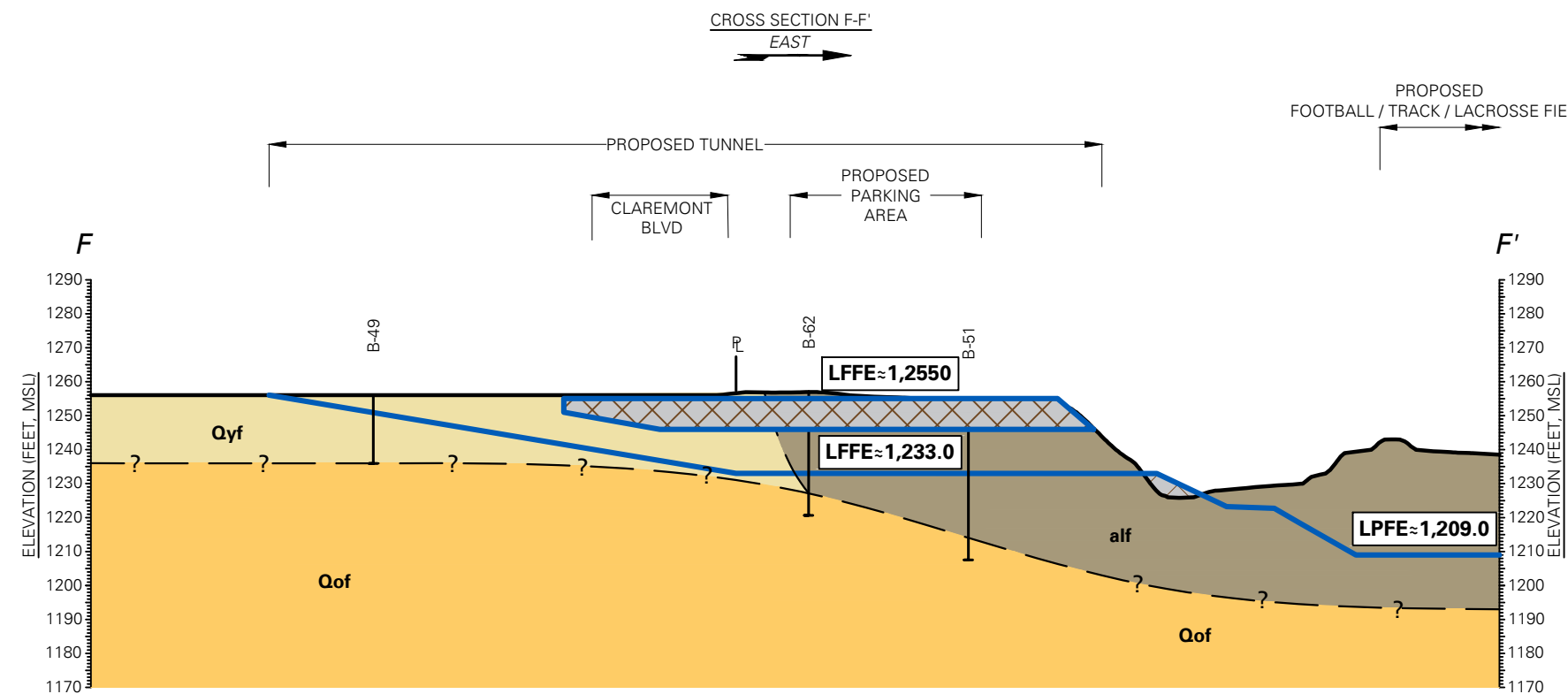
AS SHOWN

Drawn By

CR

Figure No.

4E



LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- ? — APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)

YOUNG ALLUVIAL FAN DEPOSITS (Qyf)
PREDOMINATELY COARSE GRAINED MATERIAL

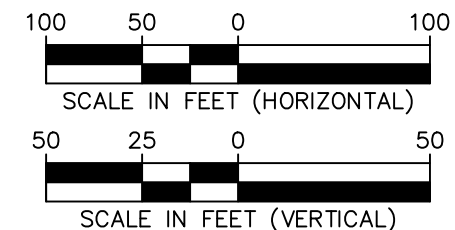
OLDER ALLUVIAL FAN DEPOSITS (Qof)
PREDOMINATELY COARSE GRAINED MATERIAL

LPFE≈1,208.5 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

LPFE≈1,233.0 LOWEST FINISHED FLOOR ELEVATION (FEET, NAVD88)

NOTES:

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- REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 1
CROSS SECTION
F-F'**

Project No.
700114101

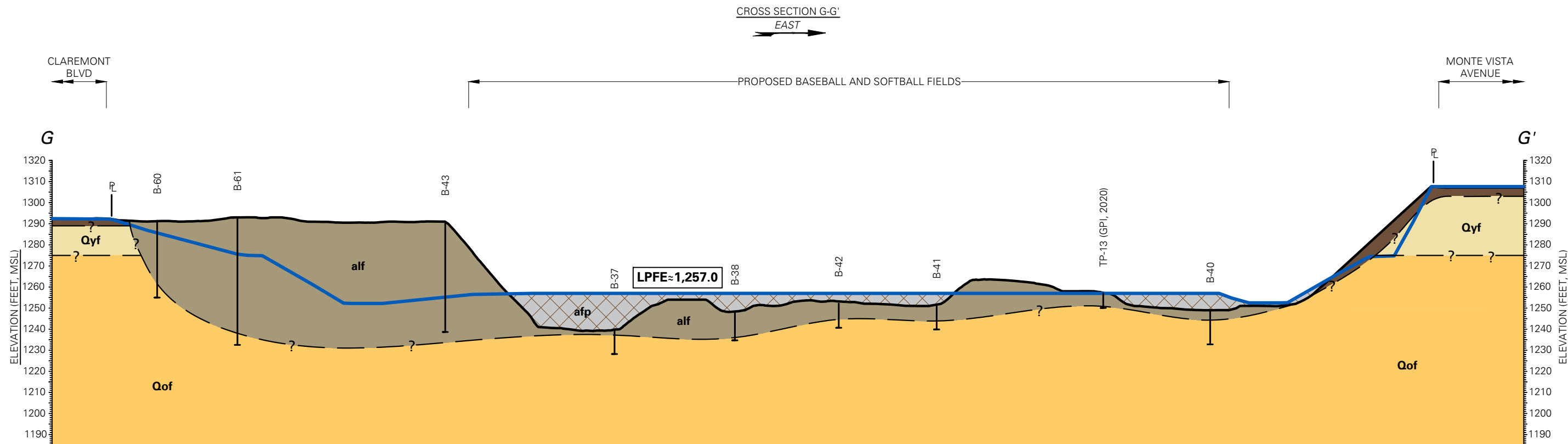
Date
JANUARY 2024

Scale
AS SHOWN

Drawn By
CR

Figure No.

4F

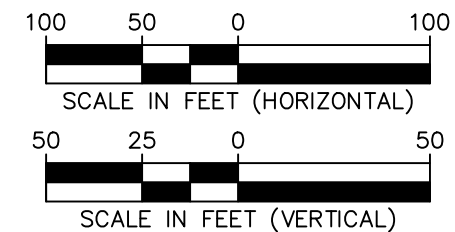


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE≈1,208.5 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

NOTES:

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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE
LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 1
CROSS SECTION
G-G'**

Project No.
700114101

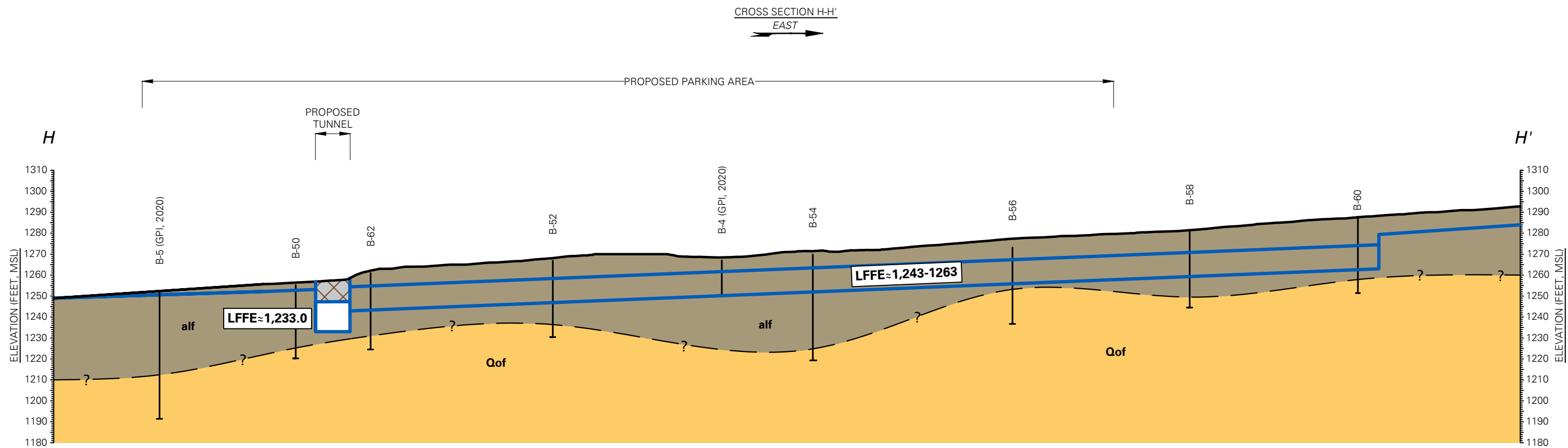
Date
JANUARY 2024

Scale
AS SHOWN

Drawn By
CR

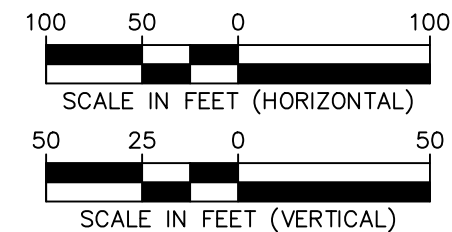
Figure No.

4G

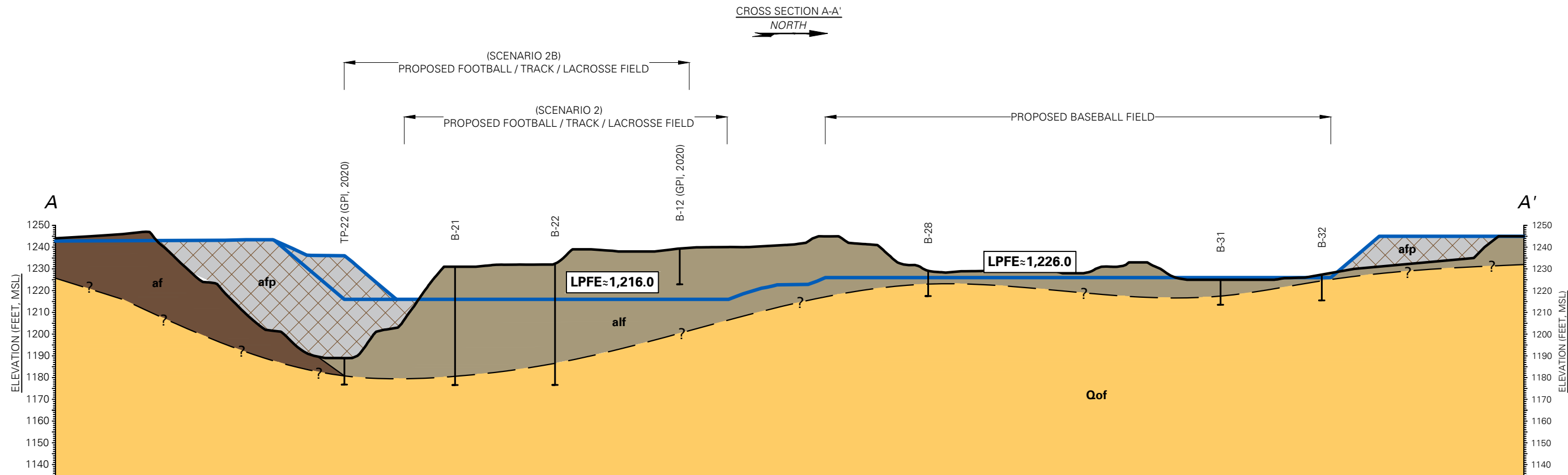


- LEGEND:**
- PROPOSED GROUND SURFACE
 - EXISTING GROUND SURFACE
 - APPROXIMATE GEOLOGIC CONTACT
 - PROPOSED FILL (afp)
 - ARTIFICIAL FILL (af)
 - UNDOCUMENTED INERT DEBRIS (alf)
 - YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
 - OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
 - LFFE≈1,233.0** LOWEST FINISHED FLOOR ELEVATION (FEET, NAVD88)

- NOTES:**
- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
 - GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
 - REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	

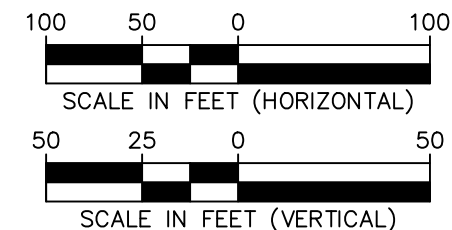


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- ? — APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE≈1,215.8 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

NOTES:

- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE
LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 2 & 2B
CROSS SECTION
A-A'**

Project No.
700114101

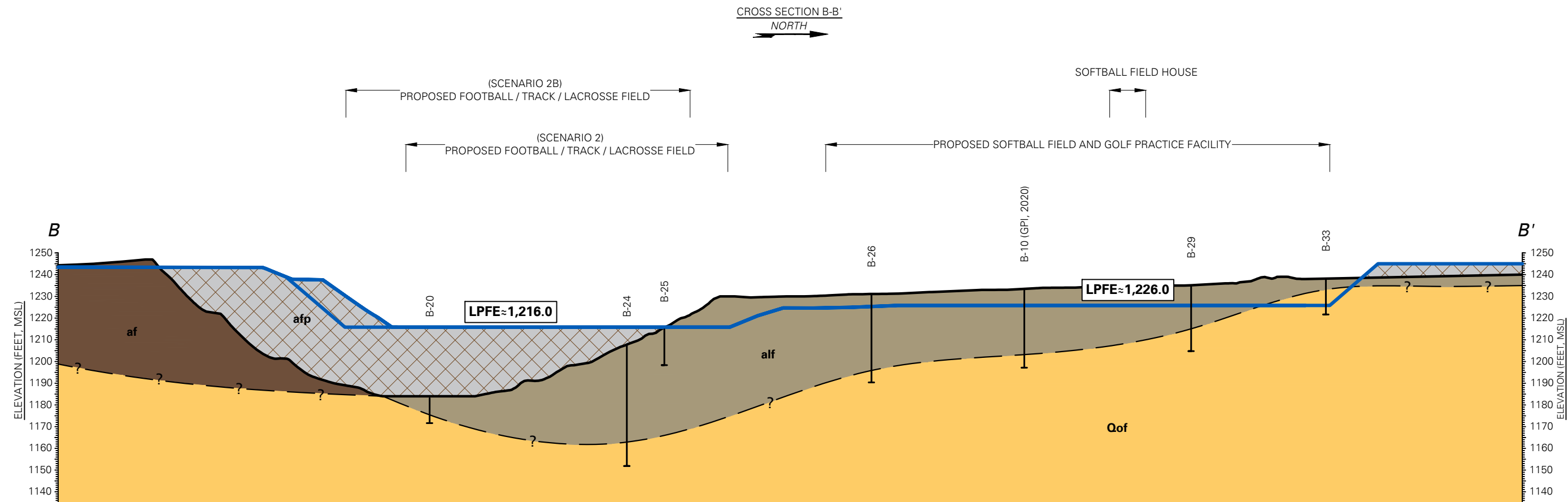
Date
JANUARY 2024

Scale
AS SHOWN

Drawn By
CR

Figure No.

5A



LEGEND:

— PROPOSED GROUND SURFACE

— EXISTING GROUND SURFACE

— ? — APPROXIMATE GEOLOGIC CONTACT

PROPOSED FILL (afp)

ARTIFICIAL FILL (af)

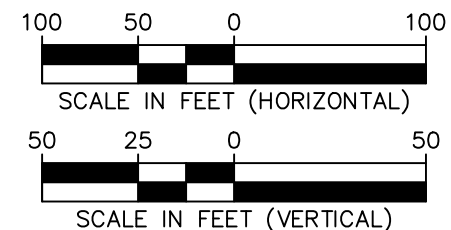
UNDOCUMENTED INERT DEBRIS (alf)

YOUNG ALLUVIAL FAN DEPOSITS (Qyf)
PREDOMINATELY COARSE GRAINED MATERIAL

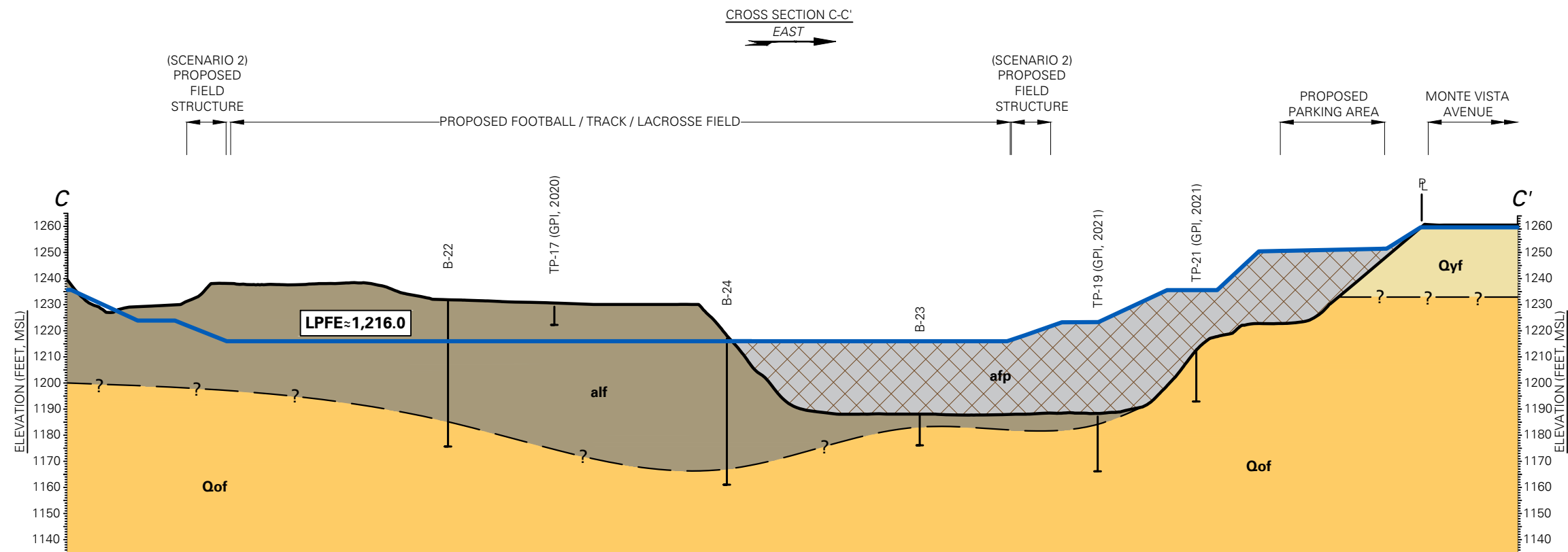
OLDER ALLUVIAL FAN DEPOSITS (Qof)
PREDOMINATELY COARSE GRAINED MATERIAL

LPFE≈1,215.8 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

- NOTES:**
- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
 - GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
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			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	

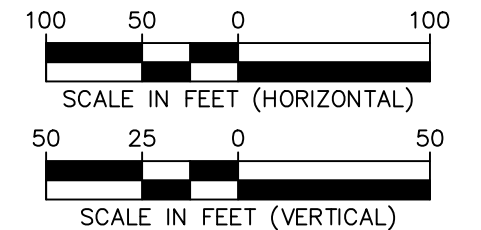


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE ≈ 1,215.8** LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

NOTES:

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- REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 2 & 2B
CROSS SECTION
C-C'**

Project No.
700114101

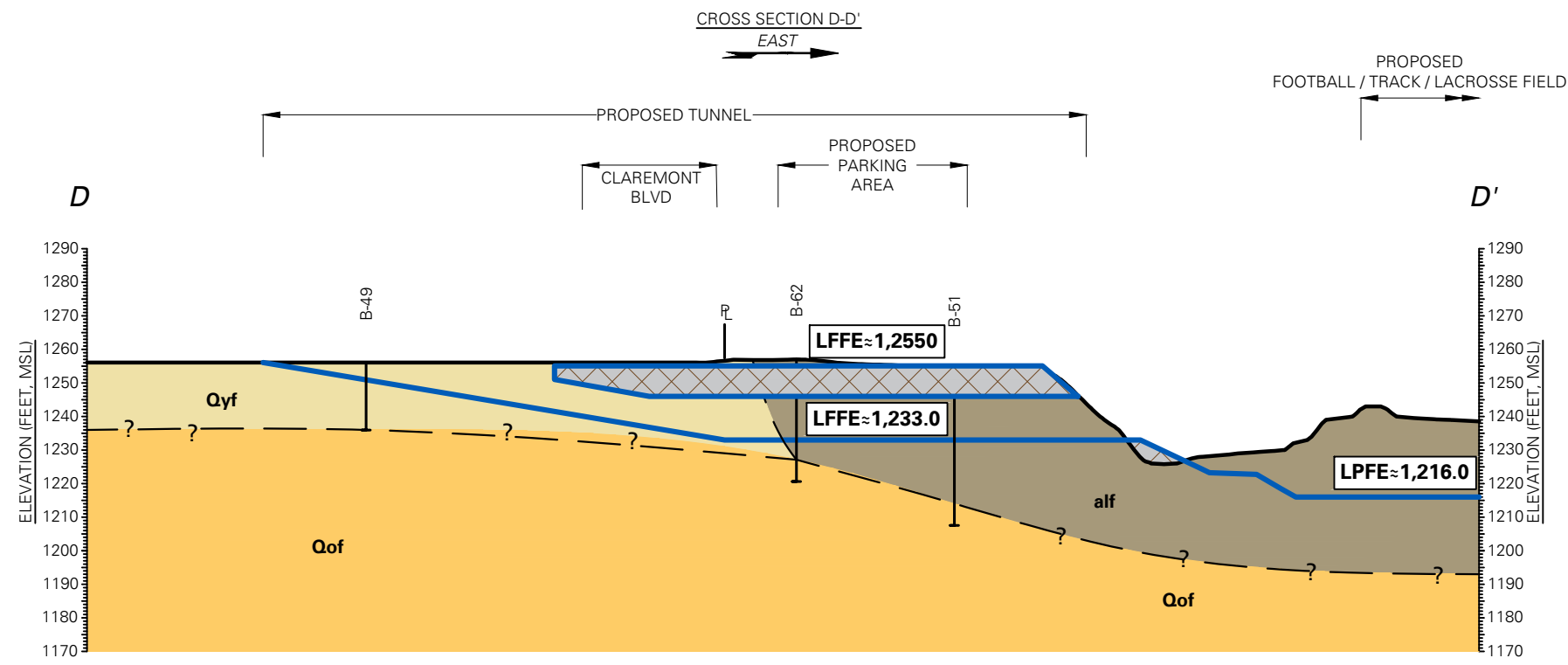
Date
JANUARY 2024

Scale
AS SHOWN

Drawn By
CR

Figure No.

5C

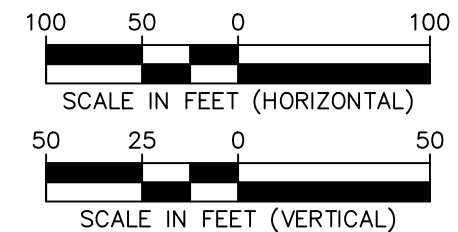


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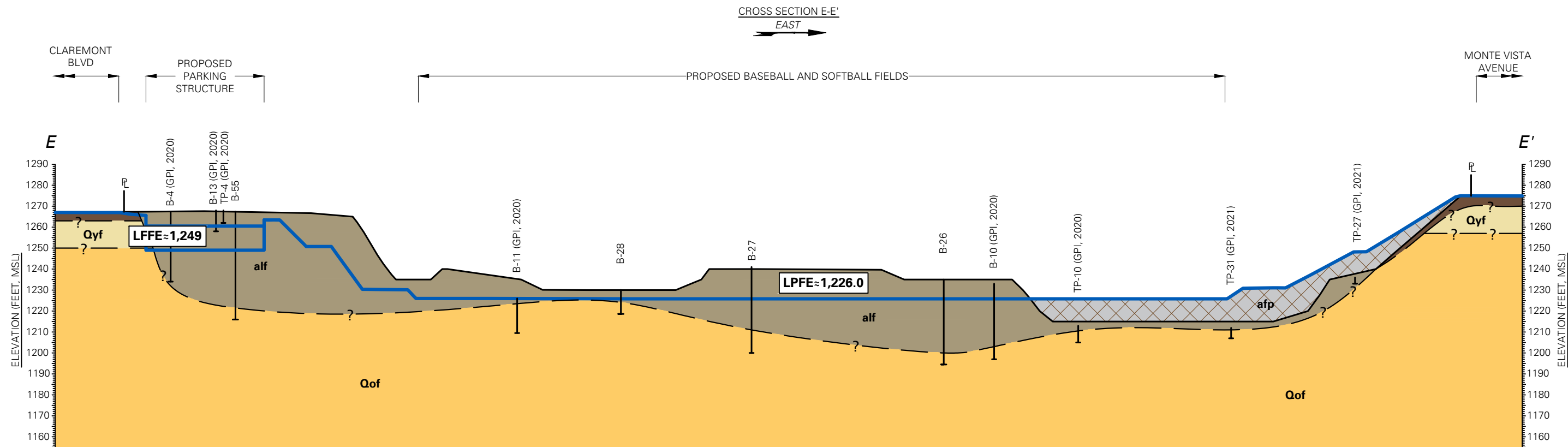
- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LPFE ≈ 1,215.8** LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)
- LFFE ≈ 1,233.0** LOWEST FINISHED FLOOR ELEVATION (FEET, NAVD88)

NOTES:

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- GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
- REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



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			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	



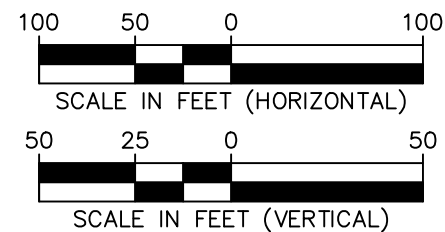
LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL

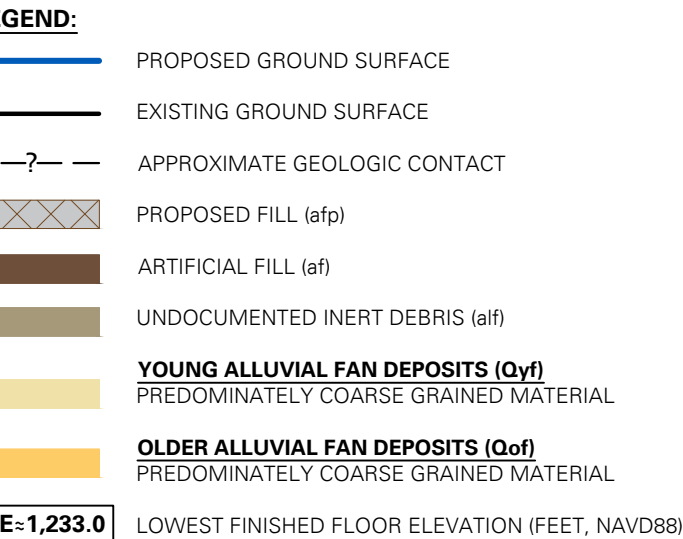
LPFE ≈ 1,225.8 LOWEST PLAYING FIELD ELEVATION (FEET, NAVD88)

LPFE ≈ 1,249 LOWEST FINISHED FLOOR ELEVATION (FEET, NAVD88)

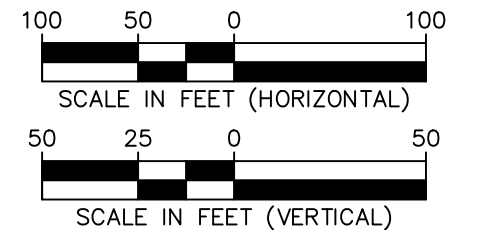
- NOTES:**
- CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
 - GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
 - REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.



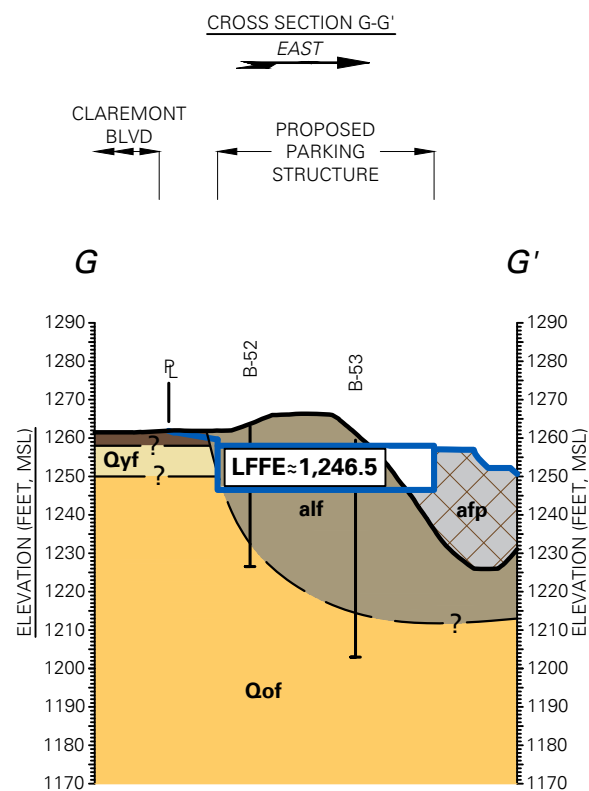
LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	Figure Title SCENARIO 2 & 2B CROSS SECTION E-E'	Project No. 700114101	5E
			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	



1. CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
2. GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
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	PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	SCENARIO 2 & 2B CROSS SECTION F-F'	Date JANUARY 2024	5F
			Scale AS SHOWN	
			Drawn By CR	

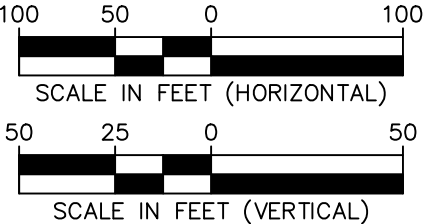


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LFEE≈1,244.5
- FINISHED FLOOR ELEVATION (FEET, NAVD88)

NOTES:

1. CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
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Project

**PROPOSED
ROBERTS CAMPUS
SPORTS BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY &
SAN BERNARDINO COUNTY CALIFORNIA

Figure Title

**SCENARIO 2 & 2B
CROSS SECTION
G-G'**

Project No.
700114101

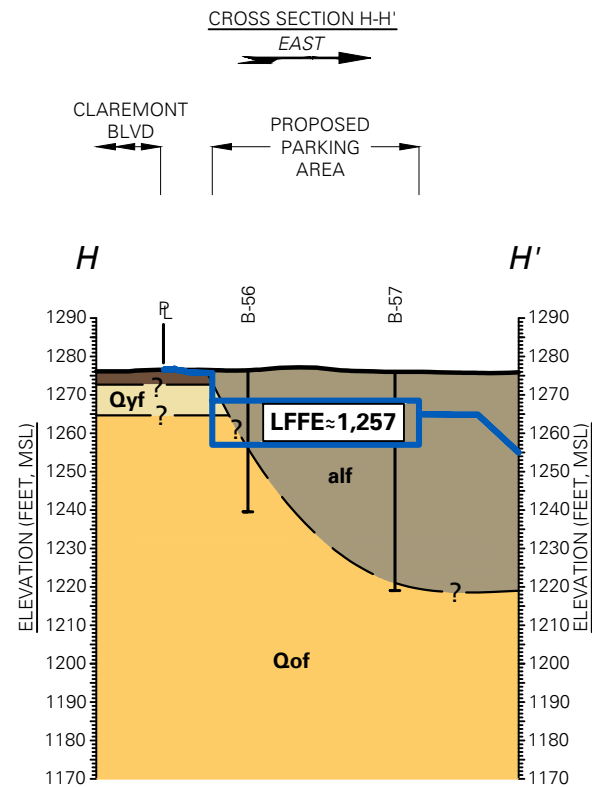
Date
JANUARY 2024

Scale
AS SHOWN

Drawn By
CR

Figure No.

5G

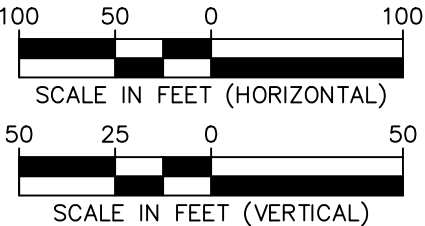


LEGEND:

- PROPOSED GROUND SURFACE
- EXISTING GROUND SURFACE
- APPROXIMATE GEOLOGIC CONTACT
- PROPOSED FILL (afp)
- ARTIFICIAL FILL (af)
- UNDOCUMENTED INERT DEBRIS (alf)
- YOUNG ALLUVIAL FAN DEPOSITS (Qyf)**
PREDOMINATELY COARSE GRAINED MATERIAL
- OLDER ALLUVIAL FAN DEPOSITS (Qof)**
PREDOMINATELY COARSE GRAINED MATERIAL
- LFEE≈1,255
- LOWEST FINISHED FLOOR ELEVATION (FEET, NAVD88)

NOTES:

1. CROSS SECTION DISPLAYS GENERALIZED SUBSURFACE CONDITIONS; FOR A DETAILED DESCRIPTION OF CONDITIONS ENCOUNTERED REFER TO BORING AND TEST PIT LOGS.
2. GROUND SURFACE ELEVATIONS REFERENCED FROM AERIAL TOPOGRAPHIC SURVEY FROM CONCEPTUAL GRADING PLANS PROVIDED BY ATLAS CIVIL DESIGN.
3. REFER TO SITE PLAN FOR LOCATION OF CROSS SECTION.

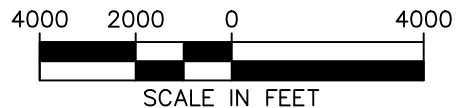


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			Date JANUARY 2024	
			Scale AS SHOWN	
			Drawn By CR	



LEGEND:

- SITE LIMITS
- BOREHOLE SITE
- 30 — DEPTH TO GROUNDWATER (IN FEET)



REFERENCE: SEISMIC HAZARD ZONE REPORT OF THE ONTARIO 7.5-MINUTE QUADRANGLE, CALIFORNIA (2000)

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18575 Jamboree Road, Suite 150
Irvine, CA 92612

T: 949.561.9200 F: 949.561.9201 www.langan.com

Project

**PROPOSED
ROBERTS
CAMPUS SPORTS
BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY CALIFORNIA

Figure Title

**HISTORICAL HIGH
GROUND WATER
MAP**

Project No.

700114101

Date

JANUARY 2024

Scale

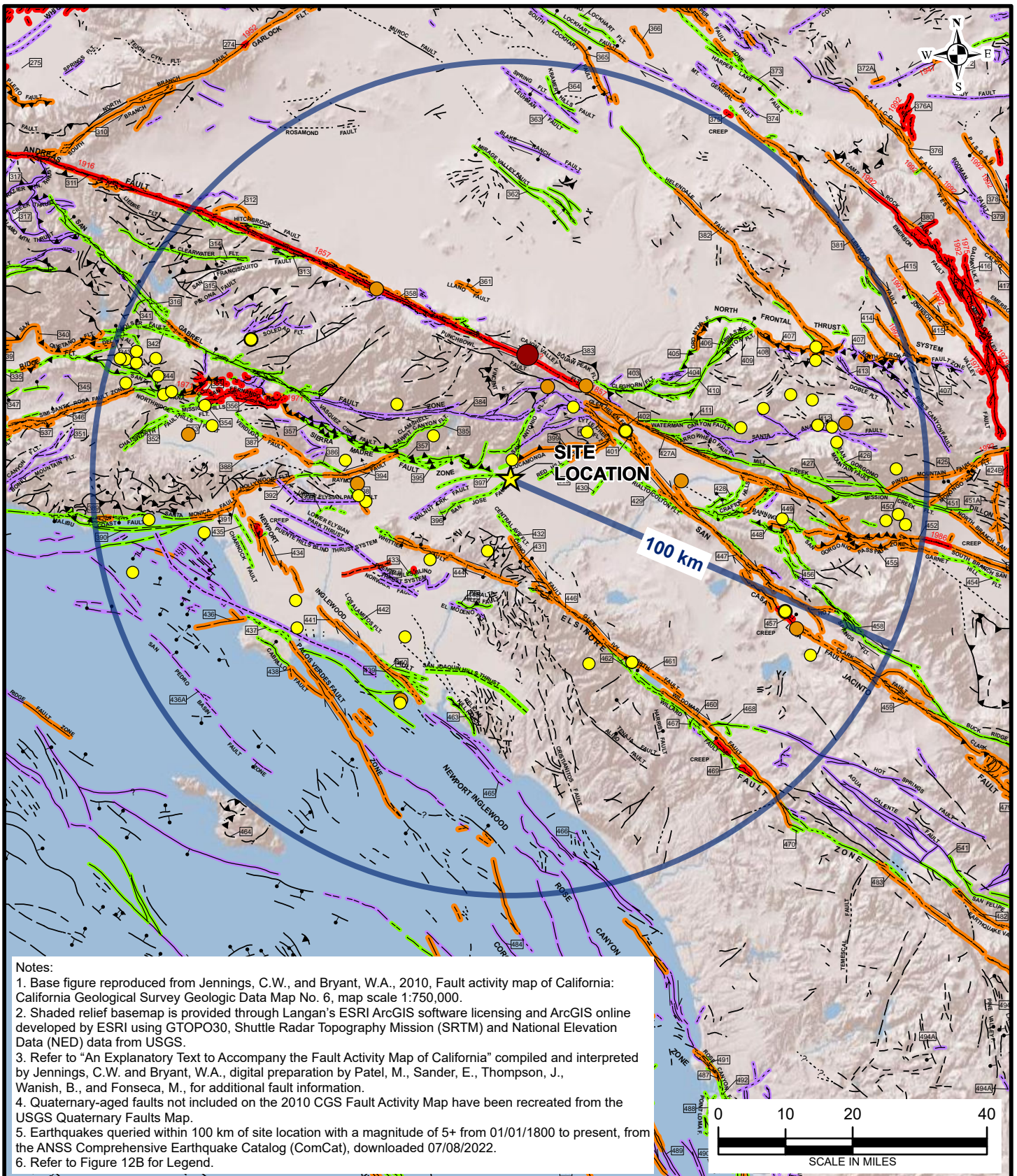
AS SHOWN

Drawn By

EB

Figure No.

6



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BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY CALIFORNIA

Figure Title

**MAP OF MAJOR
FAULTS AND
EARTHQUAKE
EPICENTERS**

Project No.

700114101

Date

JANUARY 2024

Scale

1 inch = 20 miles

Drawn By

TO

Figure

8A

LEGEND:

★ Site Location

Fault Age

Historic

Holocene

Late Quaternary

Early Quaternary

Pre-Quaternary Fault

100 km Search Radius

Earthquake Epicenter

Magnitude 5.0 to 5.9

Magnitude 6.0 to 6.9

Magnitude 7.0 to 7.4

Magnitude 7.5 to 8.0

Fault Symbols

Bar and ball on downthrown side (relative or apparent).

Relative or apparent direction of lateral movement.

Direction of dip.

Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened.

Numbers refer to annotations listed in the appendices of the accompanying report.

Structural discontinuity (offshore) separating differing Neogene structural domains.

Brawley Seismic Zone.

Fault Classification

Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

- (a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.
- (b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.
- (c) displaced survey lines.

A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

No triangle by date indicates an intermediate point along fault break.

Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.

Square on fault indicates where fault creep slippage has occurred that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).

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Project

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ROBERTS
CAMPUS SPORTS
BOWL**

CLAREMONT MCKENNA COLLEGE
LOS ANGELES COUNTY CALIFORNIA

Figure Title

**MAP OF MAJOR
FAULTS AND
EARTHQUAKE
EPICENTERS**

Project No.

700114101

Date

JANUARY 2024

Scale

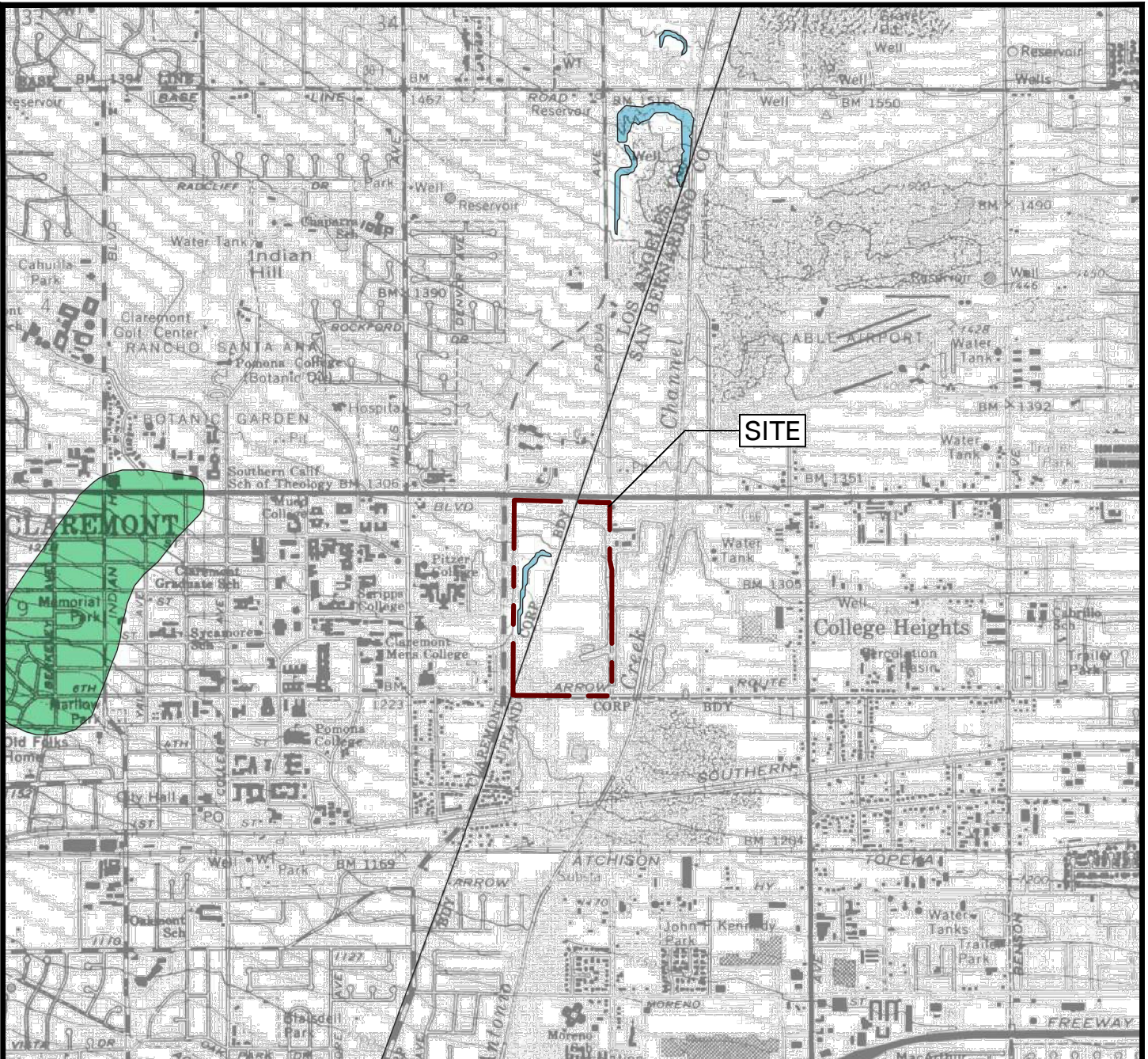
NOT TO SCALE

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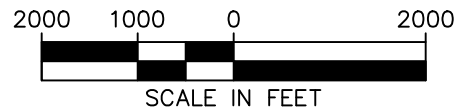
Figure

8B



LEGEND:

- Liquefaction**
- Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.
- Earthquake-Induced Landslides**
- Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



REFERENCE: CGS EARTHQUAKE ZONES OF REQUIRED INVESTIGATION FOR THE ONTARIO, CALIFORNIA 7.5-MINUTE QUADRANGLE (2000).

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Project

**PROPOSED
ROBERTS
CAMPUS SPORTS
BOWL**

CLAREMONT MCKENNA COLLEGE

LOS ANGELES COUNTY CALIFORNIA

Figure Title

**SEISMIC HAZARD
ZONES MAP**

Project No.

700114101

Date

JANUARY 2024

Scale

AS SHOWN

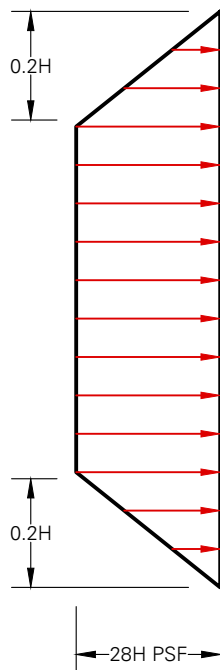
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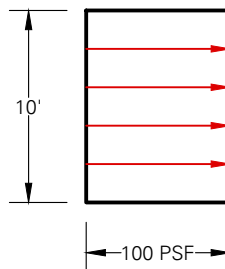
Figure No.

9

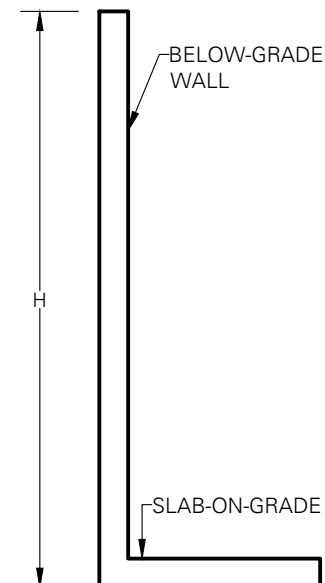
AT-REST LATERAL EARTH PRESSURE



TRAFFIC SURCHARGE



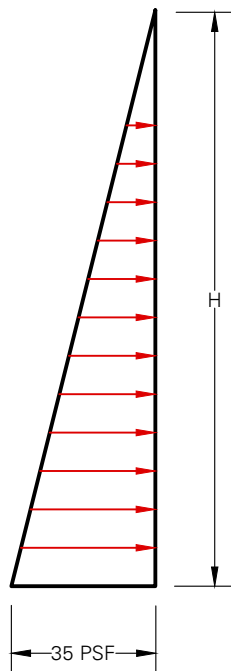
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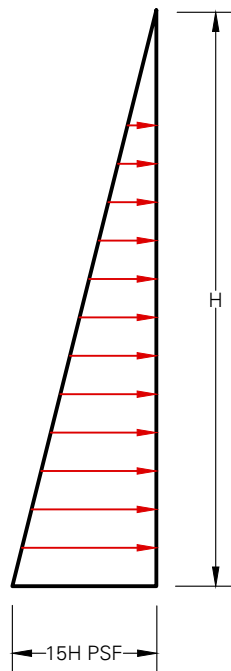
NOT TO SCALE

LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road, Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	Figure Title AT-REST LATERAL EARTH PRESSURE	Project No. 700114101	Figure No. 10
			Date JANUARY 2024	
			Scale N.T.S.	
			Drawn By CR	

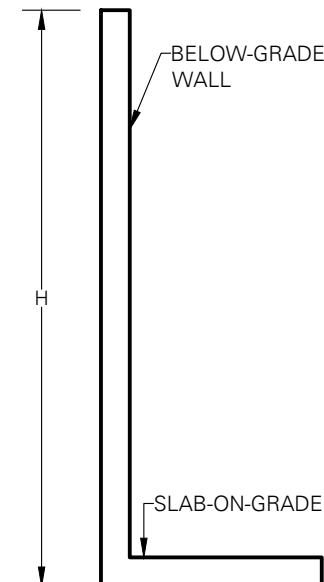
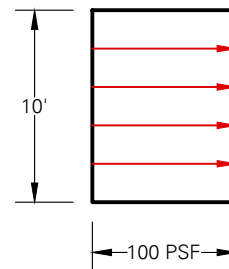
ACTIVE LATERAL
EARTH PRESSURE



SEISMIC LATERAL
EARTH PRESSURE



TRAFFIC SURCHARGE



NOT TO SCALE

LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road, Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project PROPOSED ROBERTS CAMPUS SPORTS BOWL CLAREMONT MCKENNA COLLEGE LOS ANGELES COUNTY & SAN BERNARDINO COUNTY CALIFORNIA	Figure Title DYNAMIC LATERAL EARTH PRESSURE	Project No. 700114101	Figure No. 11
			Date JANUARY 2024	
			Scale N.T.S.	
			Drawn By CR	

APPENDIX A
Current Field Explorations and Laboratory Testing

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1245 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/10/2022		Date Finished 10/10/2022
Drilling Equipment CME-75 Track-mounted Drill Rig			Completion Depth 17 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 4	Undisturbed 1
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First - Completion -	24 HR. -
Casing Hammer	Weight (lbs) -	Drop (in) -	Drilling Foreman Jeff		
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1245.0		0					10	20	30	40	
	+1244.8	Dirt lot, minor vegetation, very cobbly. Artificial Fill - Compacted (afc) Silty SAND with Gravel (SM), light brown, hard, dry.	1									
			2									
			3	S-1	SPT	3	15 50/6"					Cobble in sampler shoe; Heavy auger chatter.
			4									
			5	S-2	CR	0	50/5"					
			6									
			7									
	+1237.5	Gravelly Silty SAND (SM), brown, hard, dry, fine to coarse sand, medium gravel.	8	S-3	SPT	10	36 50/6"					
			9									
	+1235.0	SAND with Silt and Gravel (SP-SM), brown, hard, slightly moist, fine to coarse sand and gravel.	10	S-4	SPT	5	20 50/4"					
			11									
			12									
			13									
			14									Refusal. Boring was moved 5 feet and redrilled.
	+1230.0	Gravelly SAND (SW), brown, hard, moist, fine to coarse sand, fine to medium gravel.	15	S-5	SPT	5	50/5"					Cobble in sampler shoe.
			16									
	+1228.0	Total depth = 17 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	17									
			18									
			19									
			20									

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Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1245 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/10/2022		Date Finished 10/10/2022
Drilling Equipment CME-75 Track-mounted Drill Rig			Completion Depth 14 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples 3		Disturbed 1
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman Jeff		
Sampler Hammer Automatic			Field Engineer A. Nieblas		
Weight (lbs) 140			Drop (in) 30		

		Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
MATERIAL SYMBOL	Elev. (ft)			Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1245.0		0					10	20	30	40	
	+1244.8	Dirt lot, some vegetation, abundant gravel and cobbles. Artificial Fill - Compacted (afc) Silty SAND with Gravel (SM), light brown, very dense, dry.	1									Heavy auger chatter.
			2									
			3	S-1	SP	6	50/6"					50/6"
			4									
	+1240.0	Silty SAND with Gravel (SM) to Sandy SILT with Gravel (ML), light brown, hard to very dense, dry.	5	S-2	CR	3	50/5"					50/5"
			6									
			7									
	+1237.5	Silty SAND with Gravel (SM), brown, very dense, slightly moist, medium sand, fine to medium gravel.	8	S-3	SPT	18	22 34 45					79
			9									
	+1235.0	Silty SAND (SM), light brown, very dense.	10	S-4	SPT	2	50/5"					50/5"
			11									
			12									
			13									
	+1231.0	Total depth = 14 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	14									
			15									
			16									
			17									
			18									
			19									
			20									

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1245 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/10/2022		Date Finished 10/10/2022	
Drilling Equipment CME-75 Track-mounted Drill Rig				Completion Depth 16 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples	Disturbed 3	Undisturbed 2	Core -
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.)	First ▽ -	Completion ▼ -	24 HR. ▼ -
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Jeff			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer A. Nieblas	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1245.0		0							
	+1244.8	Dirt lot, occasional vegetation, abundant cobbles and gravel. Artificial Fill - Compacted (afc) Silty SAND (SM), light brown, dry.	1							Heavy auger chatter.
			2							
			3	S-1	CR	0	50/4"		50/4"	No sample recovery; Cobble in sampler shoe.
			4							
	+1240.0	Silty SAND with Gravel and Cobbles (SM), light brown, very dense, dry to slightly moist.	5	S-2	SPT	8	40			
			6				32		69	
			7				37			
		Light brown and gray, dry.	8	S-3	CR	3	50/5"		50/5"	Sample disturbed. WC = 3.9%
			9							
		Increase in silt content.	10	S-4	SPT	10	25			
			11				28		50/2"	
			12				50/2"			
			13							Refusal. Boring was moved 5 feet and redrilled.
			14							
	+1230.0	Gravelly Silty SAND (SM), brown, very dense, moist, well graded.	15	S-5	SPT	13	35			Very difficult to drill; Broken cobbles in sampler.
	+1229.0	Total depth = 16 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	16				35		50/1"	
			17				50/1"			
			18							
			19							
			20							

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Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1245 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/10/2022		Date Finished 10/10/2022
Drilling Equipment CME-75 Track-mounted Drill Rig			Completion Depth 51.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples Disturbed 11		Undisturbed 1
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman Jeff		
Sampler Hammer Automatic			Field Engineer A. Nieblas		
Weight (lbs) 140			Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	
	+1245.0		0					10 20 30 40	
	+1244.8	Dirt lot, minor vegetation, abundant cobbles and gravel.							
		Artificial Fill (af) Silty SAND with Gravel (SM), light brown, very dense, dry.	1						
			2						
			3	S-1	SPT	1	50/3"		50/3"
			4						
			5	S-2	SPT	10	27		50/5"
		Brown, slightly moist, fine to coarse sand, fine to medium gravel.	6				50/5"		50/5"
			7						
			8	S-3	SPT	10	30		50/4"
			9				50/4"		50/4"
	+1235.0	Silty SAND (SM) to SAND with Silt (SP-SM), brown, very dense, slightly moist.	10	S-4	SPT	6	50/6"		50/6"
			11						
			12						
			13						
			14						
	+1230.0	Silty SAND with Gravel (SM), brown, very dense, moist.	15	S-5	SPT	15	15		50/5"
			16				33		50/5"
			17				50/5"		
			18						
			19						
	+1225.0		20						

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1245 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				N-Value (Blows/ft)				Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	10	20	30	40	
	+1225.0	Gravelly Silty SAND (SM), brown to gray brown, very dense, slightly moist.	20	S-6	SPT	6	50/6"					
			21									
			22									
			23									
			24									
	+1220.0	Silty SAND with Gravel (SM), some cobbles.	25	S-7	SPT	1	50/2"					
			26									
			27									
			28									
			29									
		Brown, very dense, slightly moist to moist.	30	S-8	SPT	5	50/5.5"					
			31									
			32									
			33									
			34									
	+1210.0	SAND with Silt (SP-SM), brown, hard, moist, fine sand.	35	S-9	SPT	11	27 50/5"					
			36									
			37									
			38									
			39									
	+1205.0	SAND with Silt and Gravel (SP-SM), brown, very dense, moist, fine sand, angular gravel.	40	S-10	SPT	6	50/6"					
			41									
			42									
			43									
			44									
			45									

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Project Proposed Athletic Complex			Project No. 700114101									
Location Claremont Mckenna College			Elevation and Datum Approx. 1245 (feet, MSL)									
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1200.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel and Cobbles (SM), reddish brown, very dense, moist, fine to coarse sand, angular gravel.	45	S-11	SPT	18	23	10 20 30 40		53		
	46		26									
	47		27									
	+1195.0	Silty SAND with Gravel (SM), reddish brown, very dense, moist, fine gravel, manganese oxide staining.	50	S-12	CR	18	24	10 20 30 40		63		
	51		28									
	52		35									
	+1193.5	Total depth = 51.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	53					10 20 30 40				
	54											
	55											
	56											
	57											
	58											
	59											
	60											
	61											
	62											
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	69											
	70											

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1188 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/11/2022		Date Finished 10/11/2022
Drilling Equipment SIMCO Truck-mounted Drill Rig			Completion Depth 11.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples Disturbed 3		Undisturbed 2
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler Bulk, 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Water Level (ft.) First ∇ - Completion ∇ - 24 HR. ∇ -		
Sampler Hammer Automatic			Weight (lbs) 140		
			Drop (in) 30		
			Drilling Foreman Adrian		
			Field Engineer A. Nieblas		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1188.0		0							
	+1187.8	Dirt lot, minor vegetation, abundant cobbles and gravel. Undocumented Surficial Fill (asf) SAND with Silt and Gravel (SP-SM), brown, slightly moist, medium dense, fine to coarse sand, fine to medium gravel.	1							Bulk sample collected from 1 to 5 feet bgs. Heavy auger chatter. Chemical Test.
			2							
			3	S-1	SPT	5	5	10		
			4			5				
		Some gravel.	5							WC = 5.0% DD = 102.0 pcf
			6	S-2	CR	11	9	15		
			7			3	6			
			8							
	+1180.5	Old Alluvial Fan Deposits (Qof) SAND with Silt and Gravel (SP-SM), orangish brown, medium dense, slightly moist, medium sand, fine subrounded gravel.	9	S-3	SPT	7	8	16		WC = 2.9% DD = 110.7 pcf Consolidation Test. Direct Shear Test.
			10			10	8			
		Moist.	11	S-4	CR	7	13	36		
			12			18	23			
	+1176.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1232 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/18/2022		Date Finished 10/18/2022	
Drilling Equipment ODEX Truck-mounted Drill Rig				Completion Depth 54 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples	Disturbed 8	Undisturbed 5	Core -
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.)	First ▽ -	Completion ▼ -	24 HR. ▼ -
Casing Hammer -		Weight (lbs) -	Drop (in) -	Drilling Foreman Juan			
Sampler Bulk, 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Field Engineer			
Sampler Hammer Automatic		Weight (lbs) 140	Drop (in) 30	A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1232.0	Undocumented Artificial Fill (afu) Silty SAND (SM), grayish brown, dry.	0							
			1							
			2							
	1229.5	Silty SAND (SM), brown, dense, dry to slightly moist, scattered gravel and cobbles.	3	S-1	CR	13				Sampler bouncing on cobble. WC = 4.8% DD = 115.4 pcf Direct Shear Test.
			4			18	32			
			5				37			
		Dry.	6	S-2	SPT	15	23			
			7				24			
	1224.5	SAND with Silt and Gravel (SP-SM), brown, very dense, dry to slightly moist.	8	S-3	CR	3	42			Sample disturbed. WC = 4.1% Sampler bouncing on cobble.
			9				50/3"			
			10	S-4	SPT	15	17			Bulk sample collected from 10-15 feet bgs. Chemical Test.
	1222.0	Gravelly Silty SAND (SM), brown, very dense, slightly moist, fine to medium sand and gravel.	11				27			
			12				34			
			13							
			14							
			15	S-5	CR	0	50/1"			No sample recovery.
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1232 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1212.0	Gravelly Silty SAND (SM), brown, very dense, dry to slightly moist, fine to medium sand and gravel.	20	S-6	SPT	17	12		Sampler bouncing on cobble.
			21				29		
			22				50/5"		
			23						
			24						
			25	S-7	CR	9	23		
			26				50/3"		
			27						
			28						
			29						
			30	S-8	SPT	15	5		WC = 3.4% DD = 117.9 pcf
			31				6		
			32				7		
			33						
			34						
		SAND with Silt and Gravel (SP-SM), brown, medium dense, slightly moist, some asphalt clasts.	35	S-9	CR	18	16		
			36				27		
			37				20		
			38						
			39						
			40	S-10	SPT	18	15		Added drilling fluid (H2O). WC = 5.3% DD = 106.3 pcf
			41				44		
			42				9		
			43						
			44						
		Very dense.	45						

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Project Proposed Athletic Complex			Project No. 700114101								
Location Claremont Mckenna College			Elevation and Datum Approx. 1232 (feet, MSL)								
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)			
	+1187.0	Gravelly Silty SAND (SM), brown, medium dense, moist, with concrete clast.	45	S-11	SPT	6	6	21	27	Refusal at 45 feet. Boring was moved 10 feet and redrilled.	
		46									
		47									
			48								
			49								
			50	S-12	SPT	6	16	35	37		72
		51									
		52									
			53	S-13	SPT	10	25	45	50/6"		50/6"
		54									
		55									
			56								
			57								
		58									
		59									
		60									
		61									
		62									
		63									
		64									
		65									
		66									
		67									
		68									
		69									
		70									

Old Alluvial Fan Deposits (Qof)

Silty SAND with Gravel (SM), orangish brown, very dense, slightly moist to moist, fine gravel, manganese oxide staining, some clay rinds around gravel

Total depth = 54.0 feet bgs.
Groundwater not encountered.
Borehole backfilled with soil cuttings.
Drilling fluids (H2O) added at 40 feet.

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1234 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/19/2022		Date Finished 10/19/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 55.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 9		Disturbed 1	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First -		Completion -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Drilling Foreman George			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer N. Ghanta	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1234.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), dark grayish brown, dry, cobble clasts.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	+1224.0	Silty SAND with Gravel (SM), dark brown, dense, slightly moist, some concrete fragments.	10							
			11	S-1	SPT	12	19	23		
			12				22			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

45

Project			Project No.								
Proposed Athletic Complex			700114101								
Location			Elevation and Datum								
Claremont Mckenna College			Approx. 1234 (feet, MSL)								
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)			
	+1214.0	Silty SAND with Gravel (SM), dark brown, dense, slightly moist, crushed cobbles, some clay.	20	S-2	SPT	18	11	31			
	21		13								
	22		18								
			+1209.0	SAND with Clay and Gravel (SP-SC), dark brown, very dense, slightly moist, crushed cobbles.	25	S-3	SPT	8		24	50/2"
26		50/2"									
27											
			Medium dense.		28					Heavy auger chatter; Possible cobbles encountered; Slow drilling.	
	29										
	30	S-4		SPT	3	21	12	18	30		Sampler bouncing on cobbles. Gravel stuck in sampler shoe. Poor sample recovery.
	31					18					
	+1199.0	Clayey SAND with Gravel (SC), dark brown, medium dense, slightly moist, some asphalt clasts and crushed cobbles.	35	S-5	SPT	10	5	11			
	36		5								
	37		6								
			+1194.0	SAND with Clay and Gravel (SP-SC), grayish brown, dense, dry, some concrete and brick clasts, some crushed cobbles.	40	S-6	SPT	12		22	42
41		17									
42		25									
			43								
			44								
			45								

Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. 1234 (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+1189.0	Clayey SAND with Gravel (SC), dark brown, medium dense, slightly moist.	45	Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	1188.0	Old Alluvial Fan Deposits (Qof) Clayey SAND with Gravel (SC), brown to orangish brown, very dense, slightly moist to moist, fine to medium gravel, manganese oxide staining, weathered gravel clasts.	46	S-7	SPT	0	8	16	No sample recovery.
			47	S-8	SPT	8	7	17	
			48				10		
			49						
			50						
			51	S-9	SPT	13	9	24	
			52				10		
			53				14		
			54						
			55	S-10	CR	6	50/6"	50/6"	
	1178.5	Total depth = 55.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	56						
			57						
			58						
			59						
			60						
			61						
			62						
			63						
			64						
			65						
			66						
			67						
			68						
			69						
			70						

Project	Proposed Athletic Complex			Project No.	700114101		
Location	Claremont Mckenna College			Elevation and Datum	Approx. 1190 (feet, MSL)		
Drilling Company	2R Drilling			Date Started	10/11/2022		Date Finished
Drilling Equipment	SIMCO Truck-mounted Drill Rig			Completion Depth	11.5 ft		Rock Depth
Size and Type of Bit	8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed	Undisturbed	Core
Casing Diameter (in)			Casing Depth (ft)		3	2	-
				Water Level (ft.)	First	Completion	24 HR.
					-	-	-
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman				
			Adrian				
Sampler	Bulk, 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Field Engineer			
Sampler Hammer	Automatic	Weight (lbs)	Drop (in)	A. Nieblas			
		140	30				

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL60in	N-Value (Blows/ft)	
	+1190.0		0							
	+1189.8	Dirt lot, minor vegetation, abundant cobbles. Undocumented Surficial Fill (asf) SAND with Some Gravel (SP), orangish brown, very dense, dry to slightly moist, fine gravel.	1							
			2							
			3	S-1	CR	4	15	50/4"		WC = 3.6% DD = 109.2 pcf Consolidation Test.
			4							
	+1185.5	Old Alluvial Fan Deposits (Qof) Silty SAND with Some Gravel (SM), orangish brown, very dense, slightly moist.	5	S-2	SPT	18	32			Bulk sample collected from 5 to 10 feet bgs. Chemical Test.
			6				37			
			7				44			
		Manganese oxide staining.	8	S-3	CR	3	50/6"			Sample disturbed. WC = 3.9%
			9							
			10	S-4	SPT	18	20			WC = 2.9% DD = 109.2 pcf Consolidation Test.
			11				26			
	+1178.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	12				29			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1230 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/19/2022		Date Finished 10/19/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 56 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 8		Disturbed -	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First ▽		Undisturbed Completion - 24 HR. ▽	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman George	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer N. Ghanta			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL	N-Value (Blows/ft)	
	+1230.0	Undocumented Artificial Fill (afu) Silty to Clayey SAND with Gravel (SC-SM), dark brown, dry, cobble clasts.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
	-1220.0	Silty SAND (SM), brown, loose, dry, fine to medium sand and gravel.	10							
			11	S-1	SPT	6	3	2	5	Sampler bouncing on cobbles; slow drilling.
			12				3			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1230 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1210.0	Silty SAND with Gravel and Cobble clasts (SM), brown, dry.	20	S-2	SPT	3	50/2.5"	50/2.5"	Sampler bouncing on cobbles; slow drilling. No sample recovery. Very little soil in cuttings, nested cobbles.
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
	+1200.0	Silty SAND with Gravel (SM), dark brown, dense, moist, some brick and cobble clasts.	30	S-3	SPT	18	21	18	
			31				21	39	
			32						
			33						
			34						
	+1195.0	Silty Clayey SAND (SC-SM), dark brown, medium dense, moist, some gravel and cobbles.	35	S-4	SPT	15	10	12	
			36				8	20	
			37						
			38						
			39						
	+1190.0	Clayey SAND with Gravel (SC), dark brown, medium dense, moist, some gravel and cobbles, occasional brick clasts.	40	S-5	SPT	12	10	13	
			41				9	22	
			42						
			43						
			44						
			45						

Project			Project No.							
Proposed Athletic Complex			700114101							
Location			Elevation and Datum							
Claremont Mckenna College			Approx. 1230 (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)		
	1185.0	Clayey SAND with Gravel (SC), dark brown, very loose, moist.	45							
			46	S-6	SPT	3	8	1	4	
			47							
			48							
			49							
	1180.0	Old Alluvial Fan Deposits (Qof) Clayey SAND with Gravel (SC), brown to orangish brown, medium dense, slightly moist.	50							
			51	S-7	SPT	3	11	11	22	
			52							
			53							
			54							
			55							
	1174.0	Very dense, fine to coarse gravel.	56	S-8	SPT	12	39	50/6"	50/6"	
		Total depth = 56 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	57							
			58							
			59							
			60							
			61							
			62							
			63							
			64							
		65								
		66								
		67								
		68								
		69								
		70								

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1200 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/20/2022		Date Finished 10/20/2022	
Drilling Equipment CME-75 Track-mounted Drill Rig				Completion Depth 16.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples Disturbed 4		Undisturbed 1 Core -	
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽ -		Completion ▴ - 24 HR. ▴ -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman Jeff	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Field Engineer N. Ghanta			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. (psi)	N-Value (Blows/ft)		
	+1200.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry, cobble clasts.	0							
			1							
			2							
	+1197.5	Silty SAND with Gravel (SM), brown to orangish brown, medium dense, dry, fine to medium sand.	3	S-1	SPT	5	8	13		Abundant gravel and cobble clasts in auger cuttings. Sample disturbed. WC = 3.4%
			4			5				
		Brown to dark brown, slightly moist, fine to coarse gravel.	5	S-2	CR	6	11	23		
			6			10	12			
			7							
	+1192.0	Very dense, slightly moist.	8	S-3	SPT	12	30	58		
		Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), brown, very dense, dry to slightly moist, manganese oxide staining, fine to coarse gravel.	9				28			
			10							
		Brown to orangish brown.	11	S-4	SPT	18	35	80		
			12			21	45			
			13							
			14							
		Fine sand.	15	S-5	SPT	16	18	33		
	+1183.5		16			18	15			
		Total depth = 16.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1233 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/19/2022		Date Finished 10/19/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 40.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 5		Undisturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First - Completion - 24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman George			
Sampler Hammer Automatic				Field Engineer N. Ghanta			
		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recover. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1233.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry, cobble clasts.	0							
			1							
			2							
			3							
			4							
		Loose, cobble and gravel clasts.	5							
			6	S-1	SPT	6	3	6		
			7							
			8							
			9							
			10							
		Brown to orange brown.	11							
			12							
			13							
			14							
	+1218.0	Gravelly SAND (SP), brown, loose, dry.	15	S-2	SPT	2	3	5		
			16				2			
			17							
			18							
			19							
			20							

Sampler bouncing on cobbles. Poor recovery. Abundant gravel and cobble clasts in auger cuttings.

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Project			Project No.							
Proposed Athletic Complex			700114101							
Location			Elevation and Datum							
Claremont Mckenna College			Approx. 1233 (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)		
	+1213.0	Gravelly SAND (SP), brown, loose, dry.	20							
			21							
			22							
			23							
			24							
			25	S-3	SPT	2	50/2"		50/2"	Abundant gravel and cobble clasts in auger cuttings.
			26							
			27							
			28							
			29							
			30	S-4	SPT	3.5	50/3.5"		50/3.5"	Sampler bouncing on cobbles. Poor recovery.
			31							
			32							
			33							
			34							
			35	S-5	SPT	4	50/4"		50/4"	Heavy auger chatter; slow drilling.
			36							
			37							
			38							
			39							
			40	S-6	SPT	5	50/5"		50/5"	
		41								
		42								
		43								
		44								
		45								
		46								
		47								
		48								
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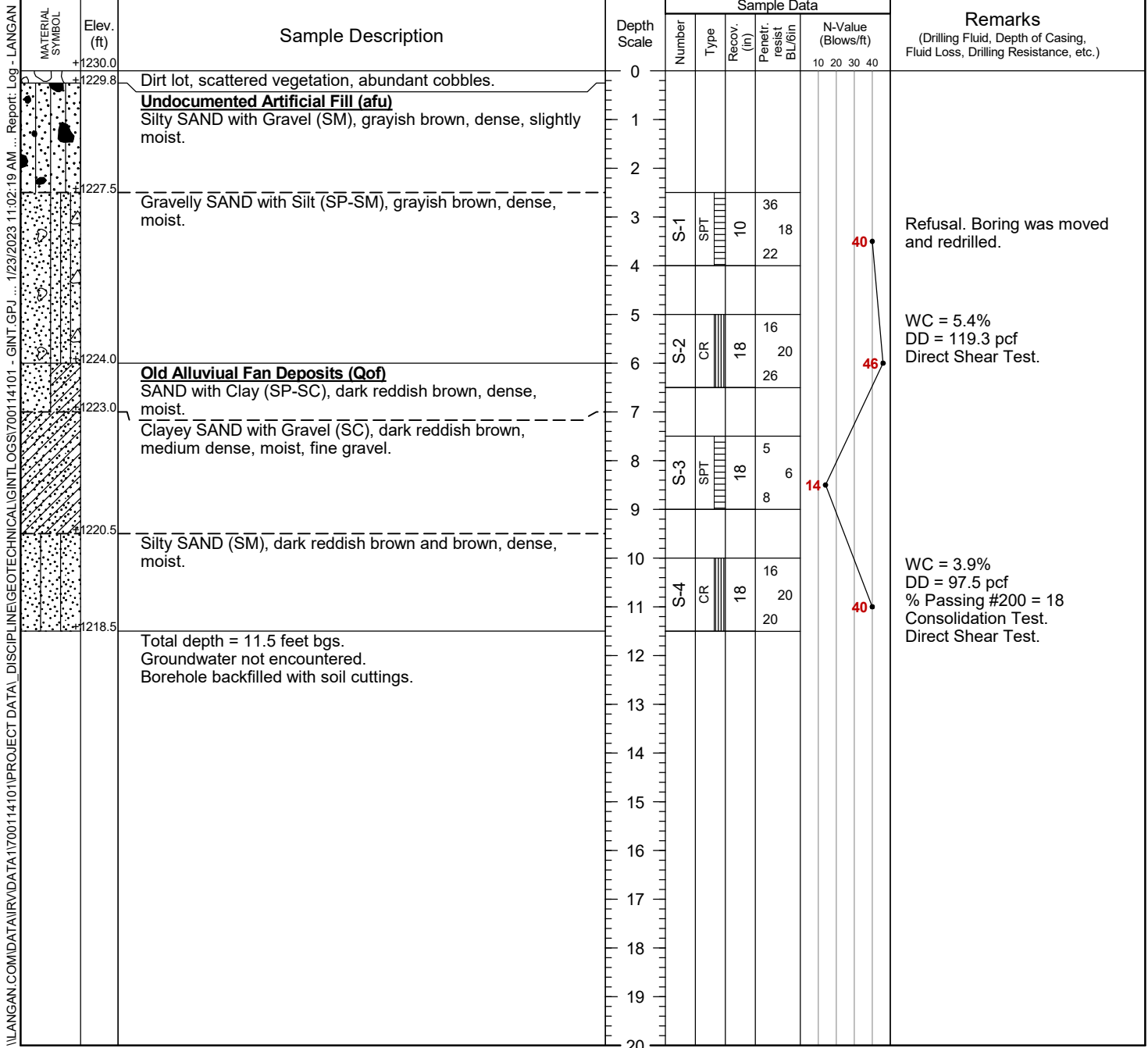
Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1241 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/20/2022		Date Finished 10/20/2022	
Drilling Equipment CME-75 Track-mounted Drill Rig				Completion Depth 41 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Disturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First ∇ -	
Sampler 2-inch O.D. SPT Split-Barrel				Completion ∇ -			
Sampler Hammer Automatic				24 HR. ∇ -			
Weight (lbs) 140				Drop (in) 30			
Drilling Foreman Jeff				Field Engineer N. Ghanta			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1241.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry, fine to coarse sand and gravel, some cobble clasts.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
		Very dense.	11	S-1	SPT	12	14	38	82	Heavy auger chatter; slow drilling.
			12				44			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
	+1221.0		20							

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Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. 1241 (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
	+1221.0			Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft) 10 20 30 40	
		SAND with Silt and Gravel (SP-SM), dark brown, loose, moist, fine to medium sand, fine to coarse gravel.	20	S-2	SPT	12	5	9	
			21				4		
			22						
			23						
			24						
			25						
		Medium dense, cobble clasts.	26	S-3	SPT	6	10	30	
			27				20		
			28						
			29						
			30						
			31						
	+1211.0	Old Alluvial Fan Deposits (Qof) Gravelly SAND with Silt (SP-SM), brown to orange brown, very dense, slightly moist, cobble clasts.	32	S-4	SPT	18	40	82	
			33				40		
			34						
			35						
			36						
			37						
			38	S-5	SPT	11	40	50/5"	
			39				50/5"		
			40	S-6	SPT	12	28	50/6"	
			41				50/6"		
				42					
			43						
			44						
			45						
	+1200.0	Total depth = 41 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.							

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1230 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/11/2022		Date Finished 10/11/2022
Drilling Equipment SIMCO Truck-mounted Drill Rig			Completion Depth 11.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples Disturbed 2		Undisturbed 2
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman Adrian		
Sampler Hammer Automatic			Field Engineer A. Nieblas		
Weight (lbs) 140			Drop (in) 30		



Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1235 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/19/2022		Date Finished 10/19/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 30.3 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 3	Undisturbed 1
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽ -	Completion ▽ -
Casing Hammer -			Weight (lbs) -	Drop (in) -	24 HR. ▽ -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman George		
Sampler Hammer Automatic			Weight (lbs) 140	Drop (in) 30	Field Engineer N. Ghanta

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1235.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), dark brown, dry, some cobble clasts.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	+1225.0	Clayey SAND with Gravel (SC), dark brown, loose, slightly moist, some cobble clasts.	10							
			11	S-1	SPT	12	3	3		
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
	+1215.0		20							

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Project Proposed Athletic Complex			Project No. 700114101									
Location Claremont Mckenna College			Elevation and Datum Approx. 1235 (feet, MSL)									
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1215.0	Old Alluvial Fan Deposits (Qof) Clayey SAND with Gravel (SC), brown to orange brown, dense, slightly moist, manganese oxide staining, fine gravel.	20	S-2	SPT	10	7	13	23			
	21		10							10		
	22											
	23		S-3	SPT	18	26	20	40				
	24								20	20		
	25											
	26			Silty SAND with Gravel (SM) , orange brown, very dense, slightly moist, manganese oxide staining, fine gravel. Total depth = 30.25 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	27	S-4	CR	3	50/3"	50/3"	WC = 3.5% DD = 110.6 pcf Consolidation Test.	
	28				50/3"							50/3"
	29											
	30				S-4	CR	3	50/3"	50/3"			
31	50/3"	50/3"										
32												
33	S-4	CR			3	50/3"	50/3"					
34								50/3"	50/3"			
35												
36	S-4	CR			3	50/3"	50/3"					
37			50/3"	50/3"								
38												
39	S-4	CR	3	50/3"	50/3"							
40						50/3"	50/3"					
41												
42	S-4	CR	3	50/3"	50/3"							
43						50/3"	50/3"					
44												
45	S-4	CR	3	50/3"	50/3"							
46						50/3"	50/3"					
47												

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WC = 3.5%
DD = 110.6 pcf
Consolidation Test.

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1240 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/20/2022		Date Finished 10/20/2022	
Drilling Equipment CME-75 Track-mounted Drill Rig				Completion Depth 35.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Undisturbed 0	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First -		Completion - 24 HR. -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman Jeff	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer N. Ghanta			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1240.0	Undocumented Artificial Fill (afu) Gravelly Silty SAND (SM), brown.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	6	7	7	14	
			12							
			13							
			14							
			15							
			16	S-2	SPT	8	10	10	20	
			17							
			18							
			19							
			20							

Gravelly Silty SAND (SM), orangish brown, medium dense, dry, fine to coarse sand and gravel, some cobble clasts.

Moist.

Heavy auger chatter; possible cobble/bouldes.

Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1240 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				N-Value (Blows/ft)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in		
	+1220.0	Silty SAND (SM), brown to dark brown, medium dense, moist, cobble clasts.	20	S-3	SPT	10	10		
			21				9		
			22				6		
		Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), orangish brown, very dense, dry to slightly moist, fine to coarse sand and gravel.	23	S-4	SPT	12			
			24						
			25				8		
	1215.0		26	S-5	SPT	10	10		
			27				12		
			28						
			29	S-6	SPT	5	35		
			30				50/4"		
			31						
			32	S-7	SPT				
			33						
			34						
			35	S-8	SPT				
			36						
			37						
			38	S-9	SPT				
			39						
			40						
			41	S-10	SPT				
			42						
			43						
			44	S-11	SPT				
			45						

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Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1234 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/11/2022		Date Finished 10/11/2022
Drilling Equipment SIMCO Truck-mounted Drill Rig			Completion Depth 11.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 3	Undisturbed 2
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First - Completion -	Core 24 HR. -
Casing Hammer	Weight (lbs) -	Drop (in) -	Drilling Foreman Adrian		
Sampler Bulk, 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1234.0		0							
	+1233.8	Dirt lot, scattered cobbles and gravel.								
	+1233.0	Coarse gravel.								
		Undocumented Artificial Fill (afu)	1							Bulk sample collected from 1 to 5 feet bgs.
		Silty SAND and Gravel (SM), light brown, very dense, dry.	2							No sample recovery.
			3	S-1	CR	0	26	50/6"		50/6"
			4							
	+1229.0	SAND with Silt and Gravel (SW-SM), light orangish brown, very dense, dry, fine gravel.	5	S-2	SPT	18	16	25	27	52
			6							
			7							
	+1226.5	Old Alluvial Fan Deposits (Qof)	8	S-3	CR	4	50/4"			50/4"
		SAND with Silt and Gravel (SP-SM), orangish brown, very dense, slightly moist, manganese oxide staining.	9							Poor sample recovery. WC = 5.1% DD = 102.1 pcf Heavy auger chatter.
			10	S-4	SPT	18	21	23	39	62
	+1224.0	SAND with Gravel (SP), orangish brown, very dense, slightly moist.	11							
	+1222.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1228 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/11/2022		Date Finished 10/11/2022	
Drilling Equipment SIMCO Truck-mounted Drill Rig				Completion Depth 11.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 3		Disturbed 1	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -				Weight (lbs) -		Drop (in) -	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Drilling Foreman Adrian			
Sampler Hammer Automatic				Field Engineer A. Nieblas			
Weight (lbs) 140				Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL6in	N-Value (Blows/ft)	
	+1228.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry.	0							
			1							
			2							
	1225.5	Old Alluvial Fan Deposits (Qof) Clayey SAND with Gravel (SC), orangish brown, medium dense, moist, fine gravel, manganese oxide staining.	3	S-1	SPT	7				
			4			18	9		20	
			5				11			
	1223.0	Silty SAND (SM) to Clayey SAND (SC) with Gravel, orangish brown mottled, very dense, moist, manganese oxide staining.	6	S-2	CR	11	30	50/5"	50/5"	
			7							
			8	S-3	SPT	12	17	50/6"	50/6"	
			9							
			10							
			11	S-4	SPT	18	26	40	90	
			12				50			
	1216.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1240 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/11/2022		Date Finished 10/11/2022	
Drilling Equipment SIMCO Truck-mounted Drill Rig				Completion Depth 16.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples Disturbed 3		Undisturbed 2 Core -	
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽ -		Completion ▴ - 24 HR. ▾ -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman Adrian	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod							
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer A. Nieblas	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/in	N-Value (Blows/ft)	
	+1240.0	Abundant cobbles.	0							
	+1239.0	Undocumented Artificial Fill (afu) Silty SAND (SM), light brown, dense, dry, scattered gravel.	1							Heavy auger chatter.
			2							
			3	S-1	SPT	12				
			4			15	14			
						16				
	+1235.0	Old Alluvial Fan Deposits (Qof) SAND with Silt and Gravel (SP-SM), light reddish brown, dense, dry to slightly moist.	5	S-2	CR	12				WC = 2.8% DD = 113.2 pcf Consolidation Test. Direct Shear Test.
			6			18	20			
						37				
			7							Refusal due to cobble layer. Boring moved and redrilled.
			8	S-3	SPT	12	21			
						50/6"				
			9							
			10							
		Very dense, slightly moist, manganese oxide staining, fine to medium gravel.	11	S-4	CR	27	39			WC = 2.9% DD = 128.6 pcf
						1.33	50/4"			
			12							
			13							
			14							
	+1225.0	Silty SAND (SM), dark reddish brown, medium dense, moist, manganese oxide staining, fine sand and gravel.	15	S-5	SPT	7	7			% Passing #200 = 32
			16			18	9			
	+1223.5	Total depth = 16.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	17							
			18							
			19							
			20							

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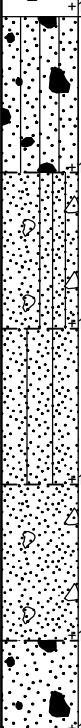
Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1239 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/18/2022		Date Finished 10/18/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 26.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples 3		Disturbed 1
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman Juan		
Sampler Hammer Automatic			Field Engineer A. Nieblas		
Weight (lbs) 140			Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1239.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry, cobble clasts.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	+1229.0	Silty SAND with Gravel (SM), brown, dry, medium dense.	10							
			11	S-1	SPT	10	8	7	13	
			12				6			
			13							
			14							
		Abundant cobbles.	15							
			16	S-2	CR	0	19	17	32	No sample recovery; Cobbles in sampler.
			17				15			
			18							
			19							
	+1219.0		20							

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Project Proposed Athletic Complex			Project No. 700114101										
Location Claremont Mckenna College			Elevation and Datum Approx. 1239 (feet, MSL)										
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)				
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)					
	+1219.0	Old Alluvial Fan Deposits (Qof) SAND with Silt and Gravel (SP-SM), brown, loose, slightly moist.	20	S-3	SPT	18	5	8	10	20	30	40	
			21				3						
			22										
			23										
			24										
		Orangish brown, dry to slightly moist.	25	S-4	SPT	18	29	37	79				
			26				42						
	+1212.5	Total depth = 26.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	27										
			28										
			29										
			30										
			31										
			32										
			33										
			34										
			35										
			36										
			37										
			38										
			39										
			40										
			41										
			42										
			43										
			44										
			45										

Project				Project No.			
Proposed Athletic Complex				700114101			
Location				Elevation and Datum			
Claremont Mckenna College				Approx. 1245 (feet, MSL)			
Drilling Company				Date Started		Date Finished	
2R Drilling				10/11/2022		10/11/2022	
Drilling Equipment				Completion Depth		Rock Depth	
SIMCO Truck-mounted Drill Rig				11.5 ft		-	
Size and Type of Bit				Number of Samples		Disturbed	
8-inch O.D. Hollow Stem Auger				2		Undisturbed	
Casing Diameter (in)				First		Core	
-				2		-	
Casing Depth (ft)				Water Level (ft.)		24 HR.	
-				-		-	
Casing Hammer				Drilling Foreman			
Weight (lbs)				Adrian			
Drop (in)				Field Engineer			
Sampler				A. Nieblas			
2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod							
Sampler Hammer							
Automatic							
Weight (lbs)							
140							
Drop (in)							
30							

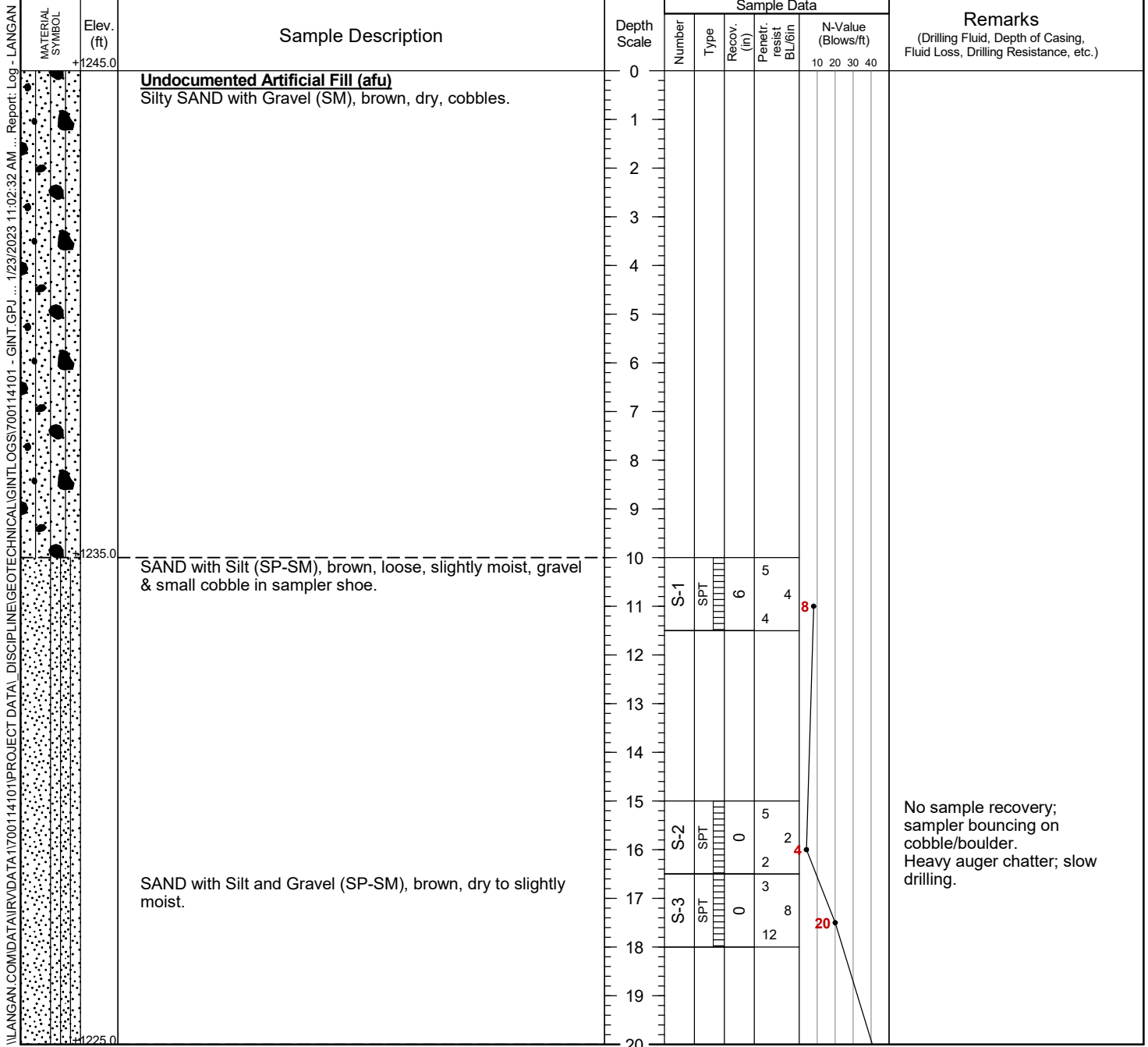
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)										
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)												
	+1245.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry.	0																	
			1																	
			2																	
	+1242.5	Old Alluvial Fan Deposits (Qof) SAND with Silt and Gravel (SP-SM), dark orangish brown, medium dense, slightly moist.	3	S-1	SPT	4	10	5												
			4																	
	+1240.0	Silty SAND with Gravel (SM), dark orangish brown, very dense, moist, manganese oxide staining, fine to medium gravel.	5	S-2	CR	2	31	50/3"												
			6																	
			7																	
	+1237.5	SAND with Gravel (SP), orangish brown, very dense, dry to slightly moist.	8	S-3	SPT	10	27	50/6"												
			9																	
	+1235.0	SAND (SP) and Silty SAND (SM) with Gravel, orangish brown, dense, slightly moist to moist.	10	S-4	CR	18	30	23												
		11																		
	+1233.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	12																	
			13																	
			14																	
			15																	
			16																	
			17																	
			18																	
			19																	
			20																	

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Very poor sample recovery.
WC = 2.8%

WC = 8.2%
DD = 108.0 pcf

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1245 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/18/2022		Date Finished 10/18/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 21.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 4		Disturbed 0	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First -		Completion 24 HR. -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman George	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			



Project Proposed Athletic Complex			Project No. 700114101												
Location Claremont Mckenna College			Elevation and Datum Approx. 1245 (feet, MSL)												
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)						
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)							
	+1225.0	Old Alluvial Fan Deposits (Qof)	20	S-4	SPT	12	13	18	31	10	20	30	40	49	Refusal at 21.5 feet.
	+1223.5	Silty SAND with Gravel (SM), orangish brown, dense, slightly moist, manganese oxide staining, fine gravel.													
		Total depth = 21.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	22												
			23												
			24												
			25												
			26												
			27												
			28												
			29												
			30												
			31												
			32												
			33												
			34												
			35												
			36												
			37												
			38												
			39												
			40												
			41												
			42												
			43												
			44												
			45												

Project	Proposed Athletic Complex			Project No.	700114101		
Location	Claremont Mckenna College			Elevation and Datum	Approx. 1240 (feet, MSL)		
Drilling Company	2R Drilling			Date Started	10/11/2022		Date Finished
Drilling Equipment	SIMCO Truck-mounted Drill Rig			Completion Depth	11.5 ft		Rock Depth
Size and Type of Bit	8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed	Undisturbed	Core
Casing Diameter (in)	-		Casing Depth (ft)	-		2	2
Casing Hammer	-		Weight (lbs)	-		24 HR.	-
Sampler	2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Water Level (ft.)	First	Completion	-
Sampler Hammer	Automatic	Weight (lbs)	Drop (in)	Drilling Foreman	Adrian		
		140	30	Field Engineer	A. Nieblas		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	Blowin	N-Value (Blows/ft)	
	+1240.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown, dry.	0							
			1							
			2							
	+1237.5	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), orangish brown, very dense, slightly moist.	3	S-1	CR	6	50/6"			WC = 4.4% DD = 119.7 pcf
			4							
		Dry to slightly moist, manganese oxide staining, fine gravel.	5							
			6	S-2	SPT	18	31			70
			7							
		Very silty, moist, scattered gravel.	8	S-3	CR	9	24	50/3"		WC = 3.5% DD = 123.7 pcf Consolidation Test. Direct Shear Test.
			9							
		Dense.	10							
			11	S-4	SPT	12	22			40
	+1228.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	12				18			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex			Project No.	700114101		
Location	Claremont Mckenna College			Elevation and Datum	Approx. 1255 (feet, MSL)		
Drilling Company	2R Drilling			Date Started	10/20/2022		Date Finished
Drilling Equipment	CME-75 Track-mounted Drill Rig			Completion Depth	13.5 ft		Rock Depth
Size and Type of Bit	8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed	Undisturbed	Core
Casing Diameter (in)			Casing Depth (ft)		5	1	-
Casing Hammer			Weight (lbs)	Drop (in)	First	Completion	24 HR.
Sampler	2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				-	-	-
Sampler Hammer	Automatic	Weight (lbs)	140	Drop (in)	30	Drilling Foreman	
						Jeff	
						Field Engineer	
						N. Ghanta	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1255.0		0					10	20	30	40	
	+1254.9	Scattered asphalt and vegetation on surface.	1									
		<u>Undocumented Artificial Fill (afu)</u>	2									
		Silty SAND with Gravel (SM), light brown, dry.	3									
			4									
		Dense, dry, occasional brick clast, some asphalt.	5									
			6	S-1	SPT	8	14					
			7				12					
			8				24					
		Very dense, crushed cobbles.	9									
			10	S-2	SPT	8	9					
			11				50/4"					
			12									
			13									
	+1246.5		14	S-3	CR	0	27					No sample recovery.
		Gravelly SAND with Silt (SP-SM), dark brown, very dense, dry, some rock and cobble clasts.	15				24					
			16				28					
	+1245.0		17	S-4	SPT	6	27					
		Gravelly Silty SAND (SM), brown, very dense, dry, cobble and rock clasts.	18				50/4"					
			19	S-5	SPT	6	25					
			20				50/6"					
			21									
			22									
	+1242.5		23									
		<u>Old Alluvial Fan Deposits (Qof)</u>	24	S-6	SPT	6	40					
	+1241.5	Silty SAND with Gravel (SM), orangish brown, very dense, dry to slightly moist, fine to coarse gravel, manganese oxide staining.	25				50/5"					
		Total depth = 13.5 feet bgs.	26									
		Groundwater not encountered.	27									
		Borehole backfilled with soil cuttings.	28									
			29									
			30									
			31									
			32									
			33									
			34									
			35									
			36									
			37									
			38									
			39									
			40									

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1262 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/18/2022		Date Finished 10/18/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 31.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Disturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Undisturbed -	
Casing Hammer -				Weight (lbs) -		Drop (in) -	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Water Level (ft.) First -		Completion -	
Sampler Hammer Automatic				Weight (lbs) 140		Drop (in) 30	
				Drilling Foreman Juan			
				Field Engineer A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1262.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel and Cobbles (SM), brown, scattered vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	+1252.0	SAND with Silt and Gravel (SP-SM), grayish brown, medium dense, slightly moist.	10	S-1A/B	SPT	10	9			
	+1250.5	Silty SAND (SM), orangish brown, medium dense, moist.	11			17				
			12							
			13							
			14							
	+1247.0	Silty SAND with Gravel (SM), orangish brown, dense, moist.	15	S-2	SPT	13	15			
			16			15				
			17							
			18							
			19							
			20							

26

30

Chemical odor.

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1262 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				N-Value (Blows/ft)				Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	10	20	30	40	
	+1242.0	Silty SAND with Gravel (SM), orangish brown, very dense, slightly moist, some clay and gravel clasts.	20	S-3	SPT	10	30					Heavy auger chatter - very cobbly. No sample recovery; sampler bouncing on cobble. No sample recovery; sampler bouncing on cobble.
			21				19					
			22				50/1"					
			23									
			24									
			25	S-4	CR	0	50/1"					
			26									
			27	S-5	SPT	0	50/1"					
			28									
			29									
	+1232.0	Old Alluvial Fan Deposits (Qof) SAND with Silt (SP-SM), orangish brown, very dense, slightly moist, manganese oxide staining, gravel clasts.	30	S-6	SPT	10	21					67
	+1230.5		31				29					
		Total depth = 31.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	32				38					
			33									
			34									
			35									
			36									
			37									
			38									
			39									
			40									
			41									
			42									
			43									
			44									
			45									

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1250 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/11/2022		Date Finished 10/11/2022	
Drilling Equipment SIMCO Truck-mounted Drill Rig				Completion Depth 16.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples		Disturbed 3	
Casing Diameter (in) -				Casing Depth (ft) -		Undisturbed 2	
Casing Hammer -				Weight (lbs) -		Drop (in) -	
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Drilling Foreman Adrian			
Sampler Hammer Automatic				Weight (lbs) 140		Drop (in) 30	
				Field Engineer A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1250.0	Undocumented Artificial Fill (afu) Silty SAND (SM), grayish brown, dry, fine to medium sand, occasional fine gravel.	0							
		Medium dense.	1							
			2							
			3	S-1	SPT	18	6	7	14	
			4				7			
	+1245.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), dark reddish brown, dense, moist, fine to medium gravel.	5	S-2	CR	18	25	29	53	WC = 10.0% DD = 127.9 pcf
		Medium dense.	6				24			
			7							
			8	S-3	SPT	18	4	6	14	% Passing #200 = 41
			9				8			
	+1240.0	Sandy SILT (ML), reddish brown, very stiff, moist, scattered gravel.	10	S-4	CR	18	15	18	43	WC = 10.7% DD = 123.4 pcf Consolidation Test. Direct Shear Test.
			11				25			
			12							
			13							
			14							
	+1235.0	SAND with Silt (SP-SM), dark reddish brown, dense, slightly moist, fine to coarse sand, some gravel.	15	S-5	SPT	18	8	12	40	
			16				28			
	+1233.5	Total depth = 16.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101				
Location Claremont Mckenna College				Elevation and Datum Approx. 1252 (feet, MSL)				
Drilling Company 2R Drilling				Date Started 10/11/2022		Date Finished 10/11/2022		
Drilling Equipment SIMCO Truck-mounted Drill Rig				Completion Depth 11.5 ft		Rock Depth -		
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples		Disturbed 2	Undisturbed 2	Core -
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽ -		Completion ▽ -	24 HR. ▽ -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman Adrian		
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod				Field Engineer A. Nieblas				
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30				

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL60in	N-Value (Blows/ft)	
	+1252.0		0							
	+1251.8	Dirt lot, minor vegetation, scattered cobbles.	1							
		Undocumented Artificial Fill (afu)	2							
		Silty SAND with Gravel (SM), grayish brown, slightly moist.	3	S-1	CR	6	7		13	WC = 2.3% DD = 114.7 pcf Direct Shear Test.
		Loose.	4			18	6			
	+1247.0	SAND with Silt and Gravel (SP-SM), grayish brown, dense, dry to slightly moist.	5	S-2	SPT	4	18		45	
			6			12	27			
	+1244.5	Old Alluvial Fan Deposits (Qof)	7							
		Silty SAND (SM), orangish brown, very dense, slightly moist, manganese oxide staining, occasional fine gravel.	8	S-3	CR	15	27		50/4"	WC = 3.7% DD = 119.1 pcf
			9			16	50/4"			
		Slightly moist to moist.	10							
	+1240.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	11	S-4	SPT	20	24		54	
			12			18	30			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

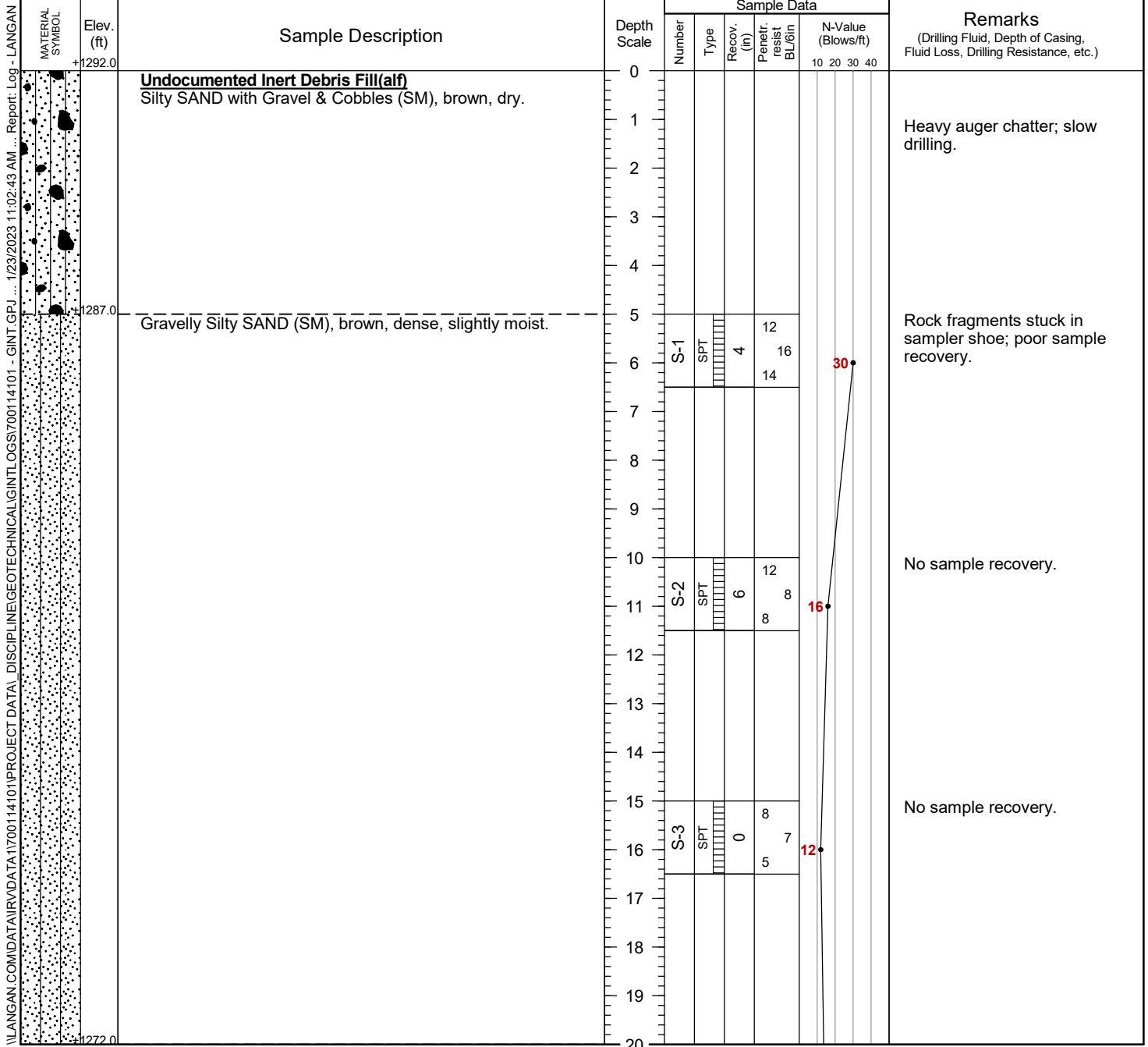
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Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1253 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/18/2022		Date Finished 10/18/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 11.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples 2		Disturbed 2
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman George		
Sampler Hammer Automatic			Field Engineer A. Nieblas		
Weight (lbs) 140			Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recon. (in)	Penetr. resist	Blowin	N-Value (Blows/ft)	
	+1253.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), brown.	0							
			1							
			2							
	+1250.5	Silty SAND with Gravel (SM), grayish brown to orangish brown, dense, slightly moist.	3	S-1	SPT	4	14		42	
			4				28			
		Brown, very dense, dry, concrete clasts.	5	S-2	CR	5	50/5"		50/5"	WC = 3.3% DD = 117.2 pcf
			6							
			7							
	+1245.5	Old Alluvial Fan Deposits (Qof) Silty SAND (SM), orangish brown, medium dense, moist.	8	S-3	SPT	7	18	7	16	
			9				9			
		Dense.	10							
			11	S-4	CR	18	15	17	32	WC = 14.5% DD = 120.2 pcf % Passing #200 = 44
	+1241.5	Total depth = 11.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1292 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 52 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 10		Disturbed 0	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First -		Completion -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman Nick			
Sampler Hammer Automatic				Field Engineer A. Nieblas			
		Weight (lbs) 140		Drop (in) 30			



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Project			Project No.									
Proposed Athletic Complex			700114101									
Location			Elevation and Datum									
Claremont Mckenna College			Approx. 1292 (feet, MSL)									
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)				
	+1272.0	Gravelly Silty SAND (SM), brown, medium dense, slightly moist to moist.	20	S-4	SPT	6	5	14	Poor sample recovery; Cobble stuck in sampler shoe.			
	21		5									
	22		9									
	23											
	+1267.0	Silty SAND with Gravel (SM), brown, medium dense, moist, some asphalt, manganese oxide staining, gravel.	24	S-5	SPT	6	10	28				
			25				19					
			26				9					
			27									
			28	S-6	SPT	12	7	19				
			29				9					
			30				10					
			31									
			+1252.0	Brown to orangish brown, fine gravel, glass and asphalt fragments.	32	S-7	SPT	0		50/2"	50/2"	No sample recovery. Sampler bouncing on cobble.
					33							
	34											
	35											
	36											
	+1247.0	Silty SAND with asphalt (SM), dark brown, medium dense, moist.	37	S-8	SPT	10	5	16		Cobble; slow drilling.		
			38				5					
			39				11					
			40									
			41									
			42									
			43									
			44									
45												

Project Proposed Athletic Complex			Project No. 700114101											
Location Claremont Mckenna College			Elevation and Datum Approx. 1292 (feet, MSL)											
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)					
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)						
	+1247.0	Silty SAND with asphalt (SM), dark brown to orangish brown, medium dense, moist, asphalt and fabric debris, some oxidized metal.	45	S-9	SPT	10	50/5"	10	20	30	40	50/5"	No sample recovery. Refusal on cobble/boulder.	
	+1240.0		50	S-10	SPT	3	50/5"	10	20	30	40			
		Total depth = 52.0 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	52											
			53											
			54											
			55											
			56											
			57											
			58											
			59											
			60											
			61											
			62											
			63											
			64											
			65											
			66											
			67											
68														
69														
70														

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1289 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 51 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 5		Disturbed 1	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman Nick			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer A. Nieblas	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1289.0	Undocumented Inert Debris Fill(alf) Silty SAND with Gravel and Cobbles (SM), brown, scattered vegetation at surface.	0							
			1							Chemical Test.
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
		Loose, moist, some asphalt and brick.	10							
			11	S-1	SPT	15	5	4	7	
			11				3			
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1289 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1269.0	Silty SAND with Gravel (SM), brown, dense, slightly moist, some asphalt clasts.	20	S-2	SPT	10	22		
			21				24		
			22				19		
			23						
			24						
			25						
			26						
			27						
			28						
			29						
		Brown, medium dense, dry to slightly moist, abundant gravel, concrete clasts.	30	S-3	SPT	10	37		
			31				10		
			32				11		
			33						
			34						
			35						
			36						
			37						
			38						
			39						
	+1251.0	Old Alluvial Fan Deposits (Qof) SAND with Silt & Gravel (SP-SM), brown to orangish brown, slightly moist.	40	S-4	SPT	18	15		Heavy auger chatter; slow drilling.
			41				50/6"		
			42						
			43						
			44						
			45						
			46						

Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. 1289 (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	
	+1244.0	SAND with Silt & Gravel (SP-SM), orangish brown, very dense, slightly moist, weathered gravel clasts.	45	S-5	SPT	18	12	50/6"	50/6"
							33		
			46				50/6"		
			47						
			48						
			49						
	1239.0	Silty SAND with Gravel (SM), orangish brown, very dense, moist.	50	S-6	CR	10	12	50/4"	50/4"
	1238.0								
		Total depth = 51.0 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	51						
			52						
			53						
			54						
			55						
			56						
			57						
			58						
			59						
			60						
			61						
			62						
			63						
			64						
			65						
			66						
			67						
			68						
			69						
			70						

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1287 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 46 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Disturbed -	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First ▽		Completion ▽	
Casing Hammer -		Weight (lbs) -		Drop (in) -		24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman George			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer N. Ghanta	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1287.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel (SM), dark brown, rock and cobble clasts, scattered vegetation at surface.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
		Dense, slightly moist, fine to coarse gravel, crushed cobble.	11	S-1	SPT	18	5	17		
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

Heavy auger chatter on cobbles.

Heavy auger chatter on cobbles.

34

Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1287 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1267.0	Brown to dark brown, very dense, dry to slightly moist, brick clasts.	20	S-2	SPT	6	50/6"		50/6"
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						
		Dark brown, loose, moist, asphalt and crushed cobbles.	30	S-3	SPT	5	22	3	9
			31				6		
			32						
			33						
			34						
			35						
			36	S-4	SPT	5	8	20	36
			37				16		
			38						
			39						
	+1252.0	Gravelly SAND with Silt (SP-SM), blackish brown, dense, moist, fine to coarse gravel and cobble clasts, asphalt and concrete fragments.	35						
			36						
			37						
			38						
			39						
			40						
			41	S-5	SPT	18	22	24	60
			42				36		
			43						
			44						
	+1247.0	Young Alluvial Fan Deposits (Qya) Silty SAND (SM), brown to orangish brown, dense, slightly moist, manganese oxide staining, gravel.	40						% Passing #200 = 30
			41						
			42						
			43						
			44						
			45						

Project Proposed Athletic Complex			Project No. 700114101										
Location Claremont Mckenna College			Elevation and Datum Approx. 1287 (feet, MSL)										
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)					
	+1242.0	Silty SAND (SM), brown to orangish brown, very dense, slightly moist, fine to coarse sand and gravel, manganese oxide staining. Total depth = 46.0 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	45	S-6	SPT		12	40	50/6"	50/6"			
	+1241.0		46										
			47										
			48										
			49										
			50										
			51										
			52										
			53										
			54										
			55										
			56										
			57										
			58										
			59										
			60										
			61										
			62										
			63										
			64										
			65										
			66										
			67										
			68										
			69										
			70										

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1292 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 45.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Disturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Undisturbed -	
Casing Hammer -				Weight (lbs) -		Drop (in) -	
Sampler 2-inch O.D. SPT Split-Barrel				Water Level (ft.) First -		Completion -	
Sampler Hammer Automatic				Weight (lbs) 140		Drop (in) 30	
				Drilling Foreman George			
				Field Engineer N. Ghanta			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1292.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel (SM), dark brown, rock and cobble clasts, scattered vegetation at surface.	0							
			1							
			2							Heavy auger chatter on cobbles.
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	+1282.0	Silty SAND with Gravel (SM), grayish brown, very dense, dry, concrete clasts.	10	1	SPT	5	19	50/2"	50/2"	Sampler bouncing on cobble.
			11							
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
	+1272.0		20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1292 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1272.0	Clayey SAND with Gravel (SC), dark brown, loose, slightly moist, rock and cobble clasts, trace asphalt fragments.	20	S-2	SPT	8	9		
			21				5		
			22				4		
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30	S-3	SPT	6	14		
	1262.0	Silty SAND with Gravel (SM), black and dark brown, very dense, slightly moist, asphalt, fine to coarse gravel.	31				50/3"		
			32						
			33						
			34						
			35	S-4	SPT	3	10		
			36				24		
			37				6		
			38						
			39						
			40	S-5	SPT	18	13		
			41				10		
			42				16		
			43						
			44						
			45						

Cobble stuck in sampler shoe; poor recovery.

Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1292 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1247.0	Silty SAND with Gravel (SM), brown to orangish brown, very dense, slightly moist, fine to coarse sand and gravel. Total depth = 45.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	45	S-6	SP	6	50/6"	10 20 30 40	Sampler bouncing on cobble.
	+1246.5		46					50/6"	
			47						
			48						
			49						
			50						
			51						
			52						
			53						
			54						
			55						
			56						
			57						
			58						
			59						
			60						
			61						
			62						
			63						
			64						
			65						
			66						
			67						
			68						
			69						
			70						

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1313 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 12/27/2022		Date Finished 12/27/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 51.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 6		Undisturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First - Completion - 24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman Nick			
Sampler Hammer Automatic				Field Engineer A. Nieblas			
		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL	N-Value (Blows/ft)	
	+1313.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel and Cobbles (SM), brown, slightly moist, minor vegetation, small boulders.	0							
			1							
			2							
			3							
	1309.0	Gravelly SAND with Silt (SP-SM), brown and dark brown.	4							Heavy auger chatter; sampler bouncing on cobble.
			5							
			6							
			7							
			8							
			9							
			10							
			11							
			12							
			13							
			14							
	1298.0	Silty SAND with Gravel (SM), brown, very dense, slightly moist, medium sand and gravel.	15	5	SPT	6	5	50/5"	50/5"	Sampler bouncing on cobble.
			16							
			17							
			18							
			19							
	1293.0		20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1313 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1293.0	Clayey SAND with Gravel (SC), grayish brown, moist.	20						
			21						
			22						
			23						
	1288.0	Silty SAND with Gravel (SM), brown, dense, slightly moist.	25				9		
			26	S-2	SPT	10	10		
			27				22		
		Gravel-sized brick clasts.	28						
	1278.0	Silty to Clayey SAND with Gravel (SM to SC), brown, medium dense, moist, medium gravel.	35				6		
			36	S-3	SPT	10	8		
			37				13		
			38						
	1273.0	Silty SAND with Gravel (SM), brown, medium dense, moist, fine gravel.	40				8		
			41	S-4	SPT	5	5		
			42				8		
			43						
			44						
			45						

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Project Proposed Athletic Complex			Project No. 700114101							
Location Claremont Mckenna College			Elevation and Datum Approx. 1313 (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)		
	+1268.0	Slightly moist.	45	S-5	SPT	3	18	5	17	22
			47							
			48							
			49							
		Very dense, moist.	50	S-6	SPT	0	7	40	28	68
	+1261.5		51							
		Total depth = 51.5 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	52							
			53							
			54							
			55							
			56							
			57							
			58							
			59							
			60							
			61							
			62							
			63							
			64							
			65							
			66							
			67							
			68							
			69							
			70							

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1303 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 12/27/2022		Date Finished 12/27/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 42 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 3		Disturbed -	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First ▽		Undisturbed Completion - 24 HR. ▽	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman Nick	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data							Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL	Join	N-Value (Blows/ft)	
	+1303.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel, Cobbles, and Boulders (SM), brown, dry, scattered vegetation.	0								
			1								
			2								
			3								
			4								
			5								
			6								
			7								
			8								
			9								
			10								
			11								
			12								
			13								
			14								
			15								
			16								
			17								
			18								
			19								
			20								
	+1283.0	Dark brown and brown.									Heavy auger chatter.

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Project			Project No.						
Proposed Athletic Complex			700114101						
Location			Elevation and Datum						
Claremont Mckenna College			Approx. 1303 (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1283.0	Silty to Clayey SAND with Gravel (SM to SC), brown, very dense, slightly moist, medium gravel.	20	S-1	SPT	10	10	66	
			21				23		
			22				43		
			23						
			24						
			25						
			26						
			27						
			28						
			29						
	+1273.0	Silty SAND with Gravel (SM), brown, loose, moist, small brick gravel clast.	30	S-2	SPT	12	7	9	
			31				4		
			32				5		
			33						
			34						
			35						
			36						
			37						
			38						
			39						
	+1261.0	Dark brown, medium dense.	40	S-3	SPT	5	9	17	
			41				12		
			42				5		
			43						
			44						
			45						
			Total depth = 42 feet bgs. Groundwater not encountered. Borehole backfilled with soil cuttings.	42					
			43						
			44						
			45						

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1253 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 03/03/2023		Date Finished 03/03/2023	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 20.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 2		Disturbed 2	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First - Completion - 24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman Jorge			
Sampler Hammer Automatic				Field Engineer N. Ghanta			
		Weight (lbs) 140		Drop (in) 30			

Sample Description		Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
MATERIAL SYMBOL	Elev. (ft)		Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1253.0						10	20	30	40	
		0									
		1									
		2									
		3									
		4									
		5									
	+1248.0	6	S-1	SPT	14	18 38 25				63	
	+1246.5	7									
		8									
		9									
		10									
		11	S-2	CR	17	33 40 50/5"				50/5"	
		12									
		13									
		14									
		15	S-3	SPT	9	27 50/3"				50/3"	
		16									
		17									
		18									
		19									
	+1233.0	20								Auger chattering due to possible cobbles	

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Project Proposed Athletic Complex		Project No. 700114101	
Location Claremont Mckenna College		Elevation and Datum Approx. 1253 (feet, MSL)	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)		
	+1233.0	Total Depth = 20 feet. No groundwater encountered. Boring terminated at 20 feet due to rig breakdown. Boring backfilled with auger cuttings.	20	S-4	CR	0	50/1"	10 20 30 40	50/1"	Sampler bouncing on possible cobbles. No sample recovery.
			21							
			22							
			23							
			24							
			25							
			26							
			27							
			28							
			29							
			30							
			31							
			32							
			33							
			34							
			35							
			36							
			37							
			38							
			39							
			40							
			41							
			42							
			43							
			44							
			45							

Project	Proposed Athletic Complex			Project No.	700114101		
Location	Claremont Mckenna College			Elevation and Datum	Approx. 1254 (feet, MSL)		
Drilling Company	2R Drilling			Date Started	03/15/2023	Date Finished	
Drilling Equipment	GT8 Gtech Drill			Completion Depth	35.2 ft	Rock Depth	
Size and Type of Bit	8-inch O.D. Hollow Stem Auger			Number of Samples	8	Disturbed	1
Casing Diameter (in)	-	Casing Depth (ft)	-	Water Level (ft.)	First	Completion	24 HR.
Casing Hammer	-	Weight (lbs)	-	Drop (in)	-	-	-
Sampler	2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Drilling Foreman	Juan		
Sampler Hammer	Automatic	Weight (lbs)	140	Drop (in)	30	Field Engineer	N. Ghanta

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	Blowin	N-Value (Blows/ft)	
	+1254.0	Artificial Fill Silty SAND (SM), blackish brown and light brown, slightly moist.	0							
			1							
			2							
			3							
			4							
		Medium dense, fine to coarse sand, rock fragments present.	5	S-1	SPT	15	44	18	10	
			6							
			7							
			8	S-2A	CR	0	20	50/1"		
	+1246.0	Young Alluvial Fan Deposit (Qya) Silty SAND (SM), dark gray, dense, slightly moist to moist, fine to coarse sand, rock fragments present.	9	S-2B	SPT	10	14	26	22	
			10	S-3	SPT	4	50/4"			
		Gray and mottled orangish brown, very dense, dry to slightly moist, fine to coarse sand, cobble fragments present.	11							
			12							
			13							
			14							
	+1239.0	SAND with Gravel and Silt (SP-SM), gray and orangish brown, very dense, dry, fine to coarse sand, cobble fragments present.	15	S-4	SPT	3	50/3"			
			16							
			17							
			18							
			19							
			20							

28"

50/1"

48"

50/4"

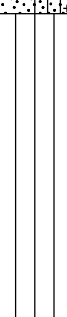
50/3"

No sample recovery

Drill rig grinding slowly and loud rig chatter. Possible cobbles encountered.

Sampler bouncing on a possible cobble

Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1254 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				N-Value (Blows/ft)				Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	10	20	30	40	
	+1234.0	Orangish brown, slightly moist, fine to coarse sand, sine to coarse gravel	20	S-5	SPT	6	50/6"					
			21									
			22									
			23									
			24									
			25	S-6	SPT	5	50/5"					
			26									
			27									
			28									
			29									
	+1224.0	Sandy SILT (ML), orangish brown, stiff, moist, fine to coarse sand, trace gravel.	30	S-7	SPT							
			31			18		14				
			32					11				
			33					12				
			34									
	+1218.8	Total depth = 35.2 feet. No groundwater encountered. Borehole backfilled with on-site fill soils.	35	S-8	SPT	1	50/1"					
			36									
			37									
			38									
			39									
			40									
			41									
			42									
			43									
			44									
			45									

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/10/2023		Date Finished 08/10/2023	
Drilling Equipment GT-8 Truck-mounted Drill				Completion Depth 46.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 5		Undisturbed Core	
Casing Diameter (in)		Casing Depth (ft)		Water Level (ft.) First ∇		Completion ∇ 24 HR. ∇	
Casing Hammer		Weight (lbs)		Drop (in)		Drilling Foreman Juan	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Sandy SILT (ML) to Silty SAND (SM): light brown, dry, scattered cobbles, gravel, and vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
		Silty to Sandy GRAVEL (GM): light gray, dry, dense, predominantly crushed concrete.	11	S-1	SPT	3	20	20	10	
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

30

Heavy auger chatter-cobbles/boulders, slow drilling.

Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
		Cuttings are Silty to Gravely SAND (SP): brown, slightly moist, cobbles, medium to coarse gravel.	20	S-2	SPT	0	50/1"	50/1"	No sample recovery; sampled on rock.
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						
			31	S-3	SPT	8	10	11	
			32						
			33						
			34						
			35						
			36						
			37						
			38						
			39						
			40						
			41	S-4	SPT	12	19	20	
			42						
			43						
			44						
			45						
		Young Alluvial Fan Deposit (Qya) Silty SAND (SM): orangish brown, slightly moist, dense, fine to medium sand, occasional rounded to subrounded fine to medium gravel.							Easier drilling.

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Project Proposed Athletic Complex			Project No. 700114101							
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40		
		Orangish brown to brown mottled, medium dense, some limonite staining.	45	S-5	SPT		18	11		24
		Total Depth = 46.5 feet No groundwater encountered. Boring backfilled with cuttings.	46				12	12		
			47							
			48							
			49							
			50							
			51							
			52							
			53							
			54							
			55							
			56							
			57							
			58							
			59							
			60							
			61							
			62							
			63							
			64							
			65							
			66							
			67							
			68							
			69							
			70							

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/07/2023		Date Finished 08/08/2023	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 36.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 4		Undisturbed 0	
Casing Diameter (in)				Casing Depth (ft)		Core	
Casing Hammer		Weight (lbs)		Drop (in)		Water Level (ft.)	
Sampler 2-inch O.D. SPT Split-Barrel		Weight (lbs)		Drop (in)		First ▼	
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Completion ▼	
Drilling Foreman Juan, Jorge, & Eddie				Field Engineer N. Ghanta & A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recon. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Gravel (SM): dark gray, dry to slightly moist, rock fragments.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	14	9	16		
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
		Dark brown, slightly moist, occasional asphalt and concrete clasts.	20	S-2	SPT	18	22	28	
			21				19		
			22				9		
			23						
			24						
		Very dense, abundant asphalt, some concrete clasts.	25	S-3	SPT	13	12	50/1"	50/1"
			26				50/1"		
			27						
			28						
			29						
		SAA	30	S-4	SPT	18	9	20	
		Young Alluvial Fan Deposit (Qya)	31				9		
		Silty SAND with Gravel (SM): light orangish brown to yellowish brown, slightly moist, medium dense, fine to medium sand and gravel.	32				11		
			33						
			34						
		Orangish brown, dense, fine to medium sand with occasional coarse sand, some limonite/iron oxide staining.	35	S-5	SPT	0	20	39	
			36				27		
			37				12		
		Total Depth = 36.5 feet No groundwater encountered. Boring backfilled with cuttings.	38						
			39						
			40						
			41						
			42						
			43						
			44						
			45						

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/11/2023		Date Finished 08/11/2023	
Drilling Equipment Track-mounted Drill				Completion Depth 56.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 7		Undisturbed 0	
Casing Diameter (in)				Casing Depth (ft)		Core	
Casing Hammer		Weight (lbs)		Drop (in)		Water Level (ft.)	
Sampler 2-inch O.D. SPT Split-Barrel		Weight (lbs)		Drop (in)		Completion	
Sampler Hammer Automatic		Weight (lbs)		Drop (in)		24 HR.	
Drilling Foreman Jerry				Field Engineer A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data							Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL	Join	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Gravel (SM): light brown, dry, scattered vegetation, scattered cobbles and small boulders.	0								
			1								
			2								
			3								
			4								
			5								
			6								
			7								
			8								
			9								
			10								
		Cuttings are Silty SAND (SM): light brown, dry to slightly moist.	10	S-1	SPT	E	O	50/4"		50/4"	No sample recovery; sampled on a rock.
			11								
			12								
			13								
			14								
			15								
			16								
			17								
			18								
			19								
			20								

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Project Proposed Athletic Complex			Project No. 700114101							
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft) 10 20 30 40		
		Silty SAND with Gravel (SM): brown and light brown, very dense, slightly moist.	20	S-2	SPT	10	16		Easier drilling from 23-27 feet.	
	21		32							
	22		30							
	23									
	24									
	25									
	26									
	27									
	28									
	29									
		Silty SAND (SM): dark brown, dense, moist, scattered asphalt clasts.	30	S-3	SPT	13	14			
	31		9							
	32		29							
	33									
	34									
	35									
	36									
	37									
	38									
	39									
		Silty to Gravelly SAND (SM): dark brown with some orangish brown, very dense, moist, scattered asphalt, occasional concrete clast.	40	S-4	SPT	15	19			
	41		30							
	42		47							
	43									
	44									
	45									

Project Proposed Athletic Complex			Project No. 700114101																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Young Alluvial Fan Deposit (Qya) Silty SAND with Gravel (SM): light orangish brown, dry to slightly moist, fine to medium sand.	45	S-5	SPT	4	50/5"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/08/2023		Date Finished 08/08/2023	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 50.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 8		Undisturbed 0	
Casing Diameter (in)		Casing Depth (ft)		Water Level (ft.) First ∇		Completion ∇	
Casing Hammer		Weight (lbs)		Drop (in)		Drilling Foreman Jorge & Eddie	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Cobbles (SM): medium to coarse gravel and broken cobbles in cuttings, scattered vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	8	9	17		
			12				12			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							
		Gravelly SAND with Silt (SW): brown, slightly moist, medium dense, crushed concrete clast in sampler shoe.								

Heavy auger chatter.

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Project			Proposed Athletic Complex			Project No.			700114101		
Location			Claremont Mckenna College			Elevation and Datum			Approx. (feet, MSL)		
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					N-Value (Blows/ft)		Remarks
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	10 20 30 40		(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
		Cuttings are Silty SAND with Gravel (SM) to Gravelly SAND with silt (SW): brown, slightly moist, very dense.	20	S-2	SPT	0	50/1"		50/1"	No sample recovery; sampled on a rock.	
			21								
		Gravelly SAND with Silt (SW): brown and dark brown, medium dense, slightly moist, medium to coarse gravel, some dark brown to black asphalt.	25	S-3	SPT		13				
			26			12	13		26		
		Very dense.	30	S-4	SPT	0	50/0"		50/0"	No sample recovery; sampled on a rock.	
			31								
		Silty SAND with Gravel (SM): yellowish brown, slightly moist, dense, some limonite staining, some asphalt.	35	S-5	SPT		18				
			36			16	10		34		
		Very dense.	40	S-6	SPT	0	50/1.5"		50/1.5"	No sample recovery; sampled on a rock.	
			41								
			42								
			43								
			44								
			45								

Project Proposed Athletic Complex			Project No. 700114101									
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)									
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
		Young Alluvial Fan Deposit (Qya) Silty SAND with Gravel (SM): orangish brown, slightly moist, very dense, medium to fine sand, medium to coarse gravel.	45	S-7	SP	6	50/6"	10	20	30	40	50/6"
		Medium gravel.	50	S-8	SP	5	50/5"					
		Total Depth = 50.5 feet No groundwater encountered. Boring backfilled with cuttings.	51									
			52									
			53									
			54									
			55									
			56									
			57									
			58									
			59									
			60									
			61									
			62									
			63									
			64									
			65									
			66									
			67									
			68									
			69									
			70									

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/10/2023		Date Finished 08/10/2023	
Drilling Equipment GT-8 Truck-mounted Drill				Completion Depth 51.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 8		Undisturbed 0	
Casing Diameter (in)				Casing Depth (ft)		Core	
Casing Hammer		Weight (lbs)		Drop (in)		Water Level (ft.)	
Sampler 2-inch O.D. SPT Split-Barrel		Weight (lbs)		Drop (in)		First ▼	
Sampler Hammer Automatic		Weight (lbs)		Drop (in)		Completion ▼	
		140		30		24 HR. ▼	
Drilling Foreman Juan				Field Engineer A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Gravel (SM): brown, dry, scattered gravel, cobbles, and vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	12	6	3	7	
			12				4			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
		Brown to dark brown, concrete and asphalt clasts.	20	S-2	SPT	15	5		
			21				4		
			22				3		
			23						
		Orangish brown, medium dense, fine to medium gravel and sand.	30	S-3	SPT	10	6		
			31				7		
			32				8		
			33						
		Brown with some orangish brown mottle.	35	S-4	SPT	12	6		
			36				6		
			37				11		
			38						
		Sampler pushing rock.	40	S-5	SPT	1	9		
			41				9		
			42						
			43						

Project Proposed Athletic Complex			Project No. 700114101									
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)									
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40				
		Silty SAND with Asphalt (SM): black, very dense, slightly moist.	45	S-6A	SPT	18	18		68			
		<u>Young Alluvial Fan Deposit (Qya)</u> Silty SAND with Gravel (SM): orangish brown, very dense, slightly moist, fine to medium sand and gravel.	46				31					
			47	S-7	SPT	128						
			48									
			49									
			50									
		Silty SAND (SM) and Sandy SILT with Gravel (ML): orangish brown, medium dense to stiff, moist, limonite staining, manganese oxide staining.	51			8	8	18				
			52			10						
		Total Depth = 51.5 feet No groundwater encountered. Boring backfilled with cuttings.	53									
			54									
			55									
			56									
			57									
			58									
			59									
			60									
			61									
			62									
			63									
			64									
			65									
			66									
			67									
			68									
			69									
			70									

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/08/2023		Date Finished 08/08/2023	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 36.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 5		Undisturbed 0	
Casing Diameter (in)				Casing Depth (ft)		Core	
Casing Hammer				Weight (lbs)		Drop (in)	
Sampler 2-inch O.D. SPT Split-Barrel				Water Level (ft.) First ∇		Completion ∇	
Sampler Hammer Automatic				Weight (lbs) 140		Drop (in) 30	
				Drilling Foreman Jorge & Eddie			
				Field Engineer A. Nieblas			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND (SM): light brown, dry, scattered vegetation, abundant cobbles.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	18	10	12	22	
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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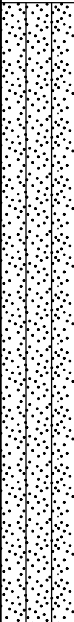
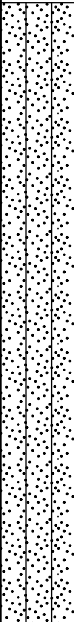
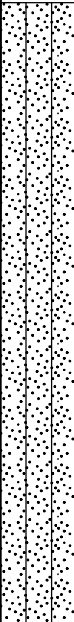
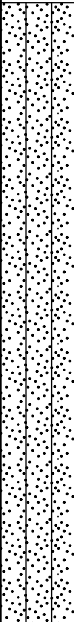
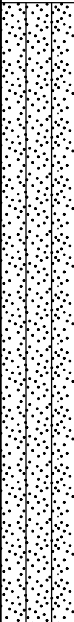
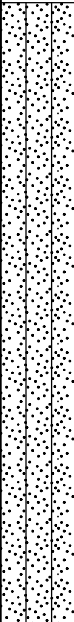
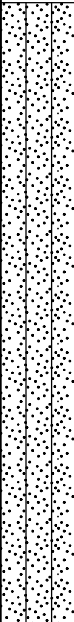
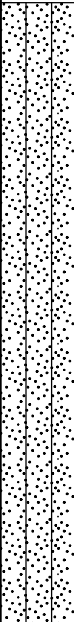
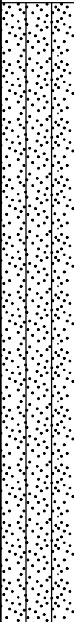
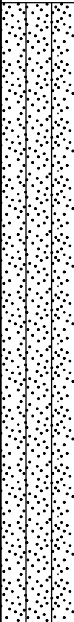
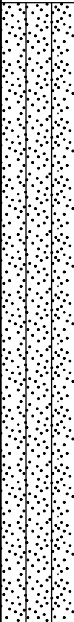
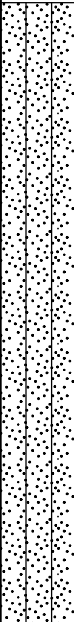
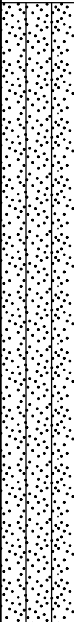
Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Young Alluvial Fan Deposit (Qya) Silty SAND with Gravel (SM): orangish brown, slightly moist, medium dense, fine to medium gravel.	20	Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
			21	S-2	SPT	18	5 6	10 20 30 40	14
			22						
			23						
			24						
		Brown to orangish brown.	25	S-3	SPT	10	10 7		14
			26						
			27						
			28						
			29						
		Brown, dense, fine to medium subrounded and subangular gravel.	30	S-4	SPT	14	7 17		33
			31						
			32						
			33						
			34						
		Cuttings are brown to orangish brown, medium dense.	35	S-5	SPT	0	41 8		22
			36						
			37						
			38						
			39						
			40						
			41						
			42						
			43						
			44						
			45						
		Total Depth: 36.5 feet No groundwater encountered. Boring backfilled with cuttings.							No sample recovery; sampled on a rock.

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/09/2023		Date Finished 08/09/2023	
Drilling Equipment CME-75 Track-mounted Drill Rig				Completion Depth 57 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 7		Undisturbed 0	
Casing Diameter (in)		Casing Depth (ft)		Water Level (ft.) First ∇		Completion ∇	
Casing Hammer		Weight (lbs)		Drop (in)		Drilling Foreman Jeff	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Gravel (SM): light brown, dry, abundant cobbles, scattered vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	8	12	6	11	
			12				5			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project			Proposed Athletic Complex			Project No.			700114101			
Location			Claremont Mckenna College			Elevation and Datum			Approx. (feet, MSL)			
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data				N-Value (Blows/ft)		Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
		Sandy to Silty Gravel (GM): gray, dry, medium dense.	20	S-2	SPT	2	30	10 20 30 40		Poor recovery; sampled on a rock.		
			21					15	23			
			22									
			23									
			24									
			25									
			26									
			27									
			28									
			29									
			30	S-3	SPT	5	13	10 20 30 40			Refusal, moved over 5 feet and redrilled to 30 feet.	
			31					10	18			
			32									
			33									
			34									
			35									
			36									
			37									
			38									
			39									
40	S-4	SPT	3	12	10 20 30 40		Slow drilling from 40-50 feet, heavy auger chatter.					
41					11	18						
42												
43												
44												
45												

Project Proposed Athletic Complex			Project No. 700114101											
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)											
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)				
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40						
			45											
			46											
			47											
			48											
			49											
			50											
			51	S-5	SPT	0	50/2"							No sample recovery; sampled on a rock. Slightly easier drilling, less rocky.
			52											
			53											
			54											
			55	S-6	SPT	4	50/6"							Bent sampler.
			56											
			57	S-7	SPT	0	50/1"							Driller added water to borehole, no foward progress.
			58											
			59											
			60											
			61											
			62											
			63											
			64											
			65											
			66											
			67											
			68											
			69											
			70											

Young Alluvial Fan Deposit (Qya)

Sandy SILT with Gravel (ML): yellowish brown, dry, hard, occasional weathered/angular gravel, sample pulverized.

No Recovery, sampler shoe contained yellowish brown sluff.

Total depth = 57 feet
No groundwater encountered.
Boring backfilled with cuttings.
Note: Native at 55 feet (possibly as early as 30 feet).

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/08/2023		Date Finished 08/08/2023
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 36.5 ft		Rock Depth
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 6	Undisturbed 0
Casing Diameter (in)		Casing Depth (ft)	Water Level (ft.)	First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jorge & Eddie		
Sampler 2-inch O.D. SPT Split-Barrel			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recon. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND with Gravel and Cobbles (SM): scattered vegetation and weeds.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	10	16	14	23	
			12							
			13							
			14							
			15							
			16	S-2	SPT	12	2	5	10	
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex			Project No. 700114101								
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)								
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40			
		Brown and dark brown, dense, occasional asphalt clast.	20	S-3	SPT	15	2	8	32		
			21				24				
			22								
		Orangish brown sand in cuttings.	23								
			24								
			25								
		Dark brown, medium dense, very few brick pieces (medium sand sized), glass in sampler shoe.	25	S-4	SPT	12	11	12	29		
			26				17				
			27								
		Brown and dark brown, occasional bricks and asphalt pieces; native in sampler shoe.	28								
			29								
			30								
		<u>Young Alluvial Fan Deposit (Qya)</u> SAND (SP): orangish brown, medium dense, slightly moist.	31	S-5	SPT	15	11	10	22		
			32				12				
			33								
		Silty SAND with Gravel (SM): orangish brown, medium dense, slightly moist, fine to medium gravel, limonite staining around gravel clasts.	34								
			35								
			36								
		Total Depth = 36.5 feet No groundwater encountered. Boring backfilled with cuttings.	36	S-6	SPT	10	11	10	20		
			37				10				
			38								
			39								
			40								
			41								
			42								
			43								
			44								
		45									

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Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/10/2023		Date Finished 08/10/2023
Drilling Equipment GT-8 Truck-mounted Drill			Completion Depth 56.5 ft		Rock Depth
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 7	Undisturbed 0
Casing Diameter (in)		Casing Depth (ft)	Water Level (ft.)	First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Juan		
Sampler 2-inch O.D. SPT Split-Barrel			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND (SM): brown, dry, scattered cobbles, gravel, and vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	12	5	8	16	
		Sandy SILT (MLS) and Silty SAND with Gravel (SM): black and orangish brown, medium dense to stiff, moist, abundant asphalt.	12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
		Silty SAND (SM): brown, medium dense, occasional coarse gravel, pieces of clay brick.	20	S-2	SPT	11	37		
			21				6	15	
			22				9		
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30	S-3	SPT	2	7		
			31				12	24	
			32				12		
			33						
			34						
			35						
			36						
			37						
			38						
			39						
			40	S-4	SPT	7	10		
			41				10	20	
			42				10		
			43						
			44						
			45						

Project Proposed Athletic Complex			Project No. 700114101								
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)								
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
		Gray brown and dark brown, dense, some asphalt, oxidized and corroded metal.	45								
			46	S-5	SPT		15	27			
								20			
								16		36	
			Young Alluvial Fan Deposit (Qya) Sandy SILT (ML): orangish brown, very stiff, moist, scattered weathered gravel, limonite staining.	50	S-6	SPT		18	9		
				51					8		29
								21			
			52								
			53								
			54								
			55								
		Silty SAND with Gravel (SM): orangish brown, very dense, slightly moist, fine to medium sand and gravel, very weathered gravel clasts.	55	S-7	SPT		15	17			
			56					45			
								50/4"		50/4"	
		Total Depth = 56.5 feet No groundwater encountered. Boring backfilled with cuttings.	57								
			58								
			59								
			60								
			61								
			62								
			63								
			64								
			65								
			66								
			67								
			68								
			69								
			70								

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. (feet, MSL)			
Drilling Company 2R Drilling				Date Started 08/08/2023		Date Finished 08/08/2023	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 36.5 ft		Rock Depth	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 7		Undisturbed 0	
Casing Diameter (in)		Casing Depth (ft)		Water Level (ft.) First ∇		Completion ∇	
Casing Hammer		Weight (lbs)		Drop (in)		Drilling Foreman Jorge & Eddie	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer A. Nieblas			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND (SM): light brown, dry, abundant cobbles.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
		Silty SAND with Gravel (SM): light grayish brown, medium dense, dry.	11	S-1	SPT	1	15	10	20	Sampler pushed a rock.
			12							
			13							
			14							
			15							
			16	S-2	SPT	6	8	8	18	
			17							
			18							
			19							
			20							
		Dark brown, dry to slightly moist, predominately asphalt.								

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Project Proposed Athletic Complex			Project No. 700114101																		
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)																		
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)												
		Orangish brown and medium to dark brown, loose to medium dense, slightly moist and moist, rare brick pieces.	20	S-3A/B	SPT	18	5	4	8												
			21																		4
				22																	
				23																	
				24																	
			Dark brown, very dense, slightly moist, occasional brick pieces.	25	S-4	SPT	3	50/3"		50/3"											
				26																	
				27																	
				28																	
				29																	
			Young Alluvial Fan Deposit (Qya)	30	S-5	SPT	6	9	7	14											
			Silty SAND with Gravel (SM): orangish brown, medium dense, slightly moist, medium to fine sand and gravel.	31																	7
				32																	
				33																	
				34																	
				35	S-6	SPT	15	12	12	23											
			Brown to slightly orangish brown, fine gravel, minor limonite staining.	36																	
			Total Depth = 36.5 feet No groundwater encountered. Borings backfilled with cuttings.	37																	
				38																	
				39																	
			40																		
			41																		
			42																		
			43																		
			44																		
			45																		

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/09/2023		Date Finished 08/09/2023
Drilling Equipment Track-mounted Drill			Completion Depth 60.5 ft		Rock Depth
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 6	Undisturbed 1
Casing Diameter (in)		Casing Depth (ft)	Water Level (ft.)	First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jeff		
Sampler 2-inch O.D. SPT Split-Barrel, 2.5-inch I.D. Cal Mod			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND (SM): light brown, dry, abundant gravel, cobbles, concrete and asphalt clasts, scattered vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	10	8	11		
			12				8			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
		Dark brown, abundant asphalt clasts/gravel.	20	S-2	SPT	14	7		
			21				12	24	
			22				12		
			23						
			24						
			25						
			26						
			27						
			28						
			29						
		Dark brown and black, very dense, moist, abundant asphalt.	30	S-3	CR	18	18		
			31				34	66	Easy drilling from 30-34 feet, rocky at 34 feet.
			32				32		
			33						
			34						
			35						
			36						
			37						
			38						
			39						
			40						
		Silty SAND (SM): dark brown and brown, dense, slightly moist, abundant asphalt.	40	S-4	SPT	15	9		
			41				16	49	Easy drilling from 40-44.5 feet, dark brown asphalt sand in cuttings, likely nested asphalt at depth, rocky at 45-50 feet.
			42				33		
			43						
			44						
			45						

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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
			45						
			46						
			47						
			48						
			49						
			50	S-5	SPT	0	50/4"		No sample recovery; sampled on a rock.
			51						
			52						
			53						
			54						
			55	S-6	SPT	5	50/5"		Rocky from 50-55 feet, heavy auger chatter, slow drilling.
			56						
			57						
			58						
			59						
			60	S-7	SPT	5	50/2"		
			61						
			62						
			63						
			64						
			65						
			66						
			67						
			68						
			69						
			70						

Young Alluvial Fan Deposit (Qya)

Silty SAND with Gravel (SM): orangish brown and gray, very dense, slightly moist, fine to very coarse gravel (potentially cobble).

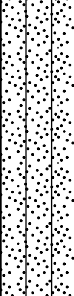
Silty SAND with some Gravel (SM): orangish brown, very dense, slightly moist, iron oxide or limonite staining, some fine to medium gravel, manganese oxide stained gravel.

Total Depth = 60.5 feet
No groundwater encountered.
Boring backfilled with cuttings.

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/11/2023		Date Finished 08/11/2023
Drilling Equipment Track-mounted Drill			Completion Depth 35.5 ft		Rock Depth
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 5	Undisturbed 0
Casing Diameter (in)		Casing Depth (ft)	Water Level (ft.)	First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jerry		
Sampler 2-inch O.D. SPT Split-Barrel			Field Engineer A. Nieblas		
Sampler Hammer	Automatic	Weight (lbs) 140	Drop (in) 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
		Artificial Fill Silty SAND (SM): light brown, dry, scattered cobbles, gravel, and vegetation.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
			10							
			11	S-1	SPT	14	29	43		
			12				35			
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

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Project			Proposed Athletic Complex			Project No.			700114101					
Location			Claremont Mckenna College			Elevation and Datum			Approx. (feet, MSL)					
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)					
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)						
		Light brown to orangish brown.	20	S-2	SPT	10	36	50/3"	10	20	30	40		
			21											
			22											
			23											
			24											
			25	S-3	SPT	8	29	50/5"						
			26											
			27											
			28											
			29											
			30	S-4	SPT	10	33	50/5"						
			31											
			32											
			33											
			34											
			35	S-5	SPT	0	50/6"							
			36											
			37											
			38											
			39											
40														
41														
42														
43														
44														
45														
		Light brown.	20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											
			33											
			34											
			35											
			36											
			37											
			38											
			39											
40														
41														
42														
43														
44														
45														
		Young Alluvial Fan Deposit (Qya) Silty SAND (SM): orangish brown, very dense, slightly moist, very weatherd gravel, limonite staining.	20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											
			33											
			34											
			35											
			36											
			37											
			38											
			39											
40														
41														
42														
43														
44														
45														
		Silty SAND with Gravel (SM): orangish brown, very dense, slightly moist, limonite and manganese oxide staining, very weathered fine to medium gravel.	20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											
			33											
			34											
			35											
			36											
			37											
			38											
			39											
40														
41														
42														
43														
44														
45														
		Total Depth = 36.5 feet No groundwater encountered. Boring backfilled with cuttings.	20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											
			33											
			34											
			35											
			36											
			37											
			38											
			39											
40														
41														
42														
43														
44														
45														

MOISTURE DENSITY TESTS

PROJECT Langan # 700114101

JOB NO. 2012-0057

BY LD

DATE 11/15/22

Sample No.	B-15 / S-8	B-16 / S-3	B-17 / S-12	B-20 / S-2	B-21 / S-1	B-21 / S-3	B-21 / S-7	B-21 / S-9
Depth (ft)	5.0	7.5	50.0	5.0	2.5	7.5	25.0	35.0
Testing								
Soil Type	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel
Wet+Tare	Disturbed	Disturbed	980.2	498.7	913.9	Disturbed	551.8	515.9
Tare			5	3	5		3	3
Wet Weight	304.2	160.0	167.9	84.0	173.7	228.7	186.8	123.9
Dry Weight	301.5	154.0	151.3	80.0	165.7	219.7	180.6	117.7
Wet density			132.0	107.1	121.0		121.9	111.9
% Water	0.9	3.9	11.0	5.0	4.8	4.1	3.4	5.3
Dry Density			119.0	102.0	115.4		117.9	106.3
O.B.Press(psf)								
Sample No.	B-22 / S-10	B-23 / S-1	B-23 / S-3	B-25 / S-2	B-28 / S-2	B-31 / S-3	B-33 / S-4	B-35 / S-2
Depth (ft)	55.0	2.5	7.5	5.0	5.0	7.5	10.0	5.0
Testing			SPT					
Soil Type	Brown, Clayey Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel
Wet+Tare	1003.4	346.7	Disturbed	Disturbed	942.4	665.8	589.1	Disturbed
No. Ring	5	2			5	4	3	
Wet Weight	216.2	138.0	254.6	127.5	148.5	150.5	208.5	123.0
Dry Weight	194.9	133.2	245.1	123.3	140.9	143.2	202.7	119.7
Wet density	135.9	113.1			125.7	107.3	132.3	
% Water	10.9	3.6	3.9	3.4	5.4	5.1	2.9	2.8
Dry Density	122.5	109.2			119.3	102.1	128.6	
O.B.Press(psf)								

MOISTURE DENSITY TESTS

PROJECT Langan # 700114101

JOB NO. 2012-0057

BY LD

DATE 11/15/22

Sample No.	B-35 / S-4	B-37 / S-1	B-40 / S-2	B-41 / S-1	B-41 / S-3	B-42 / S-2	B-42 / S-4	B-44 / S-6
Depth (ft)	10.0	2.5	5.0	2.5	7.5	5.0	10.0	50.0
Testing								
Soil Type	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Clayey Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel	Brown, Silty Sand w. Gravel
Wet+Tare	889.8	750.7	1238.3	713.8	1115.0	548.7	810.8	931.3
Tare	5	4	6	4	6	3	4	5
Wet Weight	144.6	108.4	126.9	114.8	150.9	253.1	312.4	145.3
Dry Weight	133.6	103.8	115.4	112.2	145.5	245.0	272.8	135.6
Wet density	116.9	125.1	140.7	117.3	123.5	121.1	137.6	123.9
% Water	8.2	4.4	10.0	2.3	3.7	3.3	14.5	7.2
Dry Density	108.0	119.7	127.9	114.7	119.1	117.2	120.2	115.6
O.B.Press(psf)								
Sample No.								
Depth (ft)								
Testing								
Soil Type								
Wet+Tare								
No. Ring								
Wet Weight								
Dry Weight								
Wet density								
% Water								
Dry Density								
O.B.Press(psf)								

WASH #200 SIEVE - ASTM D 1140-92

Job Name Langan # 700114101

Date 11-15-22

Job No. 2012-0057

By LD

Sample	B-28/S-4	Sample	B-33/S-5	Sample	B-40/S-3
Soil Type		Soil Type		Soil Type	
% water		% water		% water	
Wet weight		Wet weight		Wet weight	
Dry weight	238.3	Dry weight	210.5	Dry weight	234.2
+ 200 sieve	196.3	+ 200 sieve	143.6	+ 200 sieve	139.3
% Retained	82.4	% Retained	68.2	% Retained	59.5
%Pass. #200	18	%Pass. #200	32	%Pass. #200	41

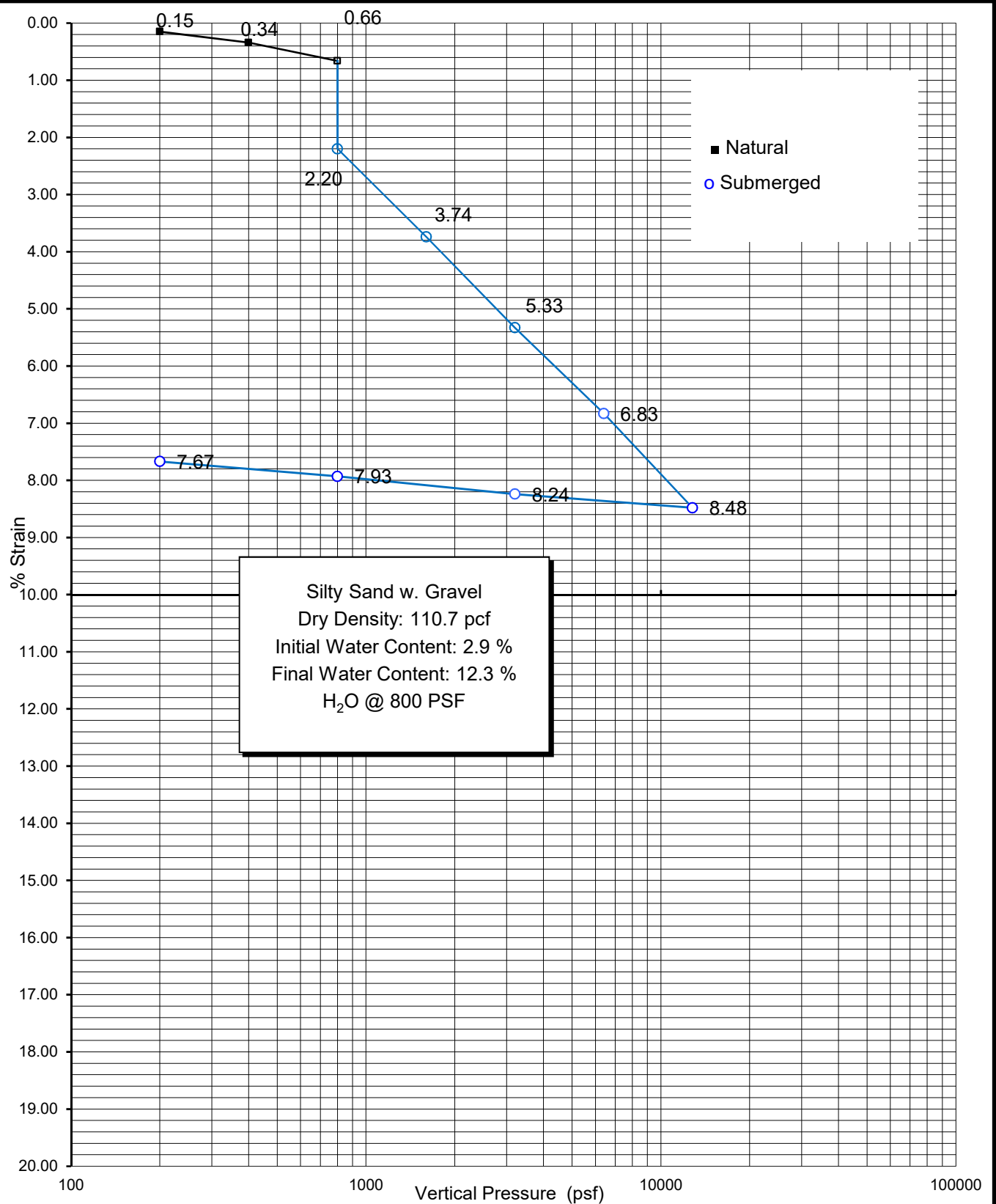
Sample	B-42/S-4	Sample	B-45/S-5	Sample	
Soil Type		Soil Type		Soil Type	
% water		% water		% water	
Wet weight		Wet weight		Wet weight	
Dry weight	272.8	Dry weight	317.5	Dry weight	
+ 200 sieve	153.2	+ 200 sieve	222.8	+ 200 sieve	
% Retained	56.2	% Retained	70.2	% Retained	
%Pass. #200	44	%Pass. #200	30	%Pass. #200	

Sample		Sample		Sample	
Soil Type		Soil Type		Soil Type	
% water		% water		% water	
Wet weight		Wet weight		Wet weight	
Dry weight		Dry weight		Dry weight	
+ 200 sieve		+ 200 sieve		+ 200 sieve	
% Retained		% Retained		% Retained	
%Pass. #200		%Pass. #200		%Pass. #200	

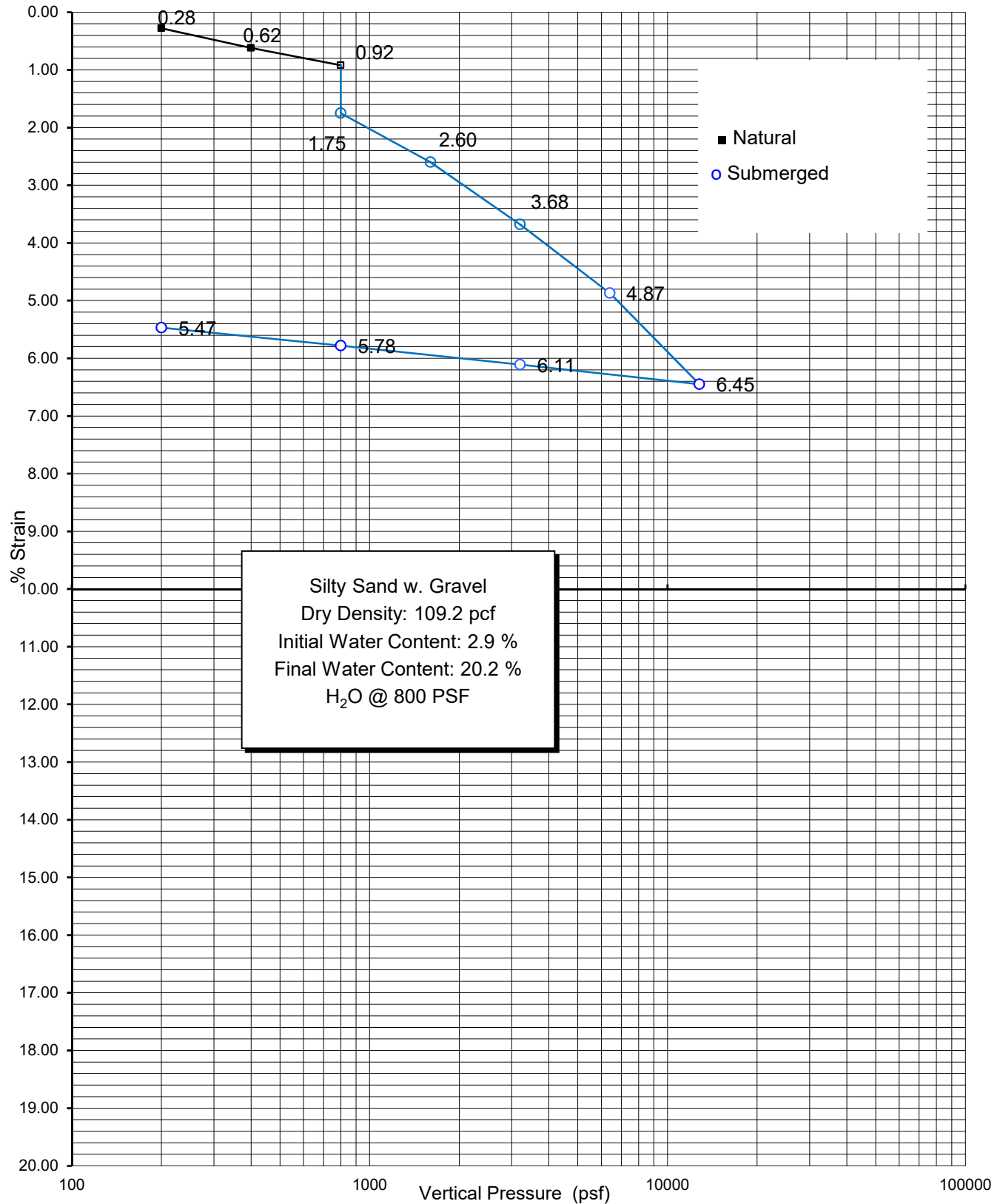
Sample		Sample		Sample	
Soil Type		Soil Type		Soil Type	
% water		% water		% water	
Wet weight		Wet weight		Wet weight	
Dry weight		Dry weight		Dry weight	
+ 200 sieve		+ 200 sieve		+ 200 sieve	
% Retained		% Retained		% Retained	
%Pass. #200		%Pass. #200		%Pass. #200	

SAMPLE NO.:		B-20 / Bulk			B-21A / Bulk			B-23 / Bulk			B-44 / Bulk					
Depth:		1' - 5'			10' - 15'			5' - 10'			1' - 10'					
DIRECT SHEAR TEST (type)																
Initial Moisture Content %																
Dry Density (pcf)																
Normal Stress (psf)																
Peak Shear Stress (psf)																
Ultimate Shear Stress (psf)																
Cohesion (psf)																
Internal Friction Angle (degrees)																
EXPANSION TEST UBC STD 18-2																
Initial Dry Density (pcf)																
Initial Moisture Content %																
Final Moisture Content %																
Pressure (psf)																
Expansion Index	Swell %															
CORROSIVITY TEST																
Resistivity (CTM643) (ohm-cm)		750			1800			7700			7100					
pH (CTM643)		7.6			7.2			7.3			7.4					
CHEMICAL TESTS																
Soluble Sulfate (CTM 417) (ppm)		189			4267			197			234					
Chloride Content (CTM 422) (ppm)		41			126			89			27					
Wash #200 Sieve (ASTM-1140) %																
Sand Equivalent (ASTM D2419)																

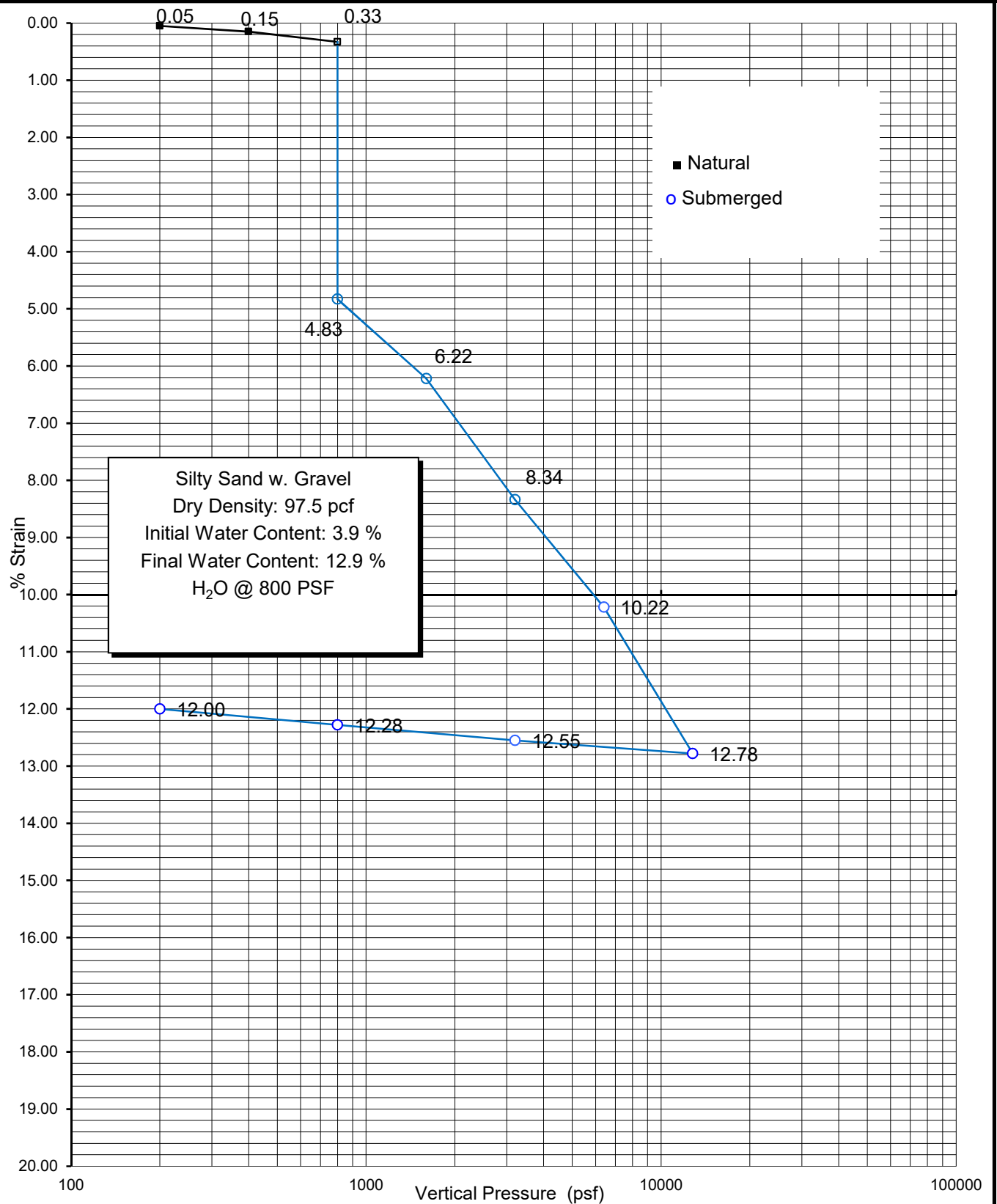
Boring / Sample No.	B-20 / S-4	Depth:	10'	Date	11-09-22
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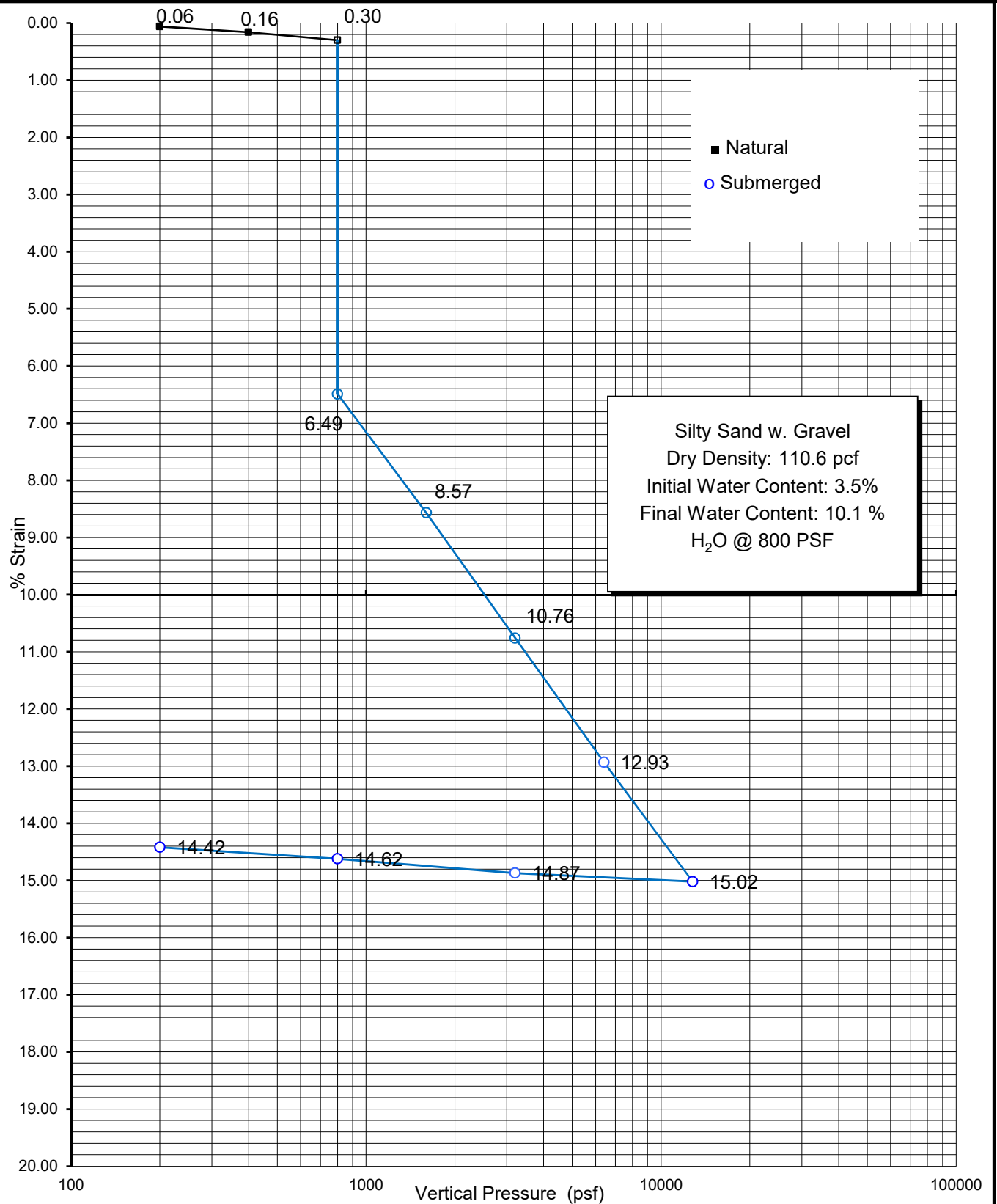
Boring / Sample No.	B-23 / S-1	Depth:	10'	Date	11-26-22
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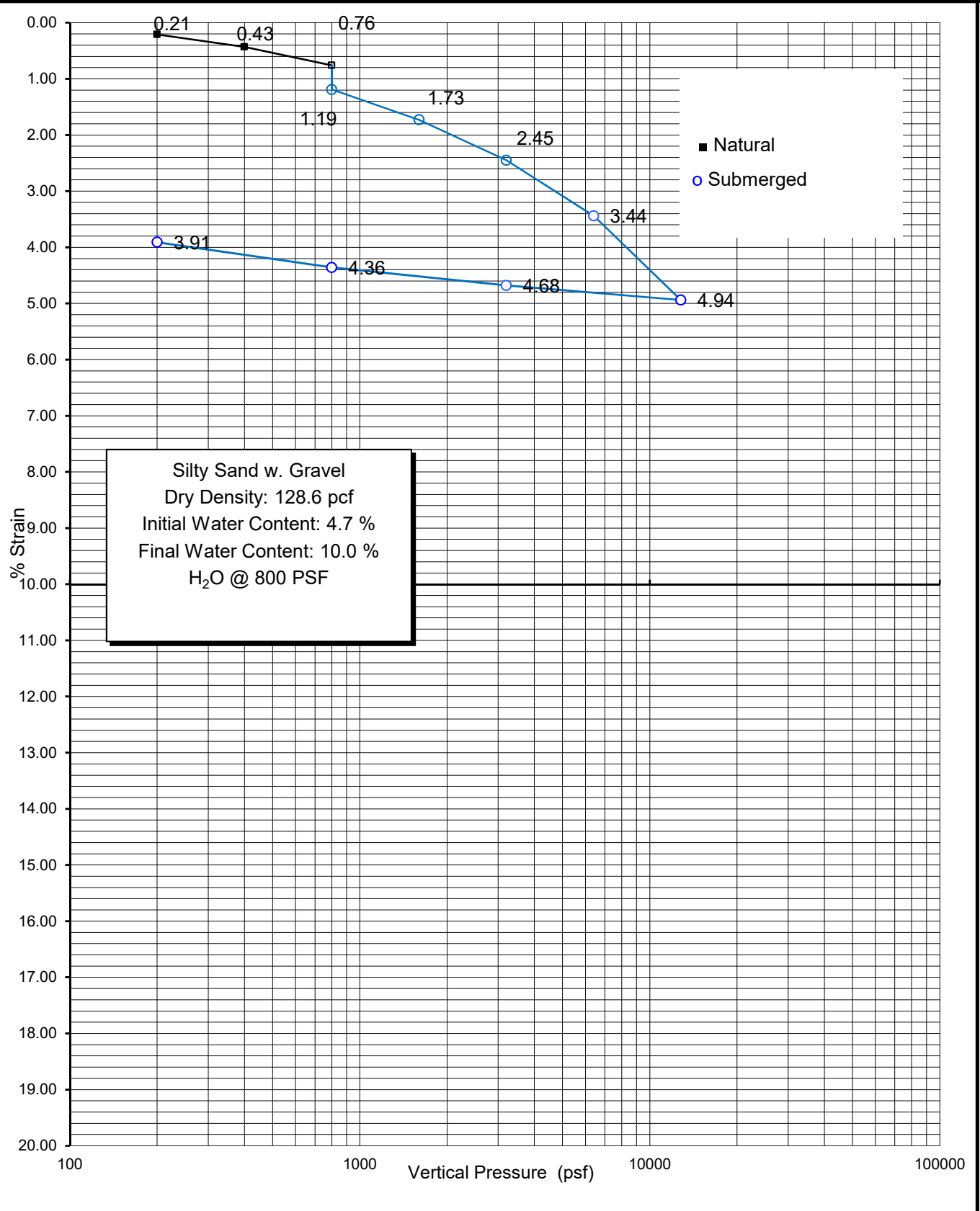
Boring / Sample No.	B-28 / S-4	Depth:	10'	Date	11-09-22
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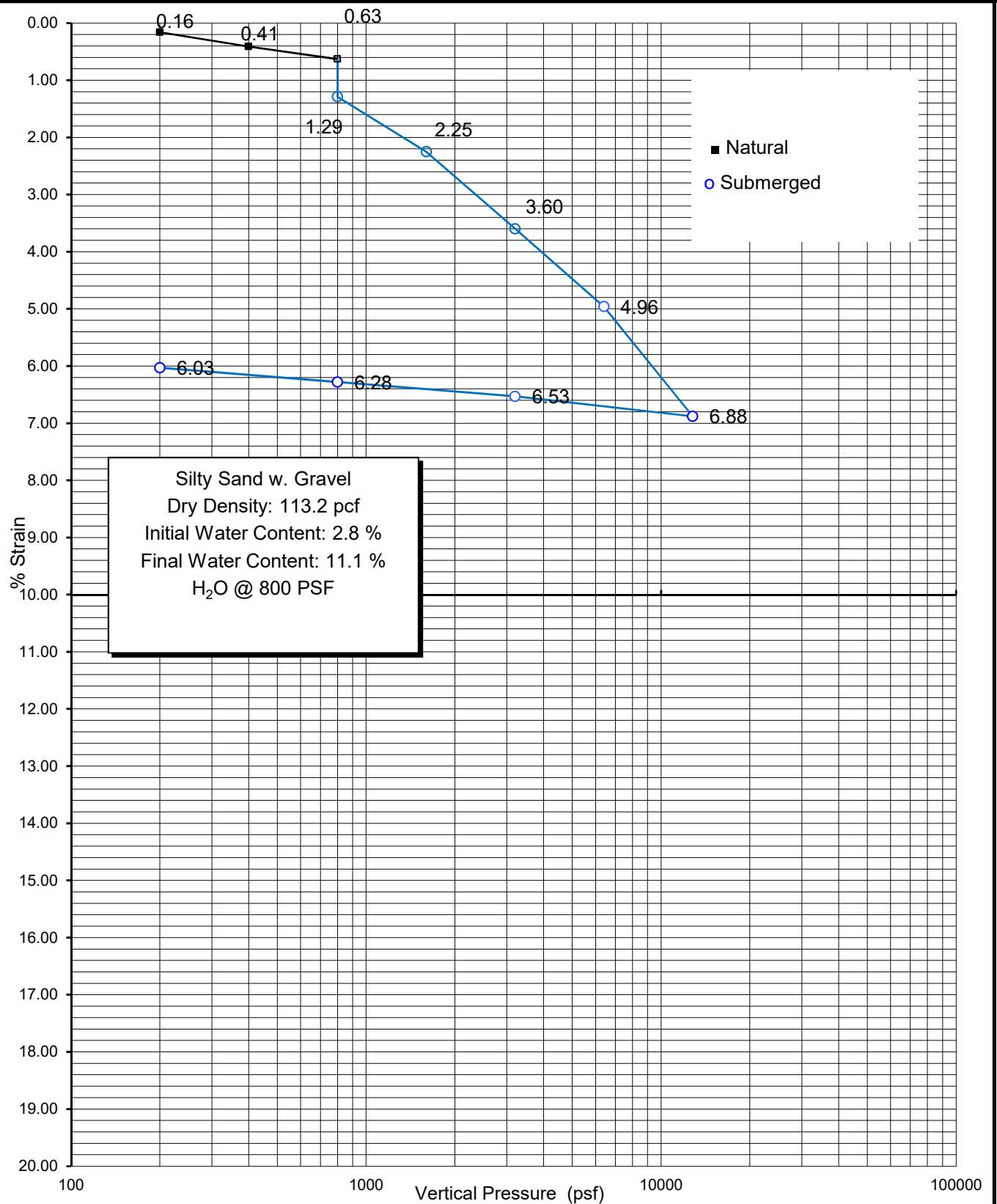
Boring / Sample No.	B-29 / S-4	Depth:	30'	Date	11-09-22
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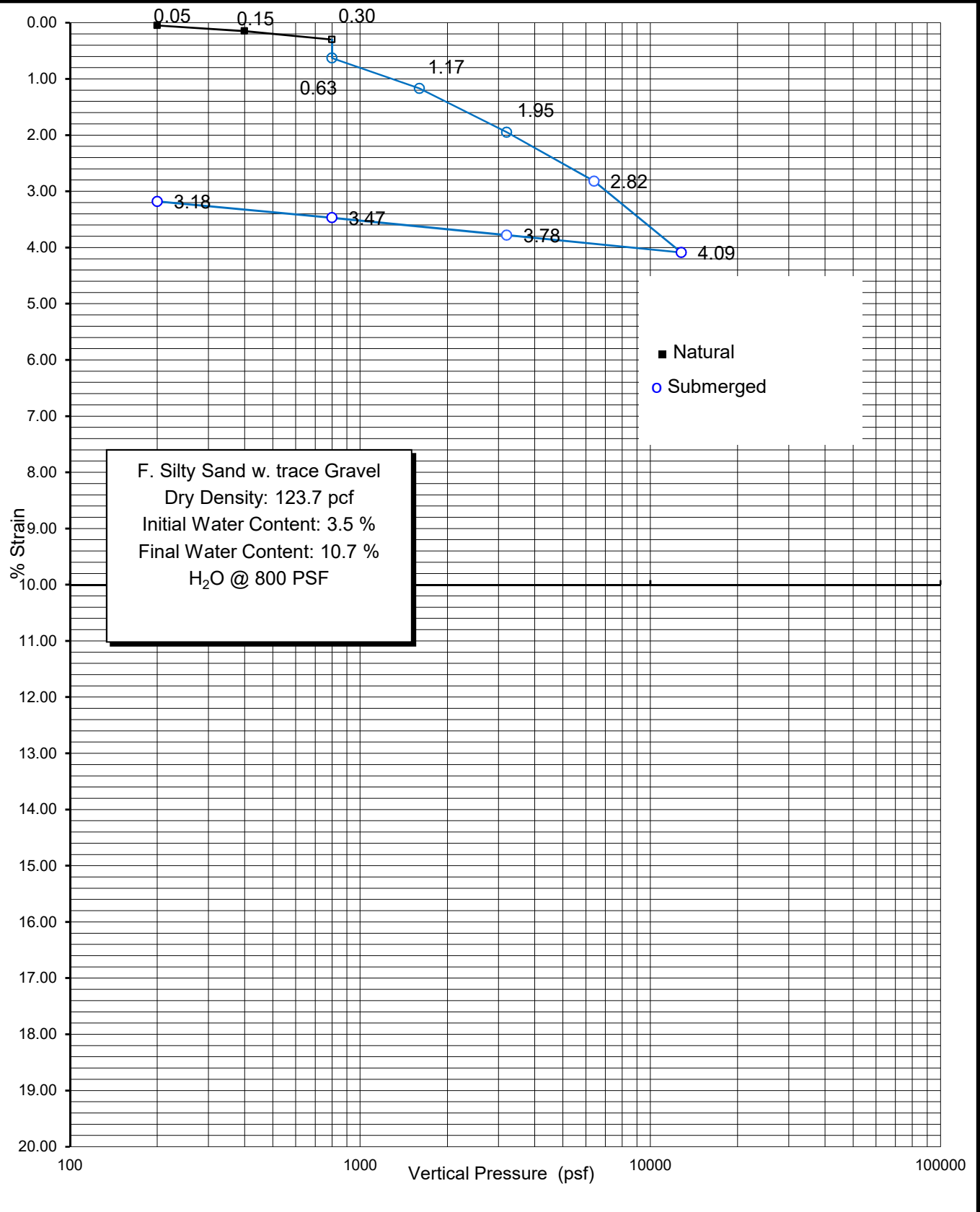
Boring / Sample No.	B-32 / S-2	Depth:	5'	Date	11-09-22
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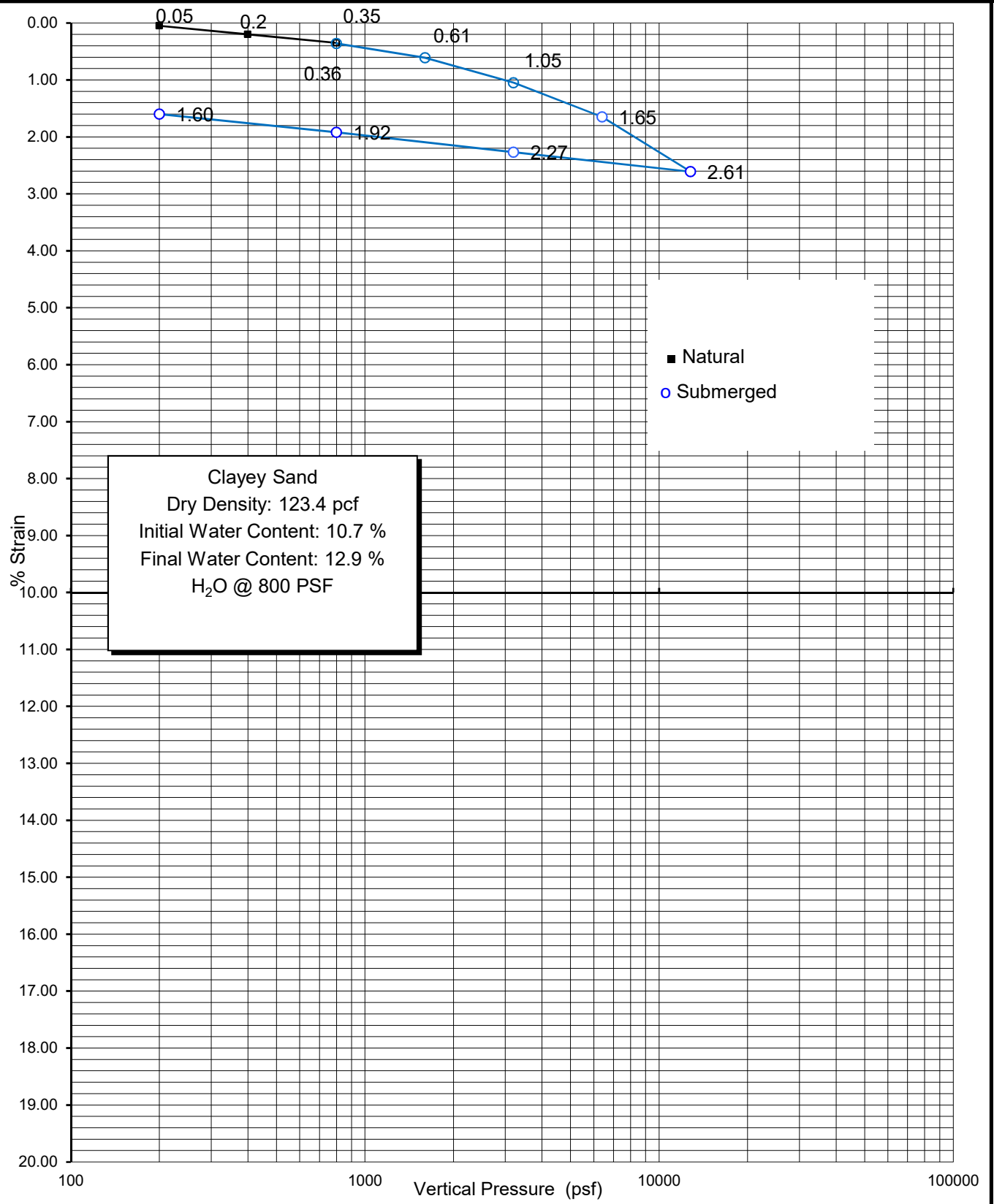
Boring / Sample No.	B-33 / S-2	Depth:	5'	Date	11-09-22
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Boring / Sample No.	B-37 / S-3	Depth:	7.5'	Date	11-09-22
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Boring / Sample No.	B-40 / S-4	Depth:	10'	Date	11-09-22
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DIRECT SHEAR
ASTM D3080

PROJECT: Langan # 700114101

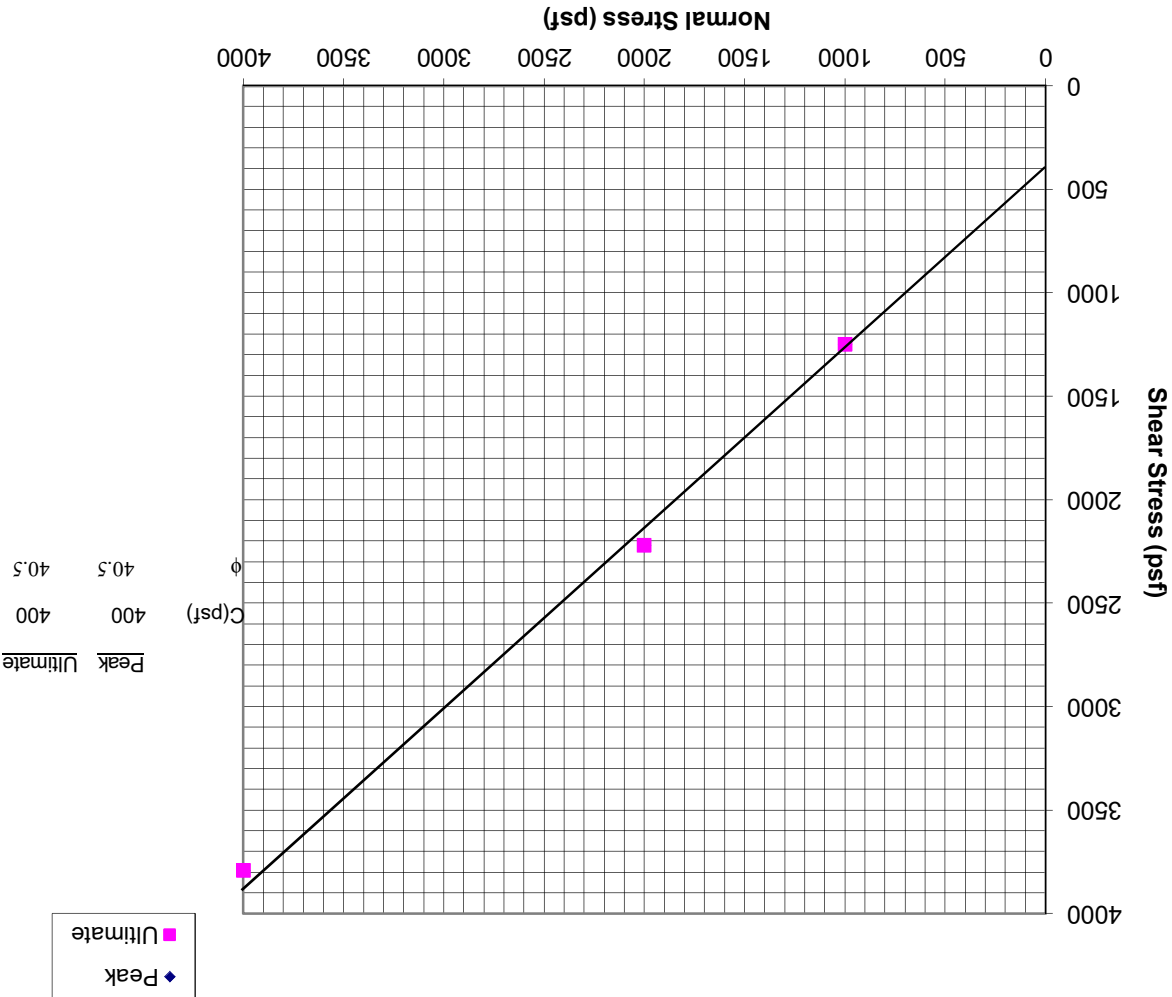
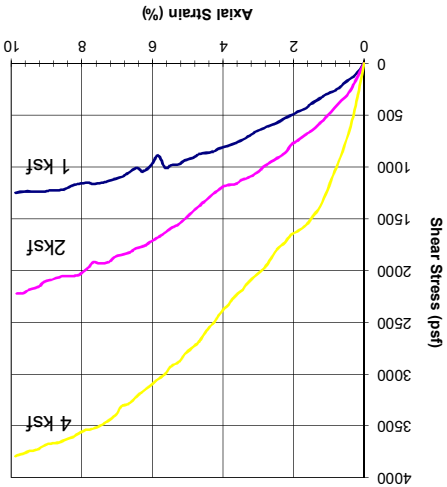
GLA JOB NO.: 2012-0057

SAMPLE : B-20 / S-4

SAMPLE TYPE: Undisturbed

DESCRIPTION: Silty Sandy w. Gravel

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	1248	2220	3792
Displacement, % strain	9.88	9.84	9.88
Ultimate Stress, psf	1248	2220	3792
Displacement, % strain	9.88	9.84	9.88
Initial Dry Density, pcf	110.7	110.7	110.7
Initial Water Content, %	2.9	2.9	2.9
Final Water Content, %	9.0	9.0	9.0
Strain Rate, in/min.	0.025	0.025	0.025

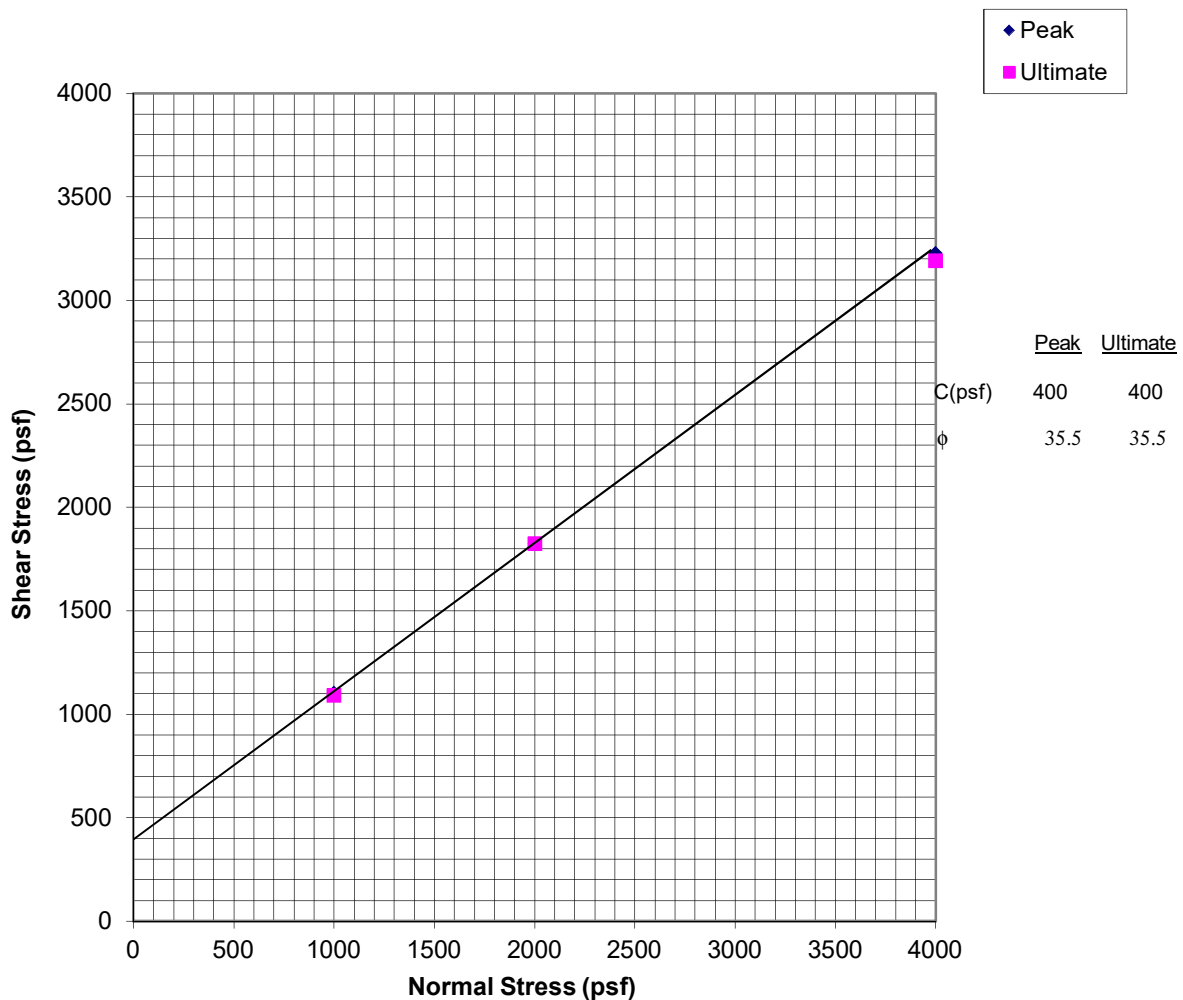
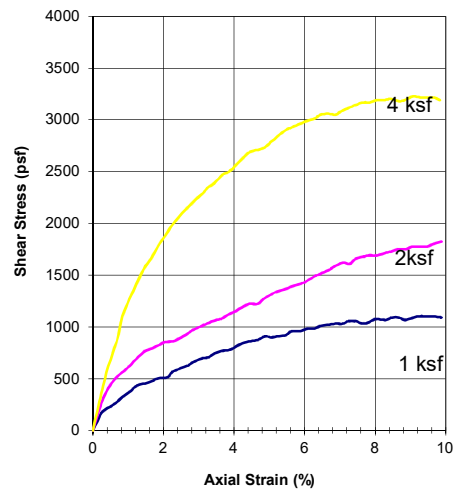


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-21 / S-1
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Silty Sand w. Gravel

Date: 12/5/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	1104	1824	3228
Displacement, % strain	9.64	9.88	9.08
Ultimate Stress, psf	1092	1824	3192
Displacement, % strain	9.88	9.88	9.84
Initial Dry Density, pcf	115.4	115.4	115.4
Initial Water Content, %	4.8	4.8	4.8
Final Water Content, %	14.1	14.1	14.1
Strain Rate, in/min.	0.025	0.025	0.025

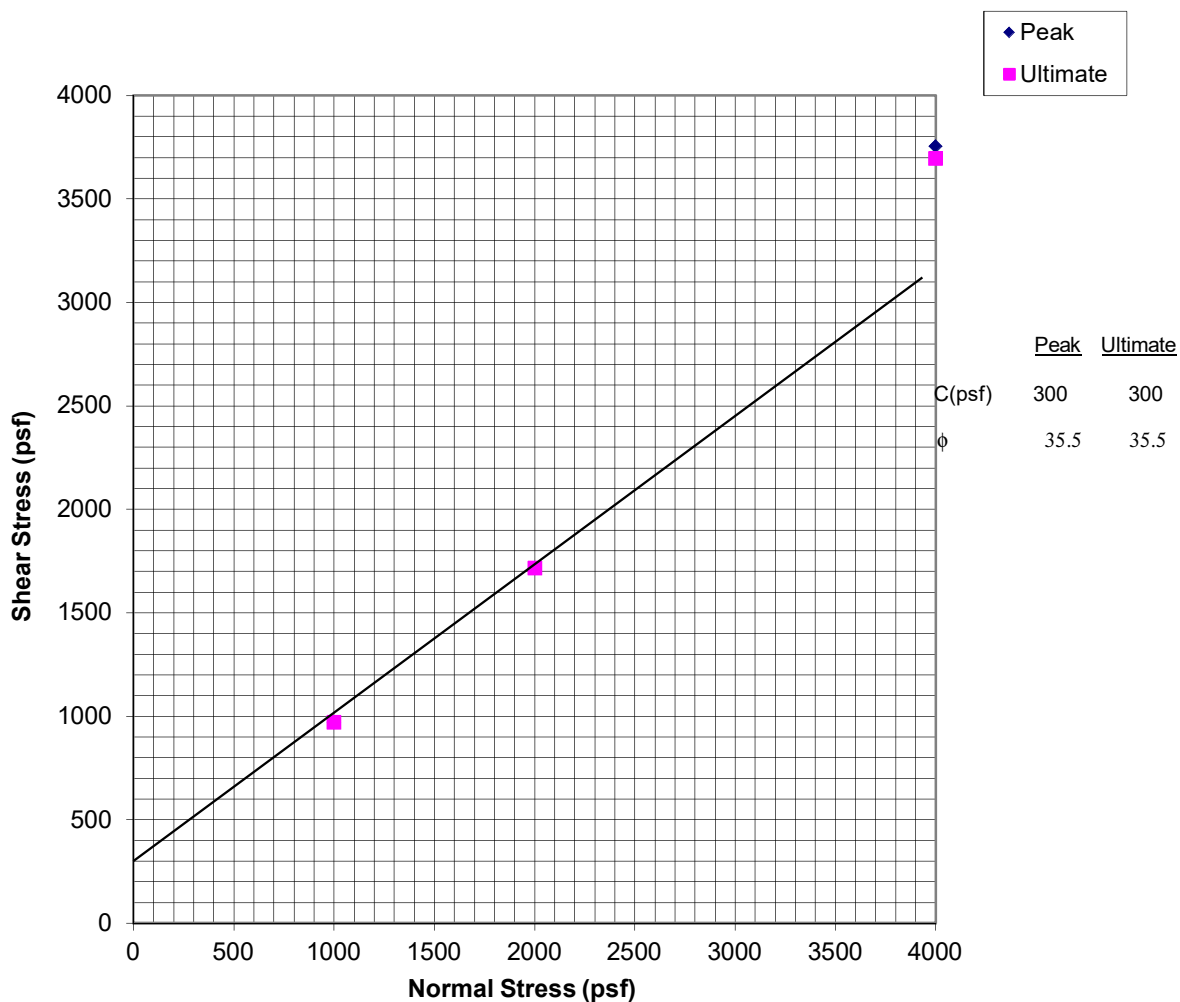
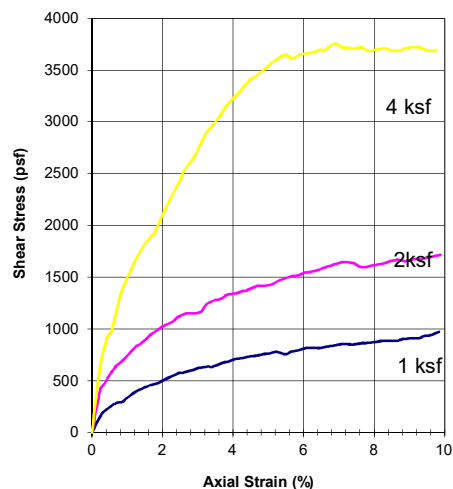


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-28 / S-2
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Silty Sand w. Gravel

Date: 12/5/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	972	1716	3756
Displacement, % strain	9.84	9.88	6.56
Ultimate Stress, psf	972	1716	3696
Displacement, % strain	9.84	9.88	9.76
Initial Dry Density, pcf	119.3	119.3	119.3
Initial Water Content, %	5.4	5.4	5.4
Final Water Content, %	13.4	13.4	13.4
Strain Rate, in/min.	0.025	0.025	0.025

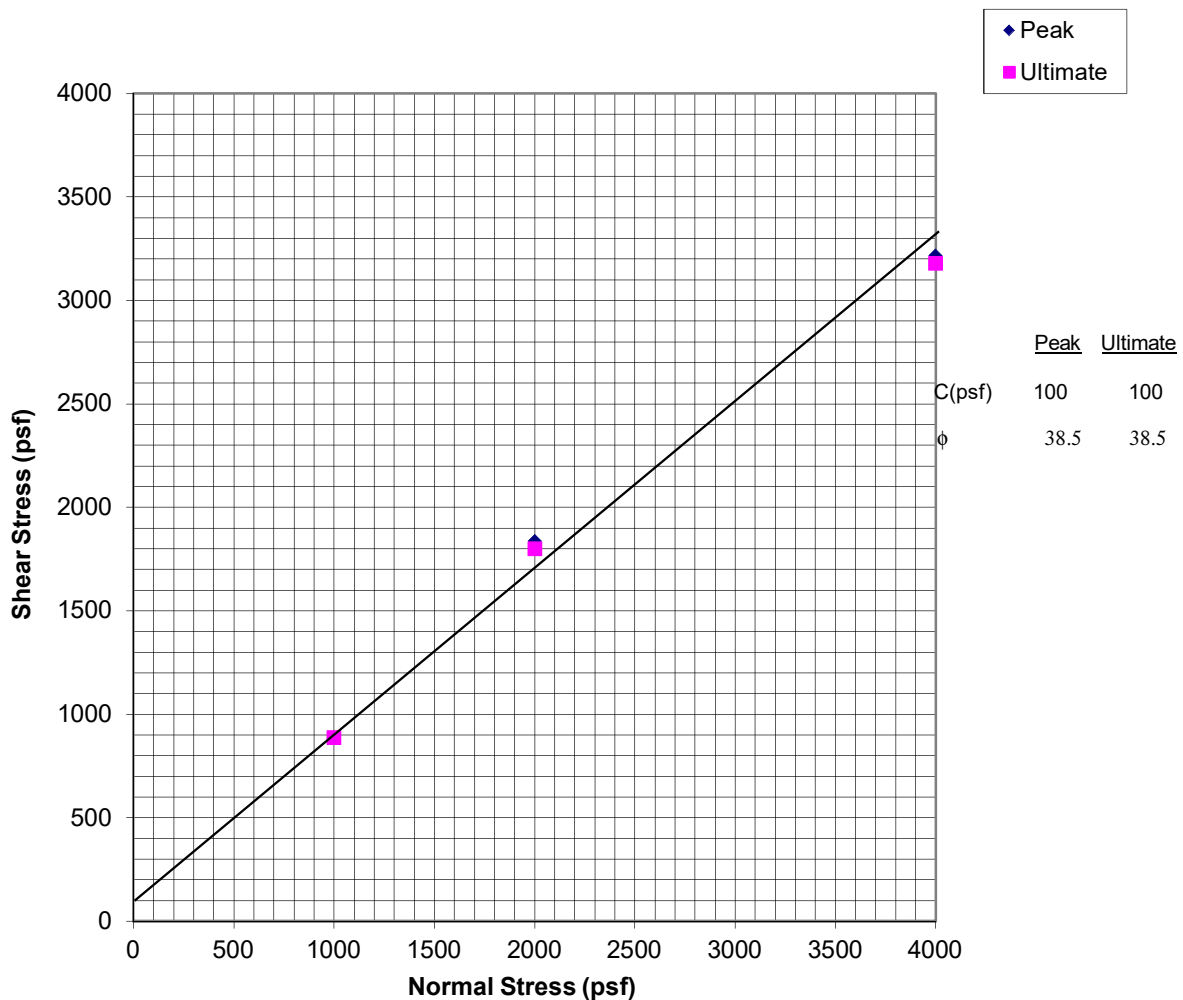
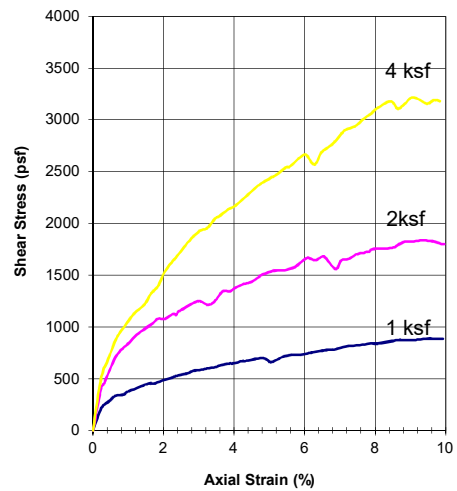


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-28 / S-4
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Silty Sandy w. Gravel

Date: 11/14/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	888	1836	3216
Displacement, % strain	9.92	9.44	9.04
Ultimate Stress, psf	888	1800	3180
Displacement, % strain	9.92	9.96	9.84
Initial Dry Density, pcf	97.5	97.5	97.5
Initial Water Content, %	2.9	2.9	2.9
Final Water Content, %	11.7	11.7	11.7
Strain Rate, in/min.	0.025	0.025	0.025

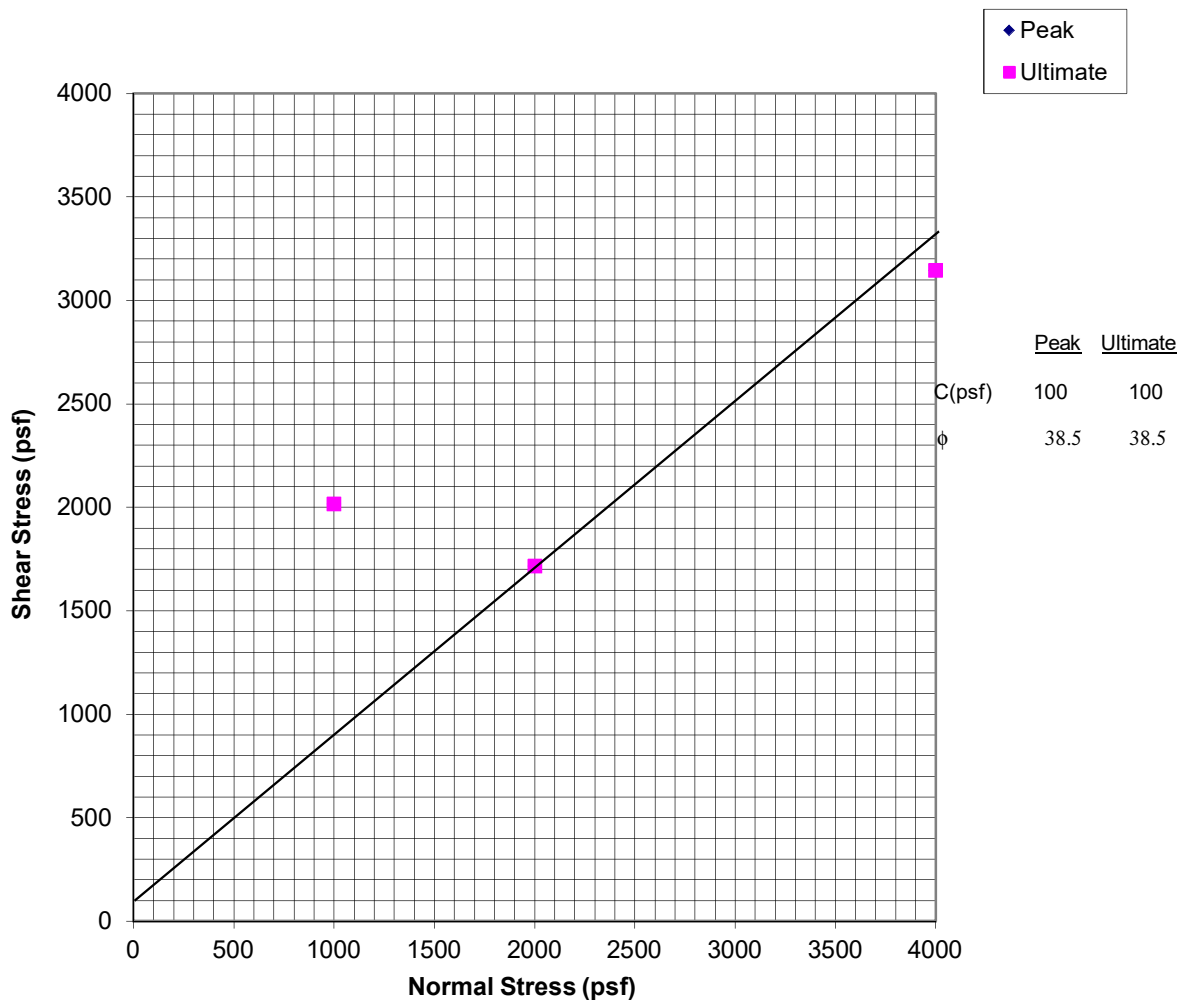
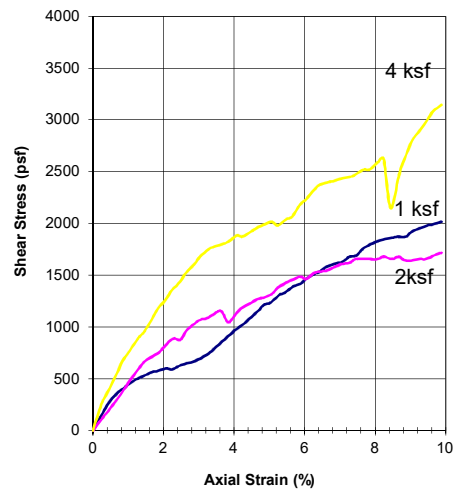


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-33 / S-2
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Silty Sandy w. Gravel

Date: 11/14/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	2016	1716	3144
Displacement, % strain	9.88	9.88	9.88
Ultimate Stress, psf	2016	1716	3144
Displacement, % strain	9.88	9.88	9.88
Initial Dry Density, pcf	113.2	113.2	113.2
Initial Water Content, %	2.8	2.8	2.8
Final Water Content, %	11.6	11.6	11.6
Strain Rate, in/min.	0.025	0.025	0.025

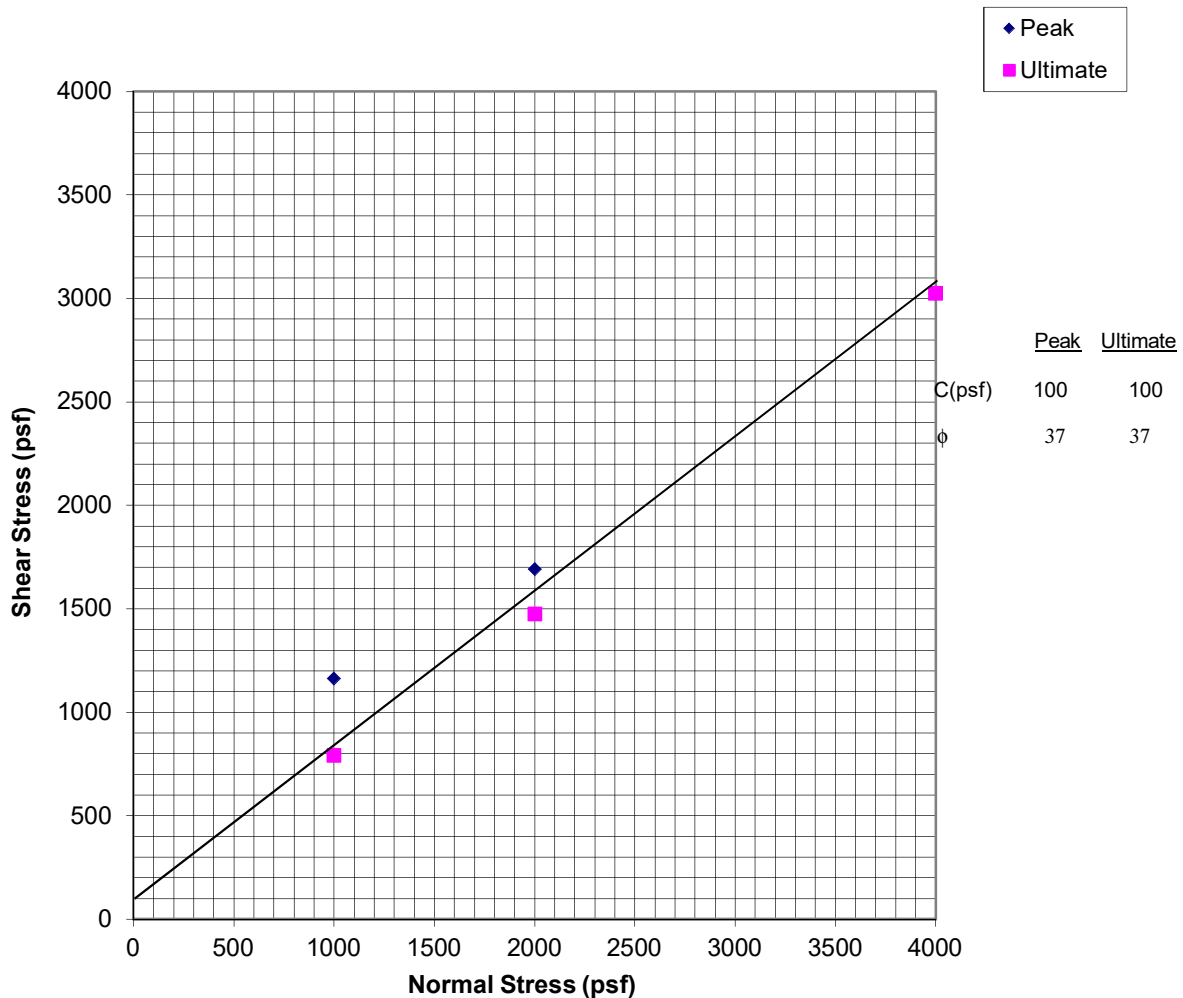
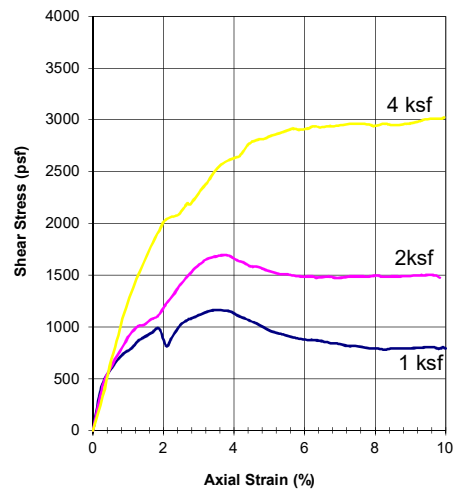


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-37 / S-3
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: F. Silty Sandy w. trace Gravel

Date: 11/14/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	1164	1692	3024
Displacement, % strain	3.28	3.64	9.96
Ultimate Stress, psf	792	1476	3024
Displacement, % strain	10	9.84	9.96
Initial Dry Density, pcf	123.7	123.7	123.7
Initial Water Content, %	3.5	3.5	3.5
Final Water Content, %	17.7	17.7	17.7
Strain Rate, in/min.	0.025	0.025	0.025

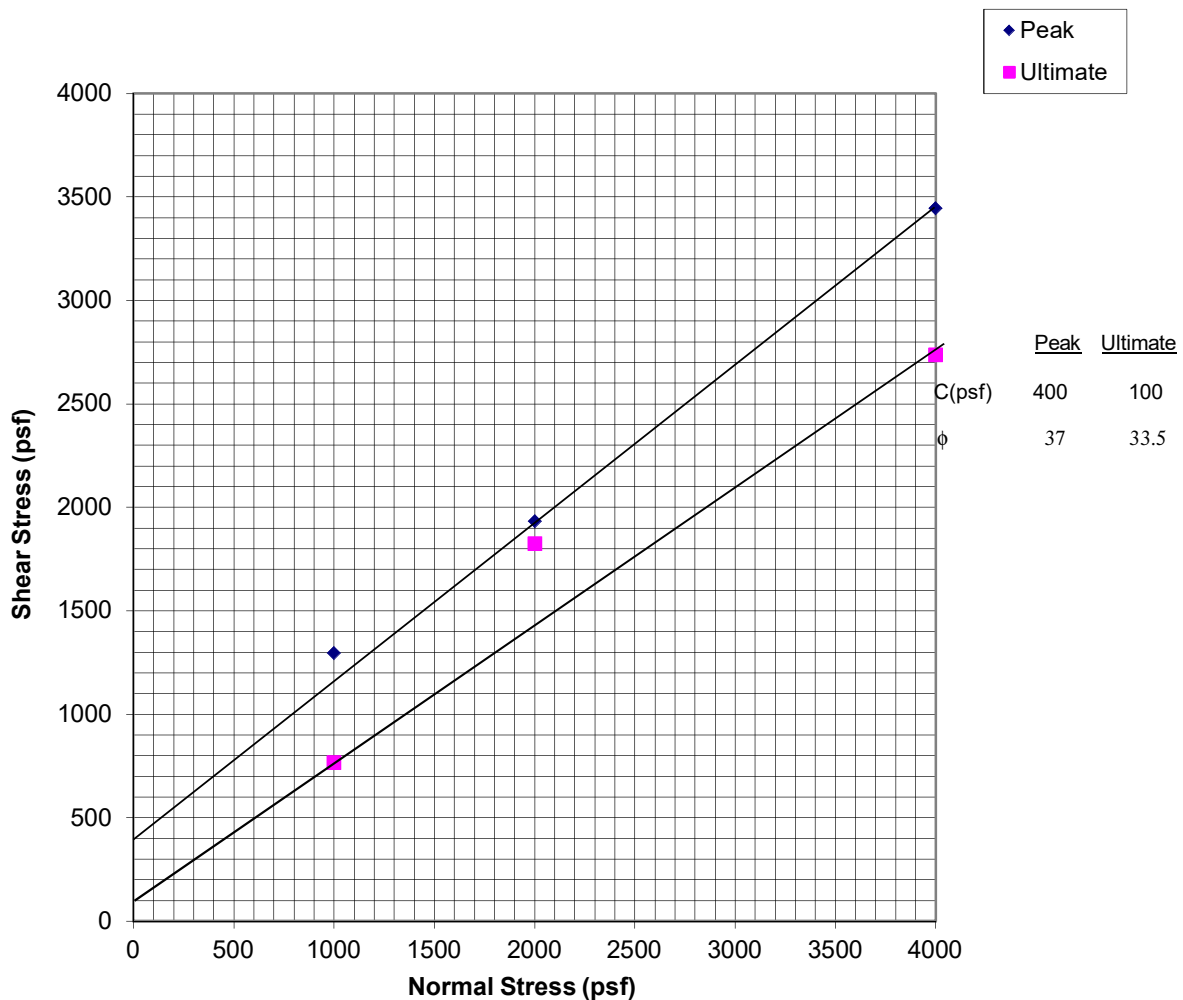
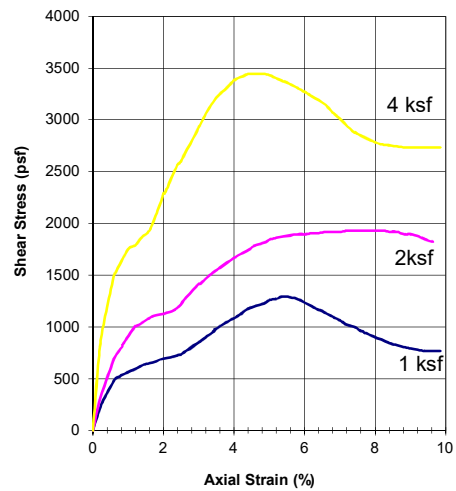


DIRECT SHEAR ASTM D3080

PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-40 / S-4
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Clayey Sand

Date: 11/14/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	1296	1932	3444
Displacement, % strain	5.4	7.2	4.4
Ultimate Stress, psf	768	1824	2736
Displacement, % strain	9.84	9.64	9.84
Initial Dry Density, pcf	123.4	123.4	123.4
Initial Water Content, %	10.7	10.7	10.7
Final Water Content, %	17.1	17.1	17.1
Strain Rate, in/min.	0.0084	0.0084	0.0084

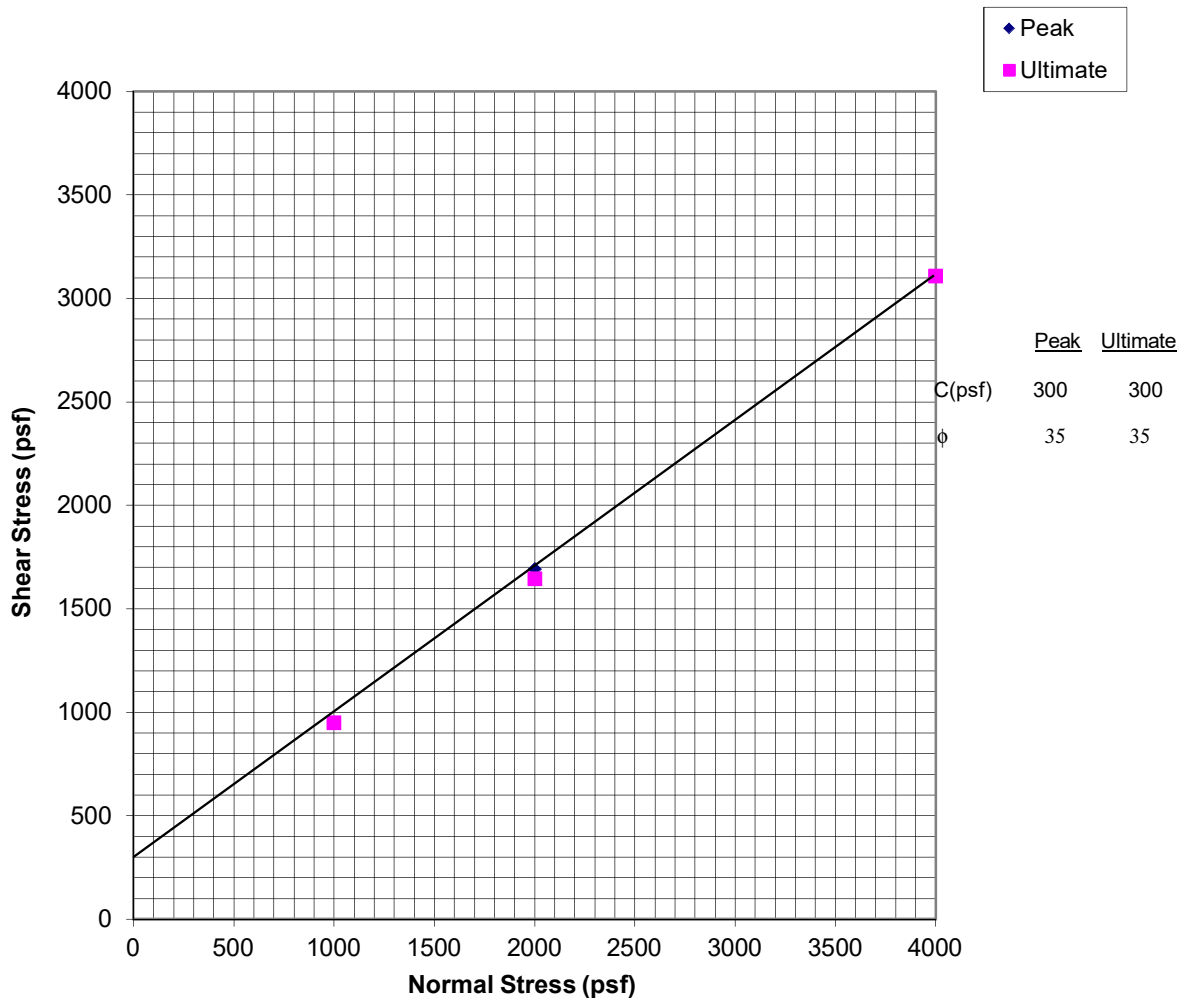
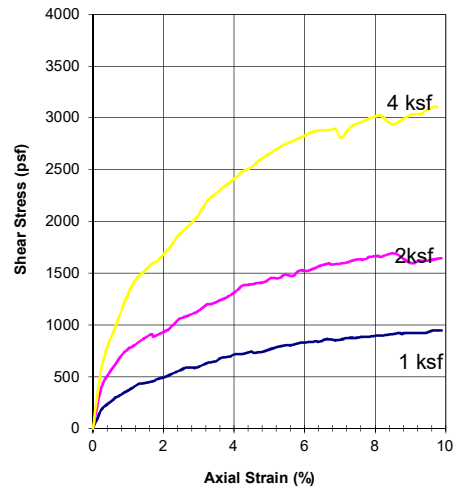


DIRECT SHEAR ASTM D3080

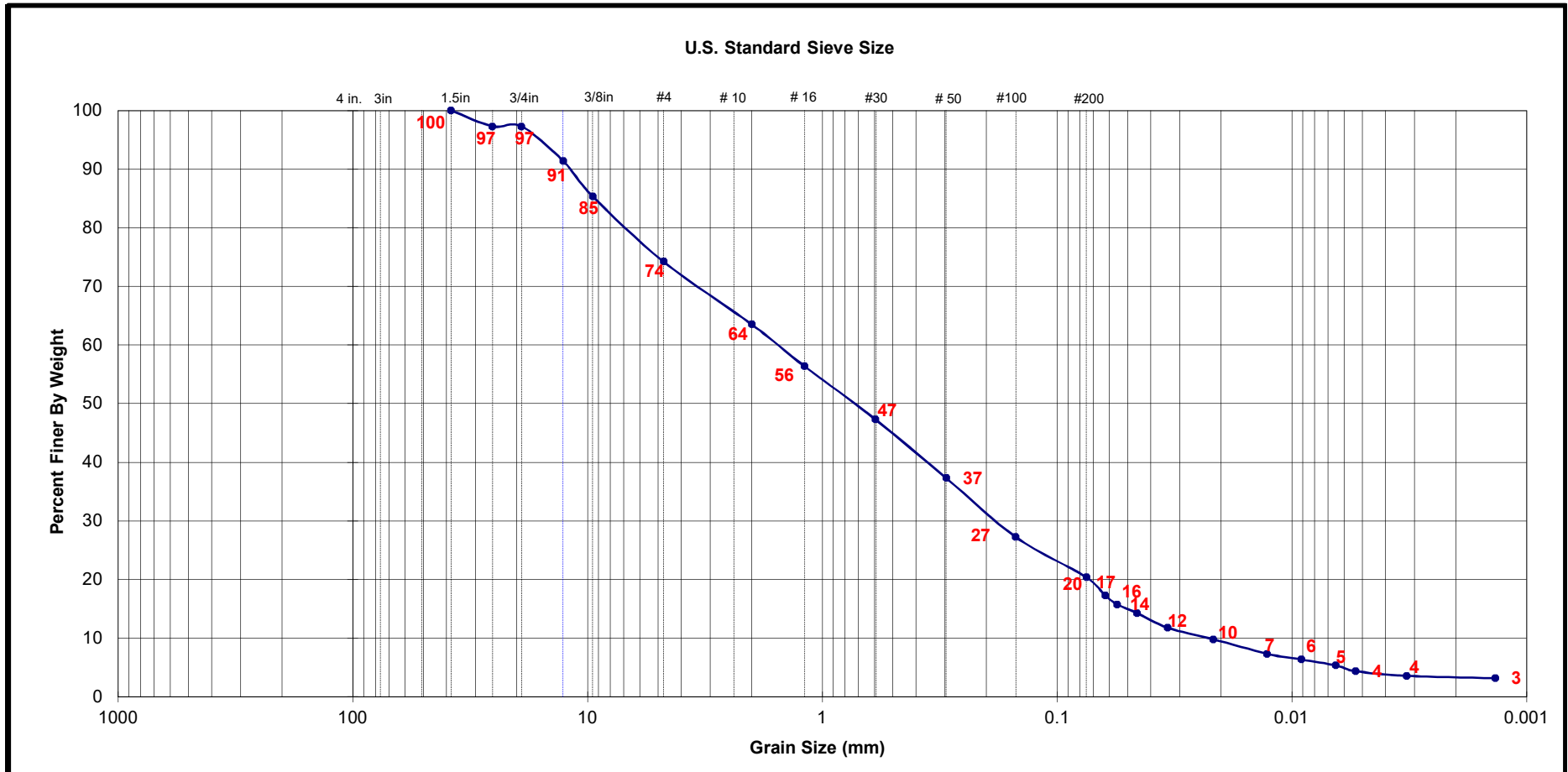
PROJECT: Langan # 700114101
 GLA JOB NO.: 2012-0057
 SAMPLE : B-41 / S-1
 SAMPLE TYPE: Undisturbed
 DESCRIPTION: Silty Sand w. Gravel

Date: 12/5/2022

Specimen No.	1	2	3
Normal Stress, psf	1000	2000	4000
Peak Stress, psf	948	1692	3108
Displacement, % strain	9.88	8.44	10
Ultimate Stress, psf	948	1644	3108
Displacement, % strain	9.88	9.88	10
Initial Dry Density, pcf	114.7	114.7	114.7
Initial Water Content, %	2.3	2.3	2.3
Final Water Content, %	12.2	12.2	12.2
Strain Rate, in/min.	0.025	0.025	0.025

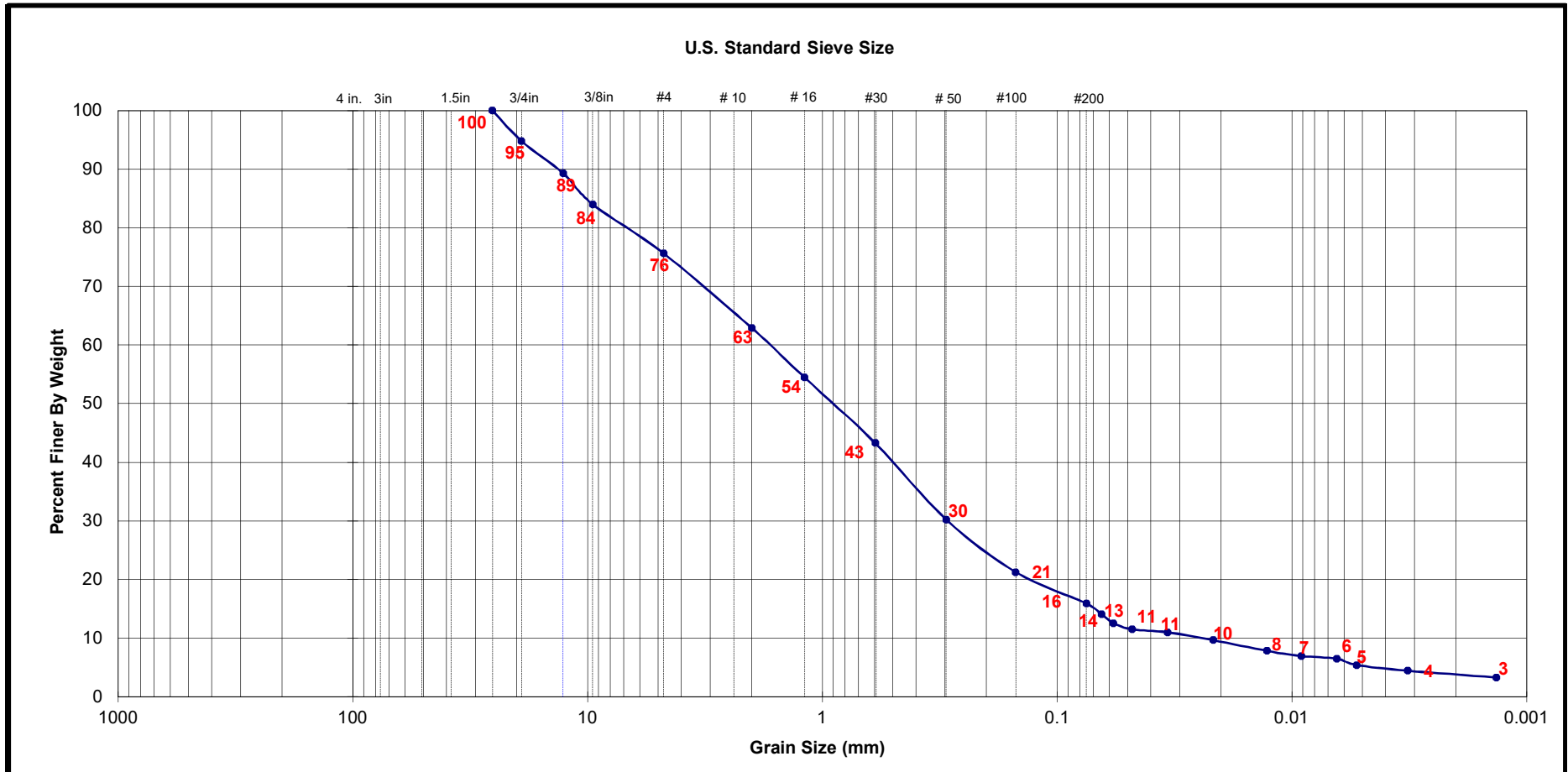


Date: 12/10/22



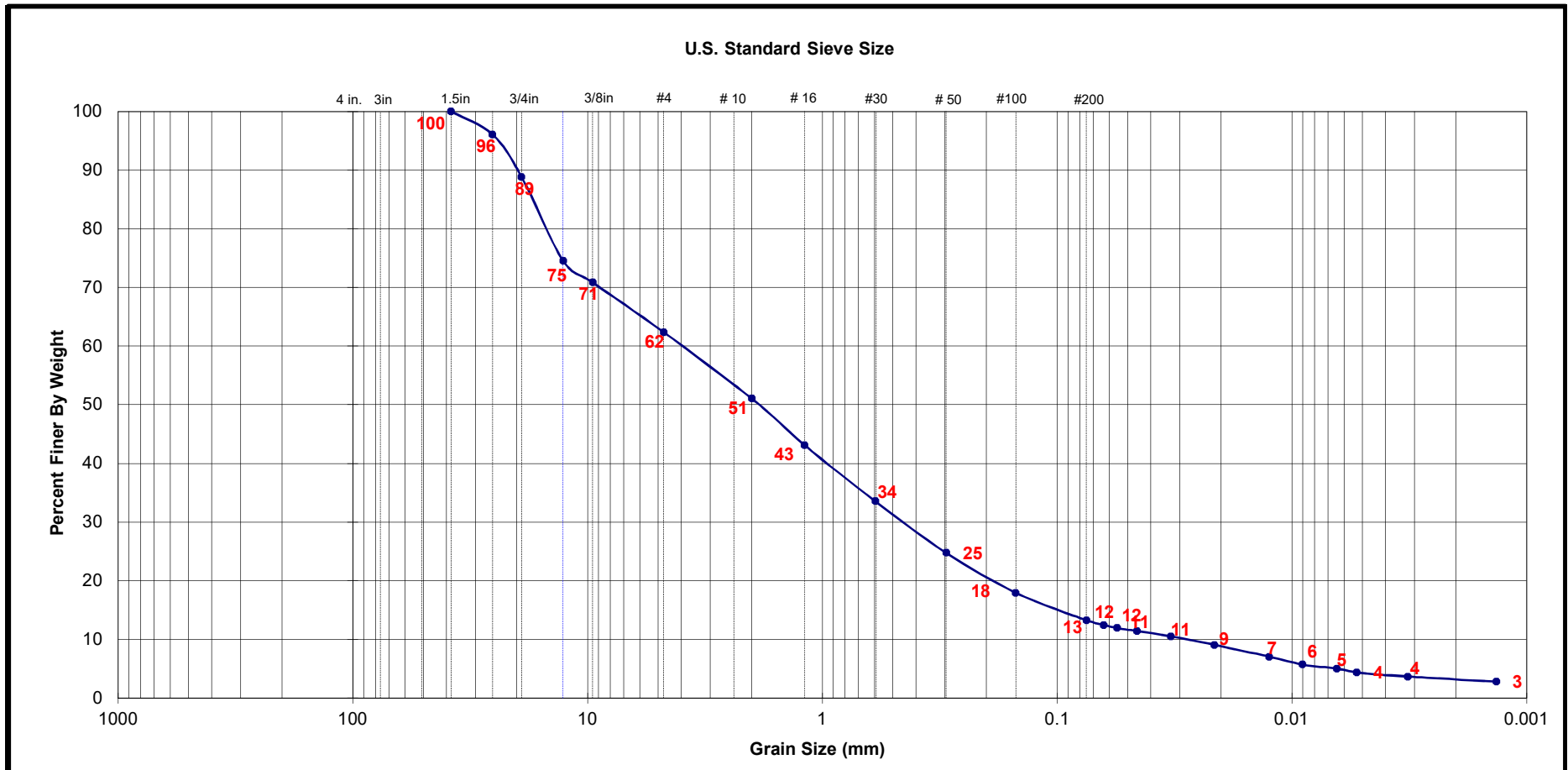
Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-1 / S-2									SM	

Date: 12/10/22



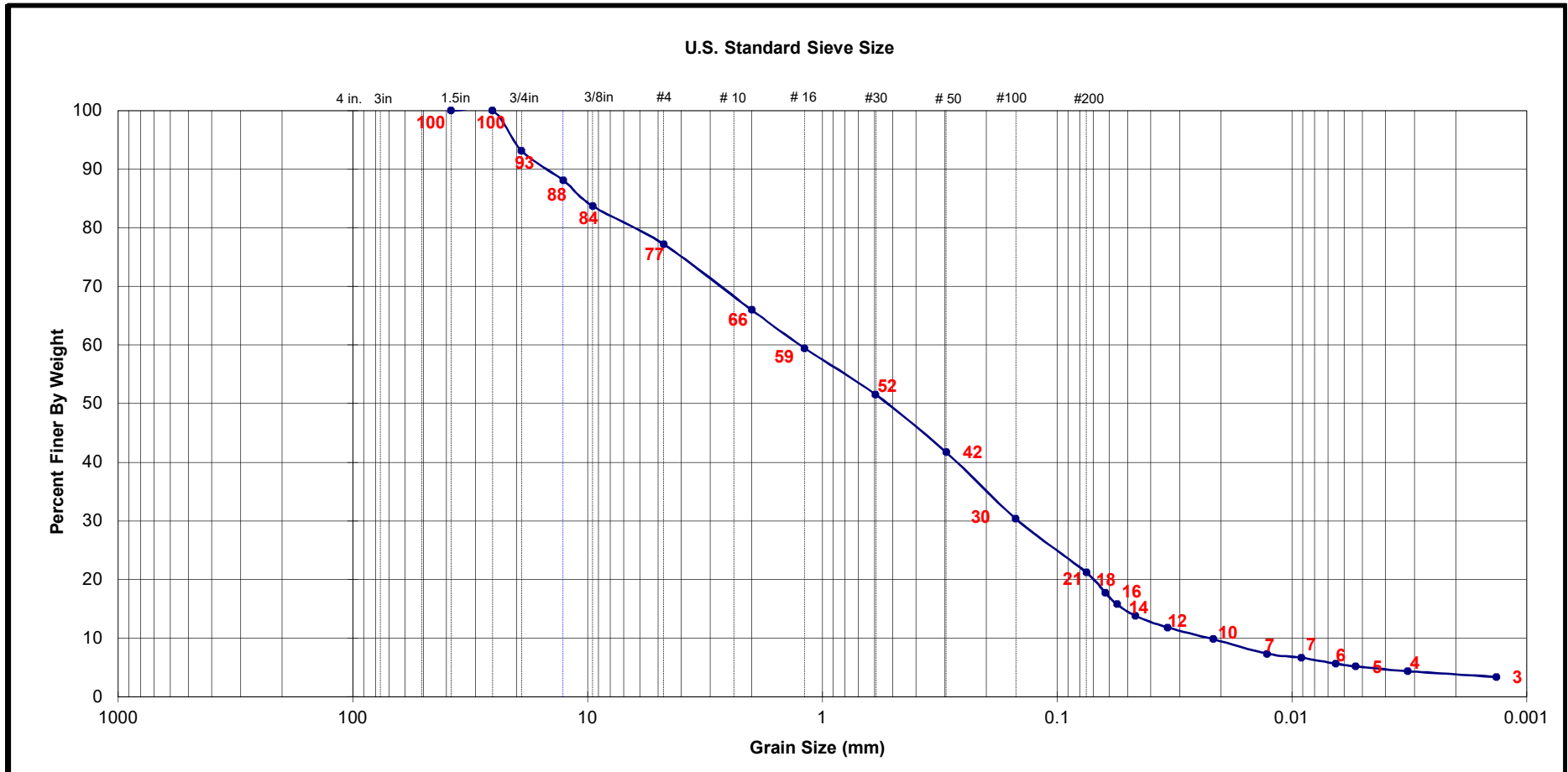
Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-2 / S-2									SM	

Date: 12/10/22



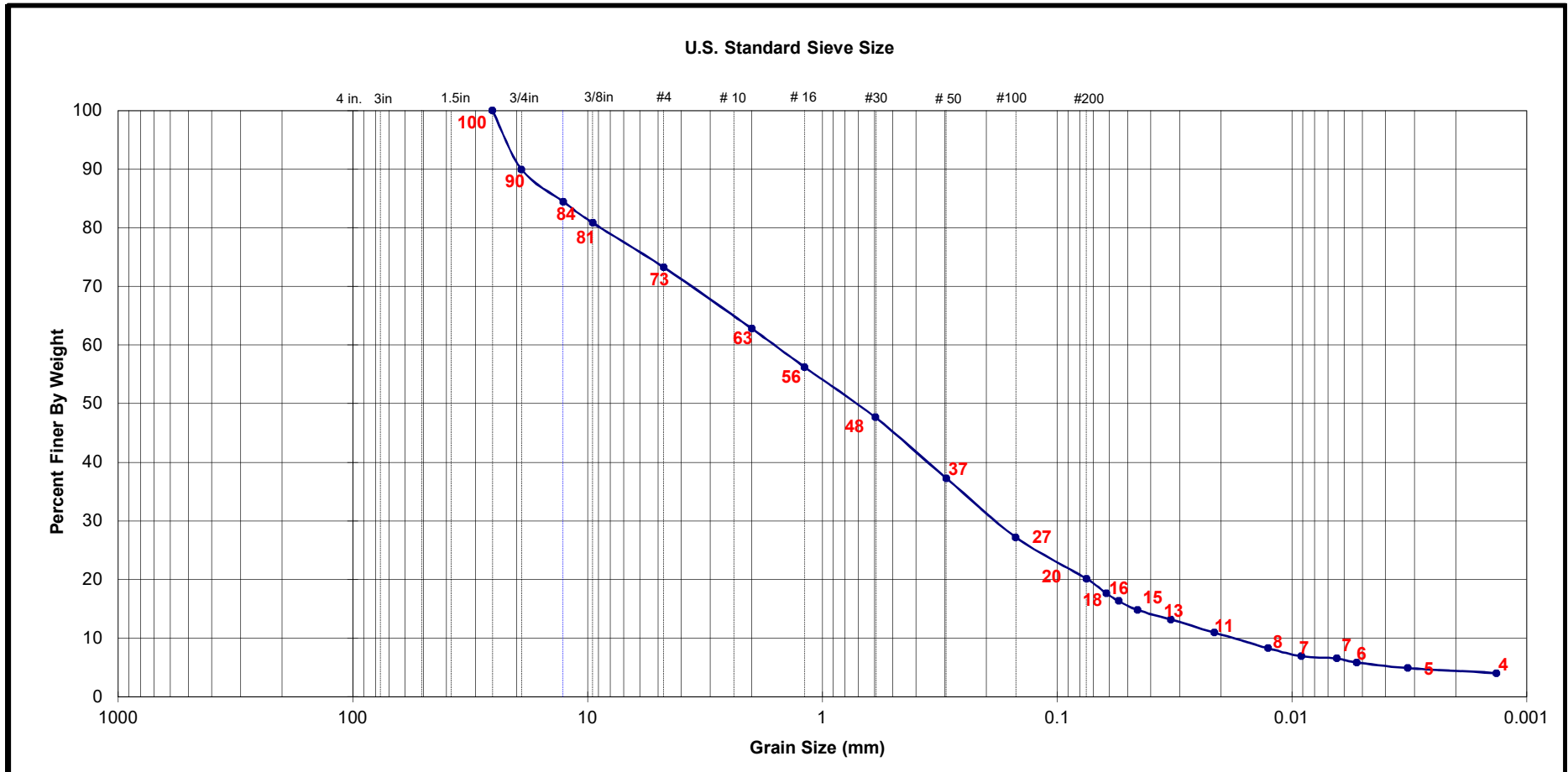
Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-3 / S-3									SM	

Date: 12/10/22



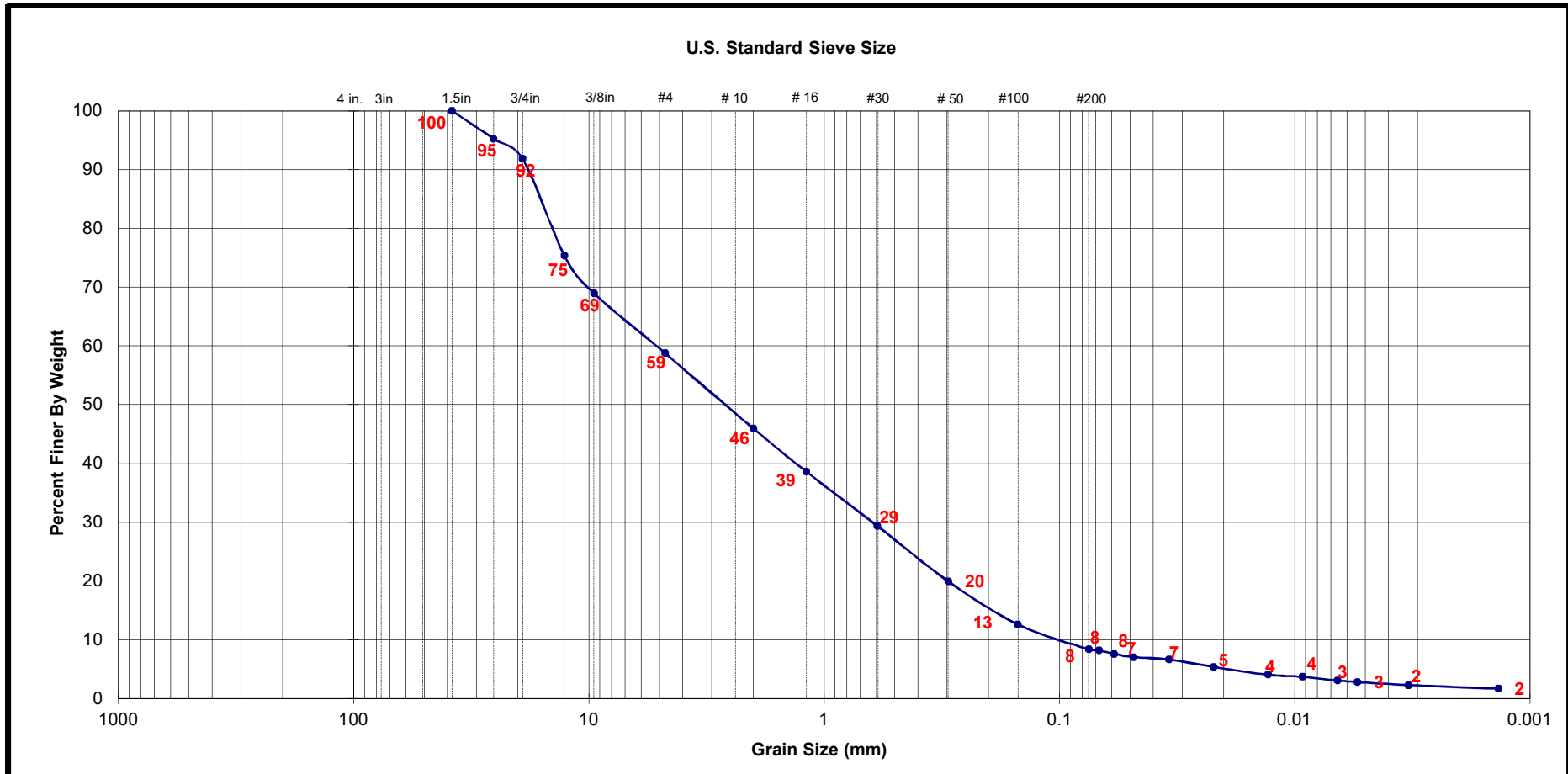
Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-4 / S-2									SM	

Date: 12/10/22



Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-5 / S-11									SM	

Date: 12/10/22



Boring / Sample No.	Initial Dry Density (pcf)	Initial Moist. (%)	Test Dry Density (pcf)	Test Moist. (%)	Permeability, k (cm/sec)	LL	PL	PI	Unified Soil Class.	Description
FP-6 / S-8									SM	

APPENDIX B
Prior Explorations and Laboratory Testing

EXPLORATORY BORINGS

We investigated the subsurface conditions at the site by drilling and sampling a total of 13 exploratory borings. Borings B-1 and B-3 through B-12 were drilled on August 24 and 25, 2020 using hollow-stem auger drilling equipment. Borings B-2 and B-13 were drilled on September 8, 2020 using bucket auger drilling equipment. The approximate locations of the explorations are shown on Figure 2.

The borings were advanced to depths of 6 to 61 feet below the existing ground surface. The borings were drilled to their target depths unless natural soils or refusal conditions were encountered at shallower depths. Multiple attempts were made a few feet away from the original boring location if shallow refusal conditions were encountered. Refusal conditions were commonly caused by cobbles, boulders, and inert debris (concrete, asphalt, etc.) being encountered.

The field explorations discussed herein were performed under the continuous technical supervision of GPI's representative, who visually inspected the site, maintained detailed logs of the borings, classified the soils encountered, and obtained relatively undisturbed and bulk samples for examination and laboratory testing. The soils encountered in the borings were classified in the field and through further examination in the laboratory in accordance with the Unified Soils Classification System. Detailed logs of the borings are presented in Figures A-1 to A-13 in this appendix.

The locations of the borings were laid out in the field by measuring from existing site features. Ground surface elevations at the exploration locations were estimated from a topographic survey plan prepared by Andreasen Engineering dated March 15, 2018 and should be considered approximate.

Hollow-Stem Auger Borings

Borings B-1 and B-3 through B-12 were drilled using truck-mounted hollow-stem auger drill equipment. An 8-inch outside diameter auger was used. Relatively undisturbed samples were obtained using a brass ring lined sampler (ASTM D 3550). The brass rings have an inside diameter of 2.42 inches. The ring samples were driven into the soil by a 140-pound hammer dropping 30 inches. The number of blows needed to drive the sampler into the soil was recorded as the penetration resistance.

At selected locations, disturbed samples were obtained using a split-spoon sampler by means of the Standard Penetration Test (SPT, ASTM D 6066). The spoon sampler was driven into the soil by a 140-pound hammer dropping 30 inches, employing the "free-fall" hammer described above. After an initial seating drive of 6 inches, the number of blows needed to drive the sampler into the soil a depth of 12 inches or portion thereof was recorded as the penetration resistance. These values are the raw uncorrected blow counts.

After completion, the borings were backfilled with the drill cuttings. Groundwater was not encountered.

Bucket Auger Borings

Borings B-2 and B-13 were drilled using truck mounted bucket auger drilling equipment. A 36-inch outside diameter bucket was used. Relatively undisturbed samples were obtained using a brass ring lined sampler as described above. The ring samples were driven into the soil by using the Kelly bar as a hammer. The number of blows needed to drive the sampler into the soil was recorded as the penetration resistance.

After completion, the borings were backfilled with the drill cuttings. Groundwater was not encountered.

DRAFT

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
				B	0		Landfill Material: $\bar{A}!$ "# $\bar{A}\bar{A}\$ \& \bar{A}\bar{A}()$ with gravel and cobbles, light brown, dry	
	3.6	119	98/8"	D			@ 2.5 feet, brown, slightly moist to moist, very dense, drilling rig chattering, debris likely	
	1.2		79	D	5		@ 5 feet, trace cobbles	1305
	4.8		15	S	10		@ 10 feet, slightly moist, cobble and boulder fragments	1300
	4.9		75	D	15		@ 15 feet, no recovery	1295
			17	S			@ 16 feet, medium dense, brown, slightly moist	
	3.1	119	50/6"	D	20		@ 20 feet, trace granitic rock fragments	1290
	3.7		41	S	25			1285
	2.7		26	S	30			1280
					35			1275
								1270

SAMPLE TYPES

C

S

D

B

T

Rock Core

Standard Split Spoon

Drive Sample

Bulk Sample

Tube Sample

DATE DRILLED:

8-24-20

EQUIPMENT USED:

8" Hollow Stem Auger

GROUNDWATER LEVEL (ft):

Not Encountered

GPI

PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

! *+ $\bar{A}$ *, $\bar{A}$ *. % $\bar{A}$ $\bar{A}$ %*/ $\bar{A}$ 0 1

FIGURE A-1

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	7.9		90/11" 39	D S	40		@ 40 feet, trace cobbles (cobble fragment in sampler tip) Possible Natural: Ä ! " # Ä \$ % & Ä() brown, moist, very dense, with gravel, trace cobbles Refusal @ 42.5 feet 1st Attempt had refusal @ 6 feet 2nd Attempt had refusal @ 6 feet 3rd Attempt had refusal @ 42.5 feet	

SAMPLE TYPES
☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:
 8-24-20
 EQUIPMENT USED:
 8 " Hollow Stem Auger
 GROUNDWATER LEVEL (ft):
 Not Encountered



PROJECT NO.: 2993.04I
 INERT DEBRIS LANDFILL

! *+Ä*, Ä *. %+Ä%*/ Ä 0 1

FIGURE A-1

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)	
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
	4.1	124			0		Landfill Material: Ä ! "#Ä\$%&Ä() light brown, dry with gravel and cobbles @ 2 feet, some asphalt debris @ 3 feet, rebar strand @ 4 feet, concrete debris, cored through, 4-5 inches thick @ 5 feet, brown, slightly moist @ 6 feet, concrete debris, cored through 4-5 inches thick @ 8 feet, dark brown, moist @ 9 feet, concrete debris, cored through 4-5 inches thick @ 10 feet, cobble and possible boulder fragments @ 14 feet, trace gravel @ 15 feet, sand bag debris @ 21 to 24 feet, some asphalt debris @ 28 feet, some concrete debris, coring attempted	1295	
				D					
	2.5	116		D	5				
	2.7	115		D	15				
	1.9	109		D	20				
		25							
					Refusal @ 28.5 feet 1st Attempt had refusal @ 8 feet 2nd Attempt had refusal @ 9 feet 3rd Attempt had refusal @ 28.5 feet	1270			
SAMPLE TYPES			DATE DRILLED:			GPI		PROJECT NO.: 2993.041 INERT DEBRIS LANDFILL	
☐ Rock Core			9-8-20						
☐ Standard Split Spoon			EQUIPMENT USED:						
☐ Drive Sample			36 " Bucket Auger						
☐ Bulk Sample			GROUNDWATER LEVEL (ft):						
☐ Tube Sample			Not Encountered			! *+Ä *, Ä *. %÷Ä%*/ Ä 2			
FIGURE A-2									

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
				B	0	Landfill Material: Ä ! " # \$ % & ' () light brown, dry, with gravel and cobbles	
	2.3	114	60	D		@ 2.5 feet, brown, slightly moist, dense, trace gravel	
						@ 3 feet, drill rig chattering	
	2.7		36	D	5	@ 5 feet, cobble fragments, disturbed sample	1295
	3.9		18	S	10	@ 10 feet, with gravel	1290
					15		1285
	4.9	114	21	D	20	@ 20 feet, medium dense, slightly moist	1280
					25	Refusal @ 25 feet	1275
SAMPLE TYPES ☐ Rock Core ☐ Standard Split Spoon ☐ Drive Sample ☐ Bulk Sample ☐ Tube Sample		DATE DRILLED: 8-24-20 EQUIPMENT USED: 8 " Hollow Stem Auger GROUNDWATER LEVEL (ft): Not Encountered		 ! * + Ä *, Ä *. % + Ä % * / Ä 0 3		PROJECT NO.: 2993.041 INERT DEBRIS LANDFILL	
						FIGURE A-3	

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	1.7		50/5"	D	0		Landfill Material: $\bar{A}!$ "# $\bar{A}\$ \& \bar{A}()$ light brown, dry, with gravel and cobbles 0 to 4 feet, drill rig chattering	1265
	3.5	21	S	5		@ 5 feet, brown, moist, medium dense, trace cobbles	1260	
	4.3	50/3"	D	10		@ 10 feet, some concrete debris, granitic rock fragments	1255	
	6.4	17	S	20		@ 20 feet, medium dense, slightly moist, gravel and cobble fragments	1250	
	4.8	110	28	D	30		@ 30 feet, slightly moist, some concrete debris	1245
								1240
								1235
							Refusal @ 33 feet	

SAMPLE TYPES

C

S

D

B

T

Rock Core

Standard Split Spoon

Drive Sample

Bulk Sample

Tube Sample

DATE DRILLED:

8-24-20

EQUIPMENT USED:

8 " Hollow Stem Auger

GROUNDWATER LEVEL (ft):

Not Encountered

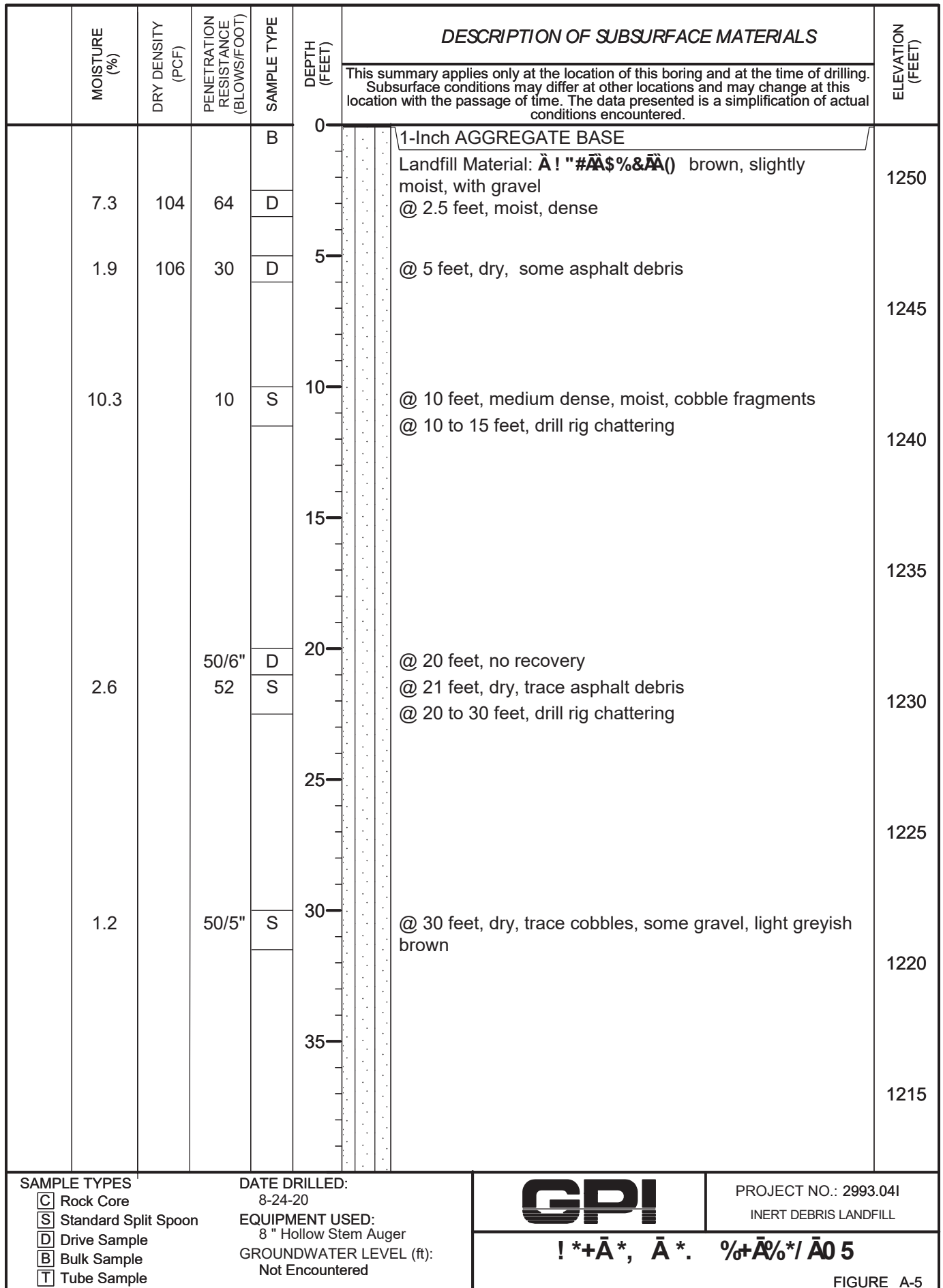
GPI

$! * + \bar{A} *, \bar{A} *. \% + \bar{A} \% / \bar{A} 0 4$

PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

FIGURE A-4



	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	5.0		50/6"	D	40		Natural: Ä ! "#Ä\$%&ÄÄ() with gravel, reddish brown, slightly moist, disturbed sample	1210
	6.2		29	S	45			Ä ! "#Ä\$%&ÄÄ() reddish brown, slightly moist, medium dense, trace porosity, trace gravel
					50	1200		
					55	1195		
			50/6"	D	60		@ 60 feet, some clay, disturbed sample	
							Total Depth 61 feet	
SAMPLE TYPES						DATE DRILLED:		PROJECT NO.: 2993.04I INERT DEBRIS LANDFILL
☐ Rock Core ☐ Standard Split Spoon ☐ Drive Sample ☐ Bulk Sample ☐ Tube Sample						8-24-20 EQUIPMENT USED: 8 " Hollow Stem Auger GROUNDWATER LEVEL (ft): Not Encountered		
						! *+Ä *, Ä *. %+Ä%/ Ä 0 5		FIGURE A-5

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)	
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
	3.3	114	35	D	0		Landfill Material: Ä!"#Ä\$%&ÄÄ() brown, slightly moist, with gravel and cobbles @ 0 to 3 feet, dry, drill rig chattering @ 2.5 feet, medium dense, pieces of asphalt @ 5 feet, trace cobbles, grayish brown, less silt @ 10 feet, slightly moist, cobble fragments in sample tip @ 20 feet, slightly moist, piece of glass in sampler tip @ 25 to 30 feet: strong organic odor Ä!"#Ä\$%&ÄÄ() dark brown, slightly moist, trace wood chips @ 32.5 Refusal	1240	
	1.0	111	15	D	5				1235
	2.9		14	S	10				1230
	6.3	97	22	D	20				1225
5.6		50/5"	D	30		1220			
							1215		
SAMPLE TYPES						DATE DRILLED:			PROJECT NO.: 2993.041 INERT DEBRIS LANDFILL
☐ C Rock Core						8-25-20			
☐ S Standard Split Spoon						EQUIPMENT USED:			
☐ D Drive Sample						8" Hollow Stem Auger			
☐ B Bulk Sample						GROUNDWATER LEVEL (ft):			
☐ T Tube Sample						Not Encountered		! *+Ä*, Ä *. %+Ä%*/ Ä 6	
									FIGURE A-6

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)	
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
	3.6		90/11"	B	0		Compacted Fill: 7' * . !#A+ . \$ &8&A+ . \$98!A: " ; Ä !"Ä\$ %&Ä\$ %&Ä+ 70+ () Ä greyish brown, dry, with cobbles @ 2.5 feet, very dense, cobble fragments in sampler tip	1240	
				D	@ 5 feet, very dense, cobble fragments in sampler tip				
				S	@ 5 feet, very dense				
	6.0	118	50/5"	D	10		@ 10 feet, slightly moist		1235
						Refusal @ 13 feet 1st Attempt had refusal @ 4 feet 2nd Attempt had refusal @ 13 feet			

SAMPLE TYPES

C

Rock Core

S

Standard Split Spoon

D

Drive Sample

B

Bulk Sample

T

Tube Sample

DATE DRILLED:

8-25-20

EQUIPMENT USED:

8 " Hollow Stem Auger

GROUNDWATER LEVEL (ft):

Not Encountered

GPI

PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä *, Ä *. % + Ä % * / Ä 0 <

FIGURE A-7

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	0.5		93/10"	B	0		Fill: $\bar{A}!$ "# $\bar{A}\$ \% \& \bar{A}\bar{A}$ () light brown, dry, with gravel and cobbles	1255
				D			@ 2.5 feet, trace cobbles	
	4.0	114	95/9"	D	5		Natural: $\bar{A}!$ "# $\bar{A}\$ \% \& \bar{A}\bar{A}$ () orange brown, dry to slightly moist, very dense, with gravel, some cobbles	
	4.5		92	S				
							Total Depth 7.5 feet	

SAMPLE TYPES
☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:
8-25-20
EQUIPMENT USED:
8 " Hollow Stem Auger
GROUNDWATER LEVEL (ft):
Not Encountered



PROJECT NO.: 2993.04I
INERT DEBRIS LANDFILL

$! * + \bar{A} *, \bar{A} *. \% + \bar{A} \% * / \bar{A} 0 =$

FIGURE A-8

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
					0		Fill: $\bar{A}! " \# \bar{A} \$ \% \& \bar{A} \bar{A} ()$ light brown, dry, with gravel	1230
	7.4	114	68	D			Natural: $\bar{A}! " \# \bar{A} \$ \% \& \bar{A} \bar{A} ()$ orange brown, slightly moist, very dense, with gravel	
	2.8	119	68	D	5		@ 5 feet, dry, very dense, trace clay, some gravel	
							Total Depth 6 feet	

SAMPLE TYPES
☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

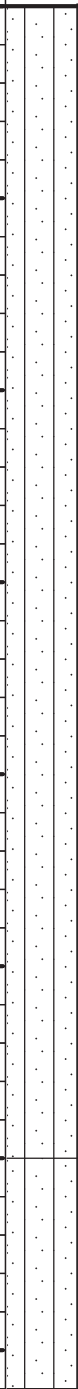
DATE DRILLED:
8-25-20
EQUIPMENT USED:
8 " Hollow Stem Auger
GROUNDWATER LEVEL (ft):
Not Encountered



PROJECT NO.: 2993.04I
INERT DEBRIS LANDFILL

$! * + \bar{A} *, \bar{A} *. \% + \bar{A} \% * / \bar{A} 0 >$

FIGURE A-9

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	2.5	110	25	D	0		Fill: "##\$%&()" light brown, dry, with gravel and cobbles @ 2.5 feet, slightly moist, medium dense @ 4 to 10 feet, drill rig chattering @ 5 feet, no recovery @ 12 feet, drill rig chattering @ 20 feet, very dense, pieces of cobble in sampler tip <	

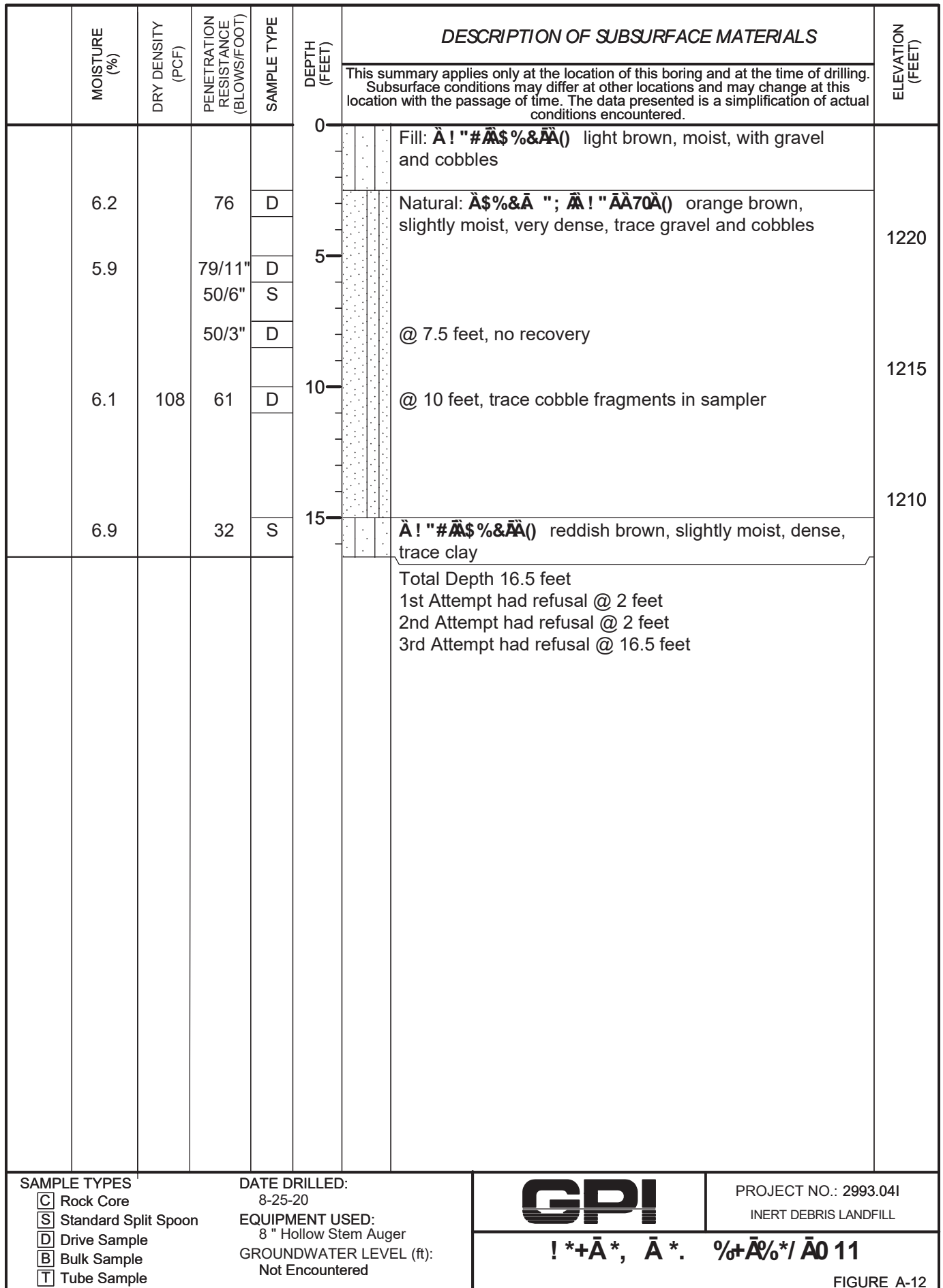


FIGURE A-12

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	2.8	113		B	0		Fill: $\bar{A}!$ "# $\bar{A}$ \$%& $\bar{A}$ (dark brown and greyish brown, dry, with gravel and cobbles @ 0 to 4 feet, drill rig chattering	1235
	3.1	117	46	S	5		@ 5 feet, brown, some concrete debris, slightly moist, dense	1230
	2.2	122	52	D	10		@ 10 feet, dark grey, some rootlets	1225
	10.3		28	S	15		@ 15 feet, dark brown, moist, medium dense, some brick debris	
						Total Depth 16.5 feet 1st Attempt had refusal @ 4 feet 2nd Attempt had refusal @ 16.5 feet		

SAMPLE TYPES

- ☒ Rock Core
- ☒ Standard Split Spoon
- ☒ Drive Sample
- ☒ Bulk Sample
- ☒ Tube Sample

DATE DRILLED:
8-25-20

EQUIPMENT USED:
8 " Hollow Stem Auger

GROUNDWATER LEVEL (ft):
Not Encountered

PROJECT NO.: 2993.041
INERT DEBRIS LANDFILL

! *+ $\bar{A}$ *, $\bar{A}$ *. % $\bar{A}$ %*/ $\bar{A}$ 12

FIGURE A-11

	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
					0		Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel @ 0.5 feet, 6 inch asphalt debris (to 3 feet in size) @ 2 feet, some cobbles @ 3 feet, some brick and concrete debris @ 4 feet, slightly moist @ 6 feet, drill rig chattering @ 7 feet, brown, slightly moist to moist @ 9 feet, brick pieces, some cobbles, some metal debris	1265
					5			1260
					10		Refusal @ 10 feet (boulder) 1st Attempt had refusal @ 10 feet 2nd Attempt had rig break down @ 6 feet	

SAMPLE TYPES
☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:
 9-8-20
EQUIPMENT USED:
 36 " Bucket Auger
GROUNDWATER LEVEL (ft):
 Not Encountered

PROJECT NO.: 2993.04I
 INERT DEBRIS LANDFILL
! *+Ä*, Ä *. %+Ä%*/ Ä 13
 FIGURE A-13

APPENDIX B

APPENDIX B

TEST PITS

Test Pits (TP-1 through TP-18)

We investigated the subsurface conditions at the site by excavating eighteen test pits (TP-1 through TP-18) using a backhoe on August 26 and 27, 2020. These test pits were excavated to depths of approximately 3 to 10 feet below the existing ground surface. The approximate locations of the pits are shown Figure 3. Bulk samples of the materials encountered were obtained for examination and testing in our laboratory.

The test pits were performed under the continuous technical supervision of GPI's representative, who maintained detailed logs of the test pits, classified the soils encountered, and obtained bulk samples of the soils encountered for examination and laboratory testing. The soils encountered in the test pits were classified in the field and through further examination in the laboratory in accordance with the Unified Soils Classification System. After completion, the test pits were backfilled with the soil cuttings with only limited compaction. Detailed logs of the test pits TP-1 through TP-18 test pits are presented in Figures B-1 to B-18 in this appendix.

Test Pits (TP-19 through TP-32):

On November 5, 2021, an Engineering Geologist from GPI observed and logged 14 exploratory test pits excavated with a track mounted excavator operated by Arcadia Reclamation Inc. (ARI). The approximate locations of test pits TP-19 through TP-32 are shown on Figure 2. The materials encountered in each test pit are summarized in Table B-1 included in this appendix.

Test Pit Location and Elevation

The locations of the test pits were laid out in the field by measuring from existing site features. Ground surface elevations at the exploration locations were estimated from a topographic survey plan prepared by Andreasen Engineering dated March 15, 2018 and should be considered approximate.

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
				B	0	Landfill Material: Ä ! "#Ä\$%&Ä() light brown, dry, with gravel and cobbles @ 2.5 feet, clay pipe debris @ 3 feet, boulders Total Depth 5 feet	1305
					5		

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä" 01

FIGURE B-1

					0	Landfill Material: Ä ! "#Ä\$%&Ä() light brown, dry, with cobbles, gravel, and rubble @ 2 feet, concrete debris (pieces to 2 feet in size), cobbles, few boulders @ 3 feet, asphalt debris, (pieces to 3 feet in size and 6 to 8 inches thick) @ 4 feet, concrete debris (pieces to 3 feet in size, 3-5 inches thick) * * 2 !#Ä+ 2\$ &-Ä+ 2\$3-!Ä 4 "5ÄÄ\$%&Ä+.) Älight brown, dry, with cobbles @ 6 feet, some asphalt and concrete debris, piece of pipe (possible transite) Total Depth 10 feet	1295
					5		1290
					10		

SAMPLE TYPES

- C Rock Core
S Standard Split Spoon
D Drive Sample
B Bulk Sample
T Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä" 06

FIGURE B-2

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
				B	0	Landfill Material: Ä ! "#Ä\$%&Ä() light brown, dry, with gravel and cobbles @ 2.5 feet, slightly moist to moist @ 3 feet, some brick and asphalt debris (pieces to 1 foot in size) Total depth 5 feet	1295
					5		

SAMPLE TYPES

- ☒ C Rock Core
☒ S Standard Split Spoon
☐ D Drive Sample
☐ B Bulk Sample
☐ T Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä" 07
FIGURE B-3

					0	Landfill Material: Ä ! "#Ä\$%&Ä() light brown, dry, with gravel and cobbles @ 2 feet, concrete debris (1.5 feet in size, 5 to 6 inches thick), some asphalt debris @ 2.5 feet, slightly moist @ 3 feet, oxidized iron pipe, 1 inch in diameter @ 5 feet, concrete debris (2 feet by 2.5 feet, 4 inches thick) @ 7.5 feet, moist @ 8 feet, some asphalt debris Total Depth 10 feet	1265 1260
					10		

SAMPLE TYPES

- ☐ C Rock Core
☐ S Standard Split Spoon
☐ D Drive Sample
☐ B Bulk Sample
☐ T Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä" 08
FIGURE B-4

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	8.5	118		B	0		1 inch AGGREGATE BASE	1250
	8.5	118					Landfill Material: $\bar{A}$! "# $\bar{A}\bar{A}\$ \& \bar{A}\bar{A}$ () light brown, dry, with gravel and cobbles @ 2 feet, brown, slightly moist, concrete debris (1 foot by 2 feet, 3 to 4 inches thick), rebar @ 3 feet, some brick debris @ 4 feet, some asphalt debris	
					5		Total Depth 6 feet	
					0		Landfill Material: $\bar{A}$! "# $\bar{A}\bar{A}\$ \& \bar{A}\bar{A}$ () light brown, dry, with gravel, trace cobbles @ 2 feet, some asphalt debris @ 3 feet, some asphalt debris @ 3.5 feet, slightly moist	1240
					5		Total Depth 7 feet	
SAMPLE TYPES ☐ C Rock Core ☐ S Standard Split Spoon ☐ D Drive Sample ☐ B Bulk Sample ☐ T Tube Sample					DATE DRILLED: 8-26-20 EQUIPMENT USED: 24Backhoe GROUNDWATER LEVEL (ft): Not Encountered		 PROJECT NO.: 2993.041 INERT DEBRIS LANDFILL ! * + $\bar{A}$, $\bar{A}$" $\bar{A}$" $\bar{A}$. "$\bar{A}\%$/$\bar{A}$" 09	
FIGURE B-5								
SAMPLE TYPES ☐ C Rock Core ☐ S Standard Split Spoon ☐ D Drive Sample ☐ B Bulk Sample ☐ T Tube Sample					DATE DRILLED: 8-26-20 EQUIPMENT USED: 24Backhoe GROUNDWATER LEVEL (ft): Not Encountered		 PROJECT NO.: 2993.041 INERT DEBRIS LANDFILL ! * + $\bar{A}$, $\bar{A}$" $\bar{A}$" $\bar{A}$. "$\bar{A}\%$/$\bar{A}$" 0	
FIGURE B-6								

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
	9.0 9.0	119 119		B	0 <			

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + À , À" À" À. " À% / À" Q

FIGURE B-7

					0	 Fill: À ! " # \$ % & ' () light brown, dry, with gravel and cobbles @ 3 feet, some asphalt debris @ 4 feet, concrete debris (2 feet by 2 feet)		1255
				B	5			
							Natural: +2\$ 3-! ! # \$ % & ' () orange brown, moist, trace cobbles Total Depth 5.5 feet	

SAMPLE TYPES

- ☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + À , À" À" À. " À% / À" Q

FIGURE B-8

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS			ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
					0			Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel	
								Natural: Ä! "#Ä\$%&ÄÄ() orange brown, moist, very dense, some gravel and cobbles	
								Total Depth 3 feet @ 3 feet, probes firm and unyielding, very dense	

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. "Ä%/Ä" 0=
FIGURE B-9

					0	Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel and cobbles		1210
				B		Natural: Ä\$%&Ä "5Ä! "ÄÄ.0Ä() light brown, slightly moist, with gravel		1205
						Total Depth 8 feet		

SAMPLE TYPES

- ☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. "Ä%/Ä" 0I>
FIGURE B-10

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
					0	Fill: Ä! "#Ä\$&Ä() light brown, dry, with cobbles	1220
						@ 2 feet, brick debris, rebar, boulders (1 to 2 feet in size)	
					5	Natural: Ä\$&Ä "5Ä! "ÄÄ.0Ä() orange brown, slightly moist, with gravel and cobbles	
						Total Depth 8 feet	

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä"Ä. "Ä%/Ä": 011

FIGURE B-11

					0	Fill: Ä! "#Ä\$&Ä() light brown, dry, with gravel and cobbles	1235
						@ 2 feet, concrete debris (1 foot by 2 feet, 3 to 4 inches thick)	
					5	@ 2.5 feet, slightly moist, some brick debris	
						@ 3 feet, boulders	
						@ 4 feet, slightly moist to moist	
						@ 4.5 feet, metal stake	
						@ 5 feet, brown, moist	
						Total Depth 7.5 feet	

SAMPLE TYPES

- ☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-26-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.041

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä"Ä. "Ä%/Ä": 016

FIGURE B-12

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
				B	0	Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel and cobbles @ 2 to 4 feet, boulders, 1 to 4 feet in diameter	1250
					5		1245
						Natural: Ä! "#Ä\$%&ÄÄ() reddish brown, slightly moist, very dense, trace gravel Total Depth 7 feet	

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä": 017
FIGURE B-13

					0	Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel and cobbles @ 0.5 feet, slightly moist @ 1 foot, some asphalt debris @ 2 feet, some boulders	1240
					5		1235
						Total Depth 7.5 feet	

SAMPLE TYPES

- ☐ Rock Core
☐ Standard Split Spoon
☐ Drive Sample
☐ Bulk Sample
☐ Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered


PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä": 018
FIGURE B-14

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
					0	Fill: Ä! "#Ä\$&ÄÄ() light brown, dry, with gravel and cobbles @ 1 foot, slightly moist @ 2 feet, boulders (12 inches in diameter) Natural: 4 - !! Ä-2\$ &-&Ä+ 2\$ 3-! Ä "5ÄÄ\$&Ä+ 4)Ä light brown, slightly moist, with cobbles, few boulders	1240
	9.0 9.0	120 120		B	5		1235
						Total Depth 7 feet	

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☒ Drive Sample
☒ Bulk Sample
☒ Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä": 019

FIGURE B-15

					0	Fill: Ä! "#Ä\$&ÄÄ() light brown, dry, with gravel and cobbles Natural: Ä\$&Ä "5Ä! "ÄÄ.0Ä() light brown, slightly moist, some gravel and cobbles @ 4 feet, boulder (12 inches in diameter)	1210
					5		
						Total Depth 6.5 feet	

SAMPLE TYPES

- ☒ Rock Core
☒ Standard Split Spoon
☒ Drive Sample
☒ Bulk Sample
☒ Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä": 01:

FIGURE B-16

POCKET PEN (TSF)	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FOOT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
						This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
					0	Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel with cobbles	1230
					5	Rubble Fill: Pieces of concrete (to 12 inch in size) with pieces of asphalt and brick. Mixed with approximately 30 percent of sand and gravel, dry @ 3 feet, some concrete debris @ 4 feet, some concrete and asphalt debris, with cobbles @ 6 feet, some concrete and brick debris Total Depth 7 feet	1225

SAMPLE TYPES

- ☒ **C** Rock Core
☒ **S** Standard Split Spoon
☐ **D** Drive Sample
☐ **B** Bulk Sample
☐ **T** Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

! * + Ä , Ä" Ä" Ä. " Ä%/Ä": 01;

FIGURE B-17

					0	Fill: Ä! "#Ä\$%&ÄÄ() light brown, dry, with gravel and cobbles	
				B	5	Ä\$%&Ä "5Ä!"ÄÄ.0ÄÄ() light brown, slightly moist, with gravel and cobbles Natural: Ä! "#Ä\$%&ÄÄ() orange brown, slightly moist to moist, trace porosity Total Depth 8 feet	1185

SAMPLE TYPES

- ☐ **C** Rock Core
☐ **S** Standard Split Spoon
☐ **D** Drive Sample
☐ **B** Bulk Sample
☐ **T** Tube Sample

DATE DRILLED:

8-27-20

EQUIPMENT USED:

24Backhoe

GROUNDWATER LEVEL (ft):

Not Encountered



PROJECT NO.: 2993.04I

INERT DEBRIS LANDFILL

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FIGURE B-18

**Table B-1: Summary of Test Pits TP19-TP32
Excavated 11/5/2021; Logged TGH**

TEST PIT	FILL	NATIVE
TP-19	0-3' Fill: Gray sand and gravel w/well stratified sand & silt deposits from 0-12"	3-21': Interbedded reddish brown silty sand/sandy silt with beds and lenticular channels of sand and gravel.
TP-20	No Fill, Test pit excavated on steep natural slope	0-21'±: Existing near vertical embankment (old quarry wall?), scrapped with excavator. Older Alluvium: gray and reddish brown, interbedded sandy gravel, gravelly sand and silty sand. Horizontally stratified slightly moist, dense.
TP-21	No Fill, Test pit excavated on steep natural slope	20'±: Existing near vertical embankment (old quarry wall?), scrapped with excavator. Older Alluvium: Interbedded sand and gravel bed. Silty sand beds and dark reddish brown, silty sand/sandy silt, massive dense/stiff.
TP-22	0-8' Fill: Brown sand, gravel, and oversize asphalt fragments at alluvial contact	8-12': Older Alluvium: Brown silty sand fine to coarse sand w/gravel, cobbles, boulders, moist, and dense.
TP-23	0-9' Fill: (Old Access Road Fill): Gray, silty, fine to coarse sand, with zones of gravel, cobble/boulders, dry, loose caving. 4" iron pipe observed in fill	9-12': At 9', vegetation line above yellow brown, native alluvium consisting of silty, fine to coarse sand, with gravel, cobbles, and boulders.
TP-24	0-12' Fill: Brown silty sand with gravel, cobbles and boulders 18-24", concrete rubble to 36", dry, loose, and moderately caving. Steel railroad rail observed in bottom of excavation.	Native materials were not encountered
TP-25	0-4' Fill: Brown silty sand w/gravel, some plastic, sandbags, other debris	4-12': Older Alluvium: Dark reddish brown, silty sand/sandy silt. Moist stiff/dense, few thin beds and lenses of sand and gravel
TP-26	0-2' Fill: Brown, sand and gravel, little oversize, dry, loose	2-8': Older Alluvium: Horizontally stratified sand and gravel, slightly moist, dense
TP-27	0-2' Fill: Brown and gray sand and gravel, dry, loose	2-3': Older Alluvium: Dark reddish brown, sandy silt/silty sand, dry to slightly moist, dense/stiff
TP-28	0-5' Fill: Brown sand, gravel, and cobbles with few boulders, dry, loose	5-7.5' Older alluvium: Gray, horizontally stratified sand and gravel, slightly moist, dense
TP-29	0-2', Fill: Brown, sand, gravel, and cobbles, dry, loose	2-4': Older Alluvium: Yellow brown, horizontally stratified sand, gravel and cobbles, slightly moist, dense.
TP-30	0-2' Fill: Brown sand, gravel and cobbles, loose	2-5': Older Alluvium: Brown and reddish brown, horizontally stratified sand and gravel and reddish brown, sandy silt/silty sand, slightly moist, dense/stiff.
TP-31	0-1' Fill: Brown sand and gravel, loose	1-5': Older Alluvium: Yellow brown, horizontally stratified sand and gravel, with cobbles, slightly moist, dense.
TP-32	0-2.5" Fill: Gray sand, gravel and cobble. Trace concrete rubble and plastic debris.	2.5-5': Older Alluvium: Yellow brown, horizontally stratified sand, gravel, and cobbles, slight moist, dense.

APPENDIX D

INTRODUCTION

Representative relatively undisturbed soil samples and bulk samples from the explorations conducted in August 2020 and September 2020 were carefully packaged in the field and sealed to prevent moisture loss. The samples were then transported to our Cypress office and laboratory for examination and testing assignments. Laboratory tests were performed on selected representative samples as an aid in classifying the soils and to evaluate the physical properties of the soils affecting foundation design and construction procedures. Detailed descriptions of the laboratory tests are presented below under the appropriate test headings. Test results are presented in the figures that follow.

MOISTURE CONTENT AND DRY DENSITY

Moisture content and dry density were determined from a number of the ring samples. The samples were first trimmed to obtain volume and wet weight and then were dried in accordance with ASTM D2216. After drying, the weight of each sample was measured, and moisture content and dry density were calculated. Moisture content tests were also conducted on bulk/disturbed soil samples. Moisture content and dry density values are presented on the boring logs in Appendix A.

GRAIN SIZE DISTRIBUTION

Seven samples from the soil borings and test pits were dried and run through a standard set of sieves in accordance with ASTM D422. The portion of the sample passing the No. 4 sieve was then soaked in water until individual soil particles were separated, and then washed on the No. 200 sieve. That portion of the material retained on the No. 200 sieve was oven-dried and weighed to determine the percentage of the material passing the No. 200 sieve. The grain size distribution obtained from the full sieve analysis and the percentages passing the No. 200 sieve (%Silt and %Clay) for the samples tested are presented in Figures D-1 and D-2.

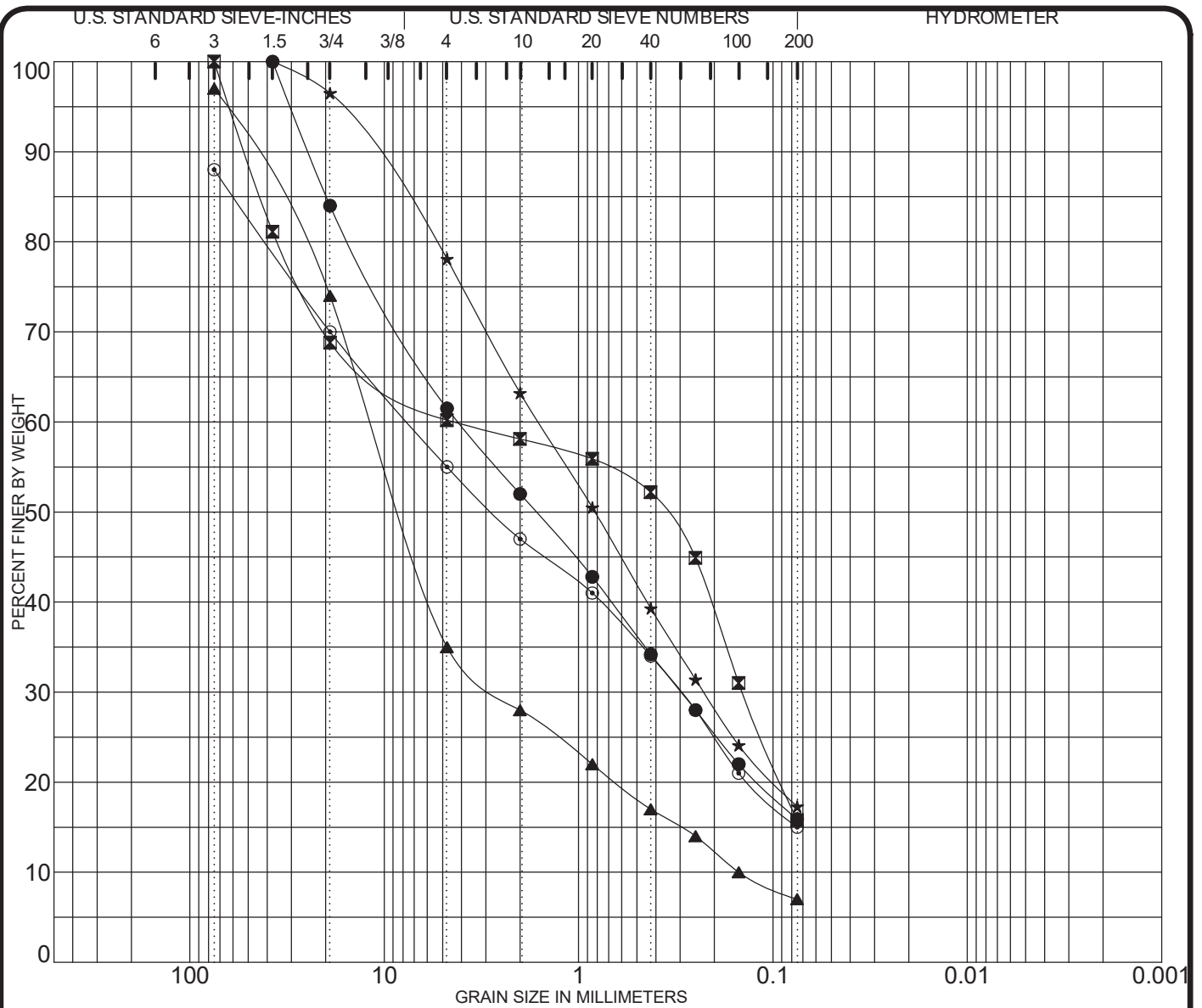
COMPACTION TEST

Maximum dry density/optimum moisture tests were performed in accordance with ASTM D1557 on representative bulk samples of the surficial soils. The test results are as follows. Because the maximum density curves were used to prepare remolded test samples for direct shear testing, the samples were screened through a No. 4 Sieve prior to conducting the test.

BORING NO.	DEPTH (ft)	SOIL DESCRIPTION	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)
B-7	0-4	Poorly Graded Gravel with Silt and Sand (GP-GM)	7.5	134
TP-5	0-5	Silty Sand with Gravel (SM)	8.5	131
TP-7	5-10	Poorly Graded Sand with Silt and Gravel (SP-SM)	9.0	132
TP-15	4-7	Well Graded Gravel with Sand (GW)	9.0	133

DIRECT SHEAR

Direct shear tests were performed on three undisturbed and five remolded samples in accordance with ASTM D3080. The remolded samples were compacted to a dry density of 90% of the maximum dry density for the material. The samples were placed in the shear machine, and a normal load comparable to the in-situ overburden stress was applied. The samples were inundated, allowed to consolidate, and then was sheared to failure. The tests were repeated on additional test specimens under increased normal loads. Shear stress and sample deformation were monitored throughout the test. The results of the direct shear tests are presented in Figures D-3 to D-10.



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	>=21@4	; 64	>=21@4	84 798	; 64

\$ 28 < 5Ä" > 23-6			Ä 2 @ 9-23-6			AÄ0	""	B"	B+	Ä>	Ä:
●	B-01	@ 16-25	SILTY SAND w/ GRAVEL (SM)								
☒	B-06	@ 20	SILTY SAND w/ GRAVEL (SM)								
▲	B-07	@ 0-4	Poorly Graded GRAVEL w/ SILT and SAND (GP-GM)							3.78	77.0
★	B-08	@ 6.0	SILTY SAND w/ GRAVEL (SM)								
⊙	TP-05	@ 0-5	SILTY SAND w/ GRAVEL (SM)								
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●	B-01	@ 16-25	37.50	4.14	0.297		38.5	45.6		15.9	
☒	B-06	@ 20	75.00	4.37	0.143		39.8	44.4		15.8	
▲	B-07	@ 0-4	75.00	11.55	2.561	0.1500	62.0	28.0		7.0	
★	B-08	@ 6.0	37.50	1.61	0.227		21.9	60.8		17.3	
⊙	TP-05	@ 0-5	75.00	7.54	0.298		33.0	40.0		15.0	

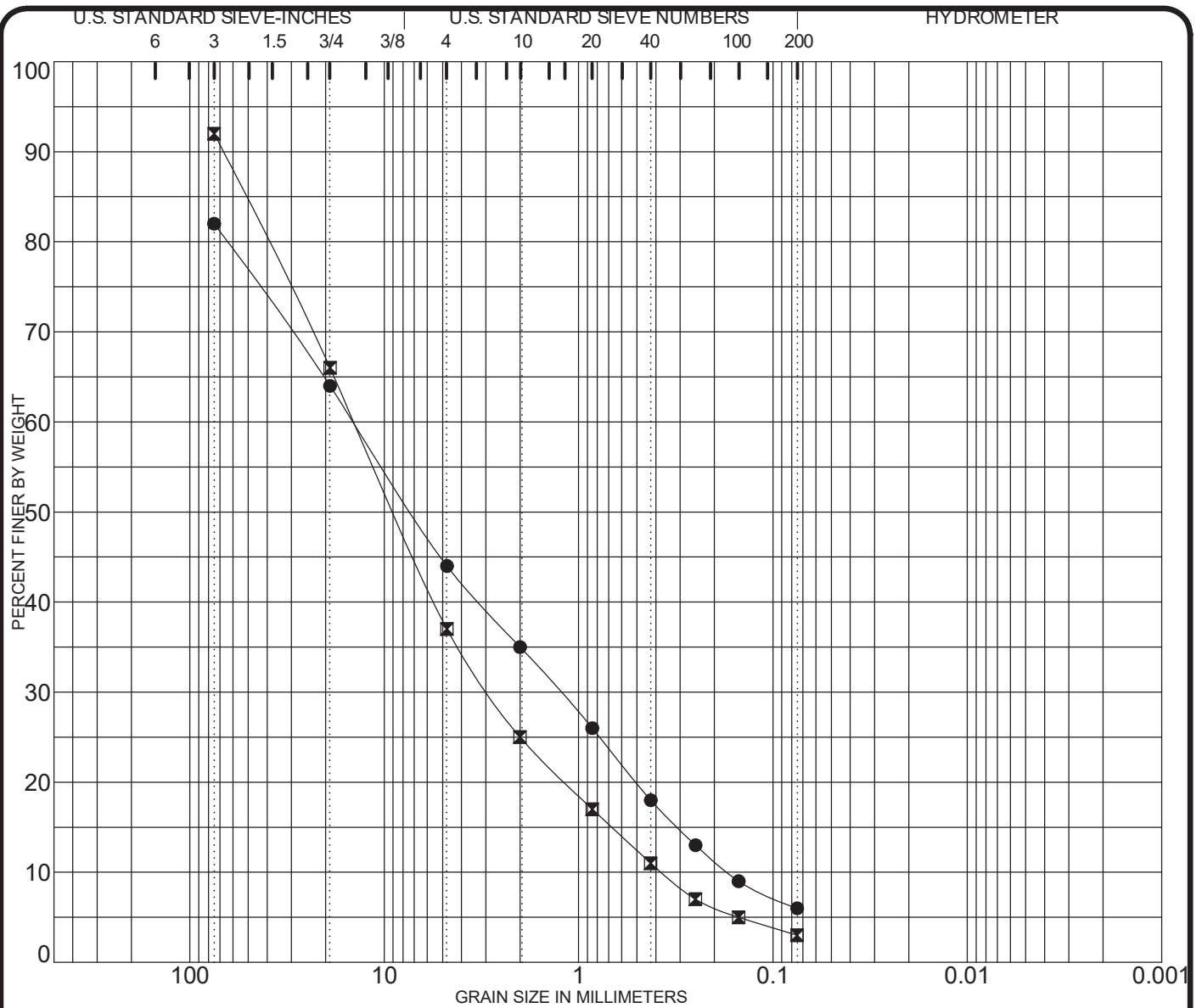
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FIGURE D-1



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●	TP-07	@ 5-10	Poorly Graded SAND w/ SILT and GRAVEL (SP-SM)							0.63	84.5
☒	TP-15	@ 4-7	Well Graded GRAVEL w/ SAND (GW)							1.55	38.3
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●	TP-07	@ 5-10	75.00	14.40	1.243	0.1704	38.0	38.0		6.0	
☒	TP-15	@ 4-7	75.00	14.26	2.868	0.3722	55.0	34.0		3.0	

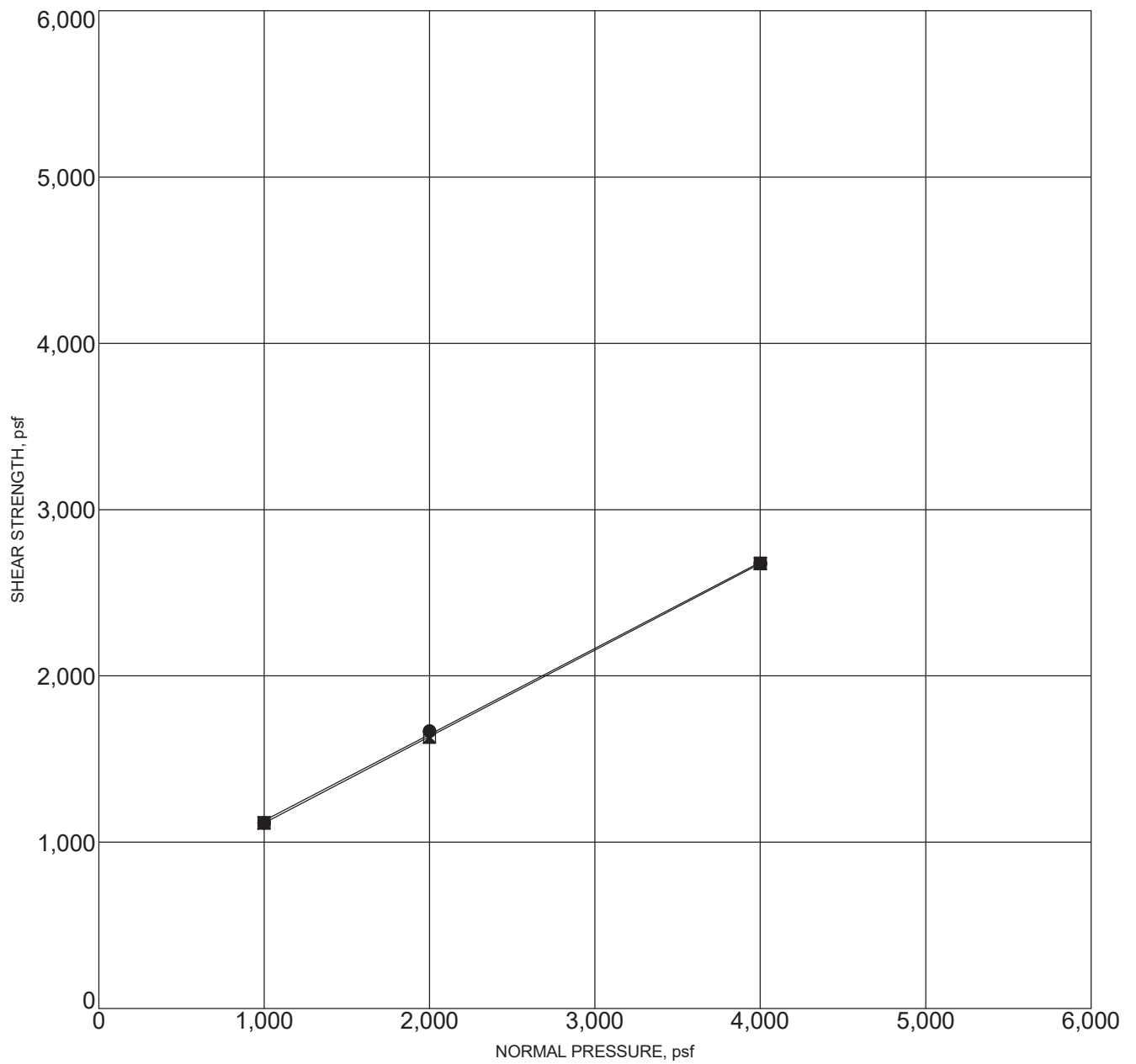
PROJECT: INERT DEBRIS LANDFILL

PROJECT NO. 2993.041



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FIGURE D-2



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B-2	@	14.0	SILTY SAND (SM)	115 2.7

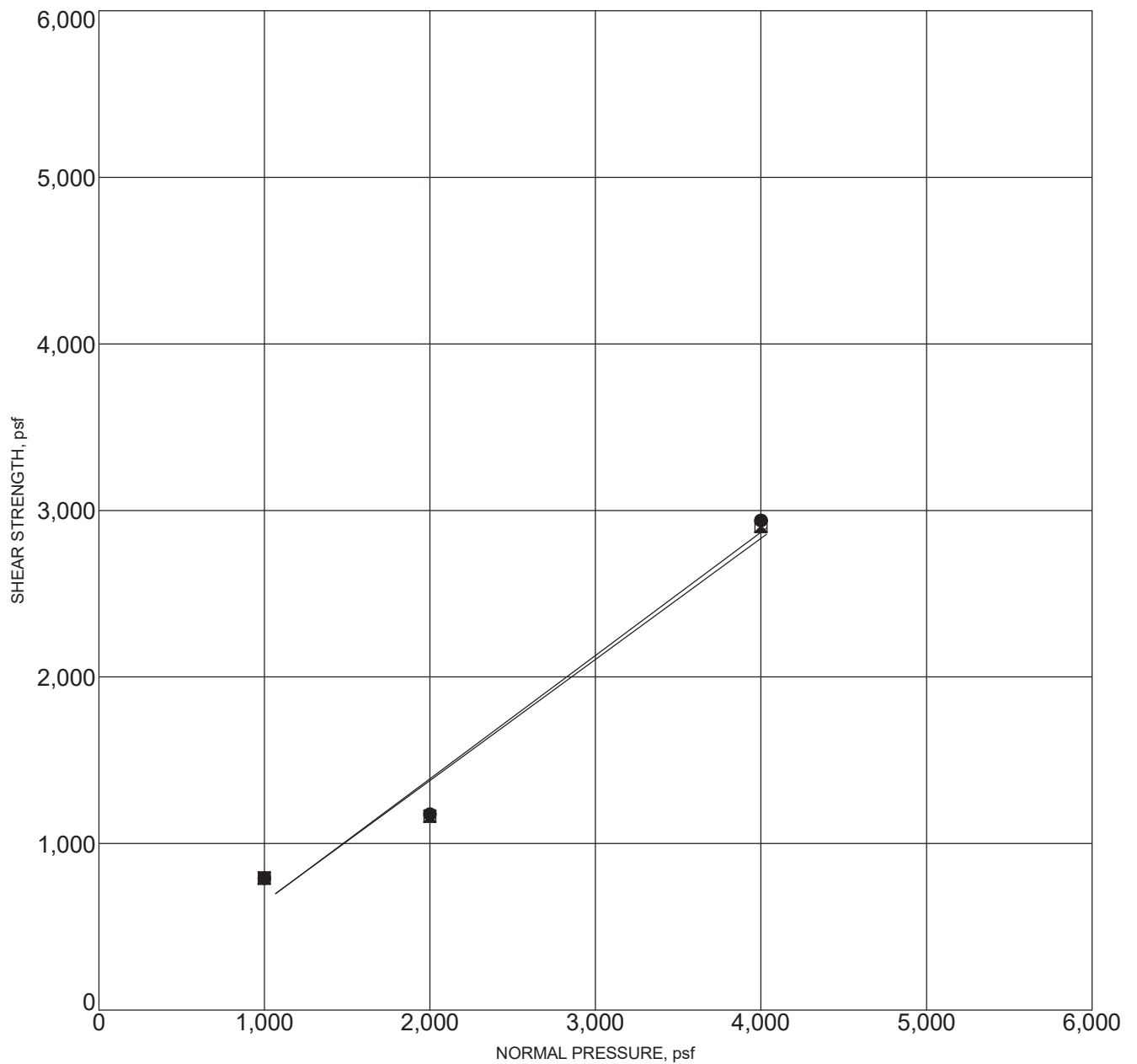
PROJECT: INERT DEBRIS LANDFILL

PROJECT NO.: 2993.04I



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FIGURE D-3



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B-3	@	20.0	SILTY SAND (SM)	114 4.9

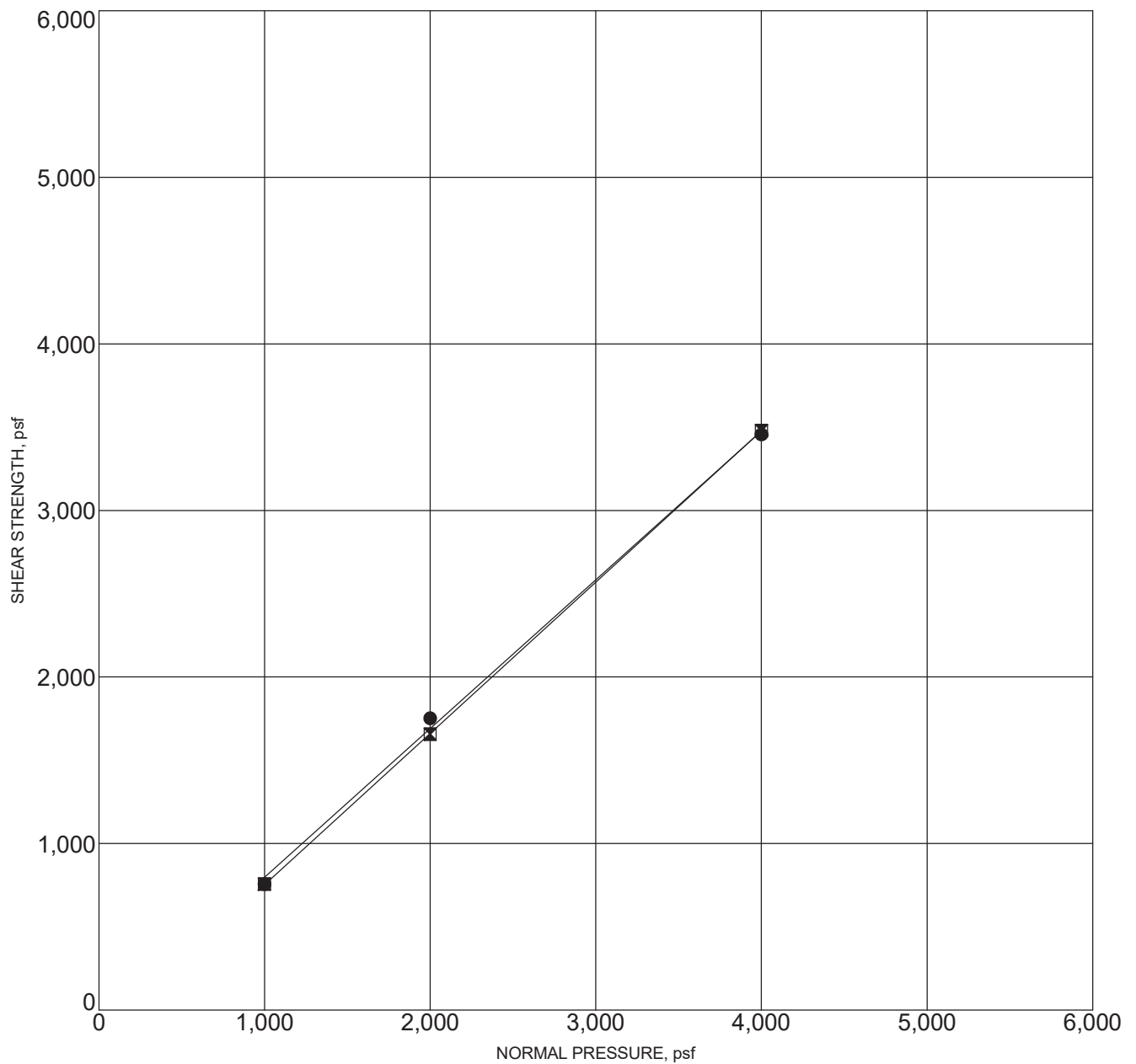
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FIGURE D-4



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 ,-\$./\$ %Ä0%12"&Ä7(Ä4"1-""#
 Ä !"# \$ %&Ä8Ä*#+

&+, -./ Ä01+2304			8. +<<331+204	779- 1;	#89 :
B-6	@	5.0	SILTY SAND (SM)	111	1.0

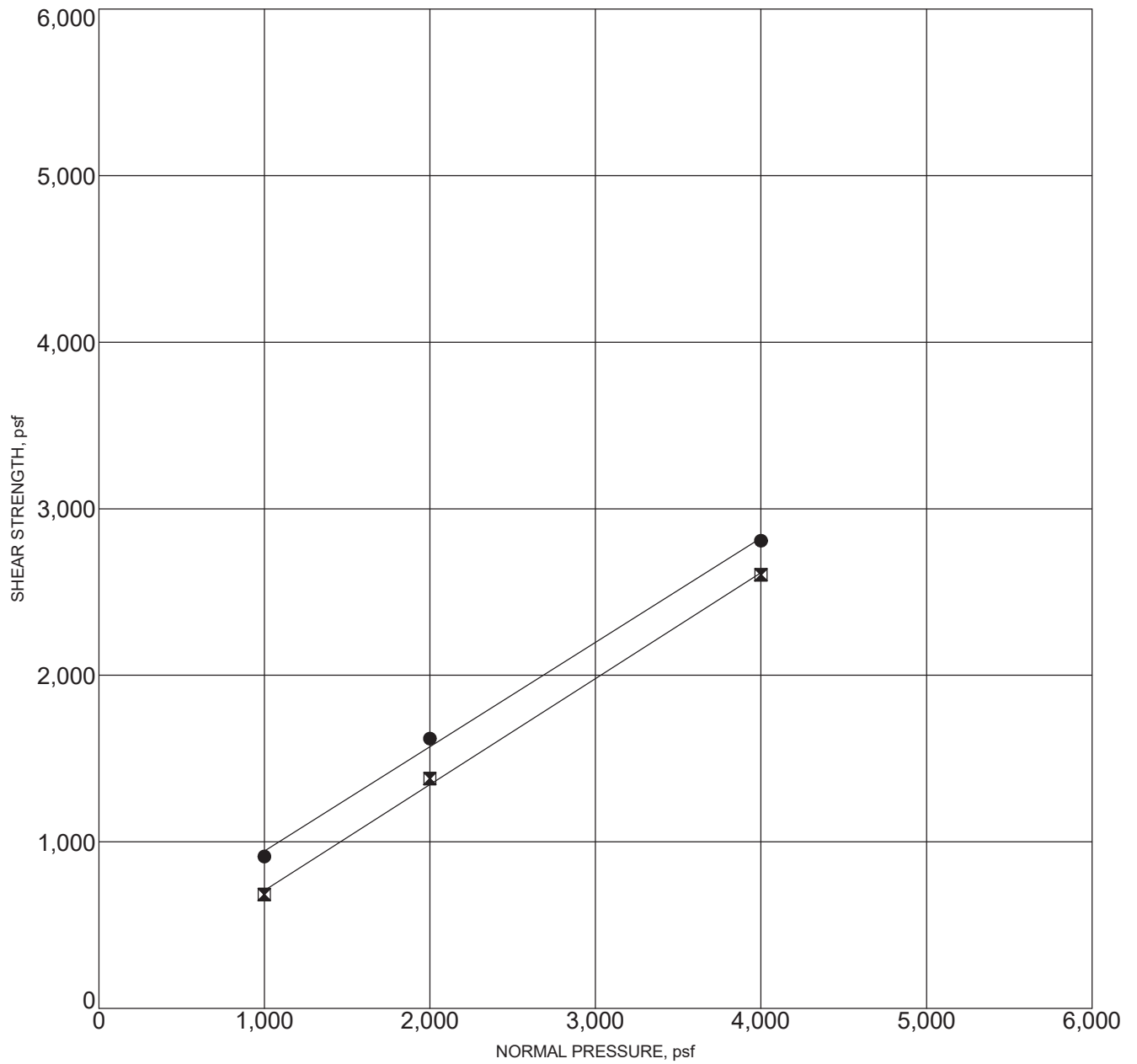
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FIGURE D-5



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B-7	@	0-5	Poorly Graded GRAVEL w/ SILT and SAND (GP-GM)		121 7.5

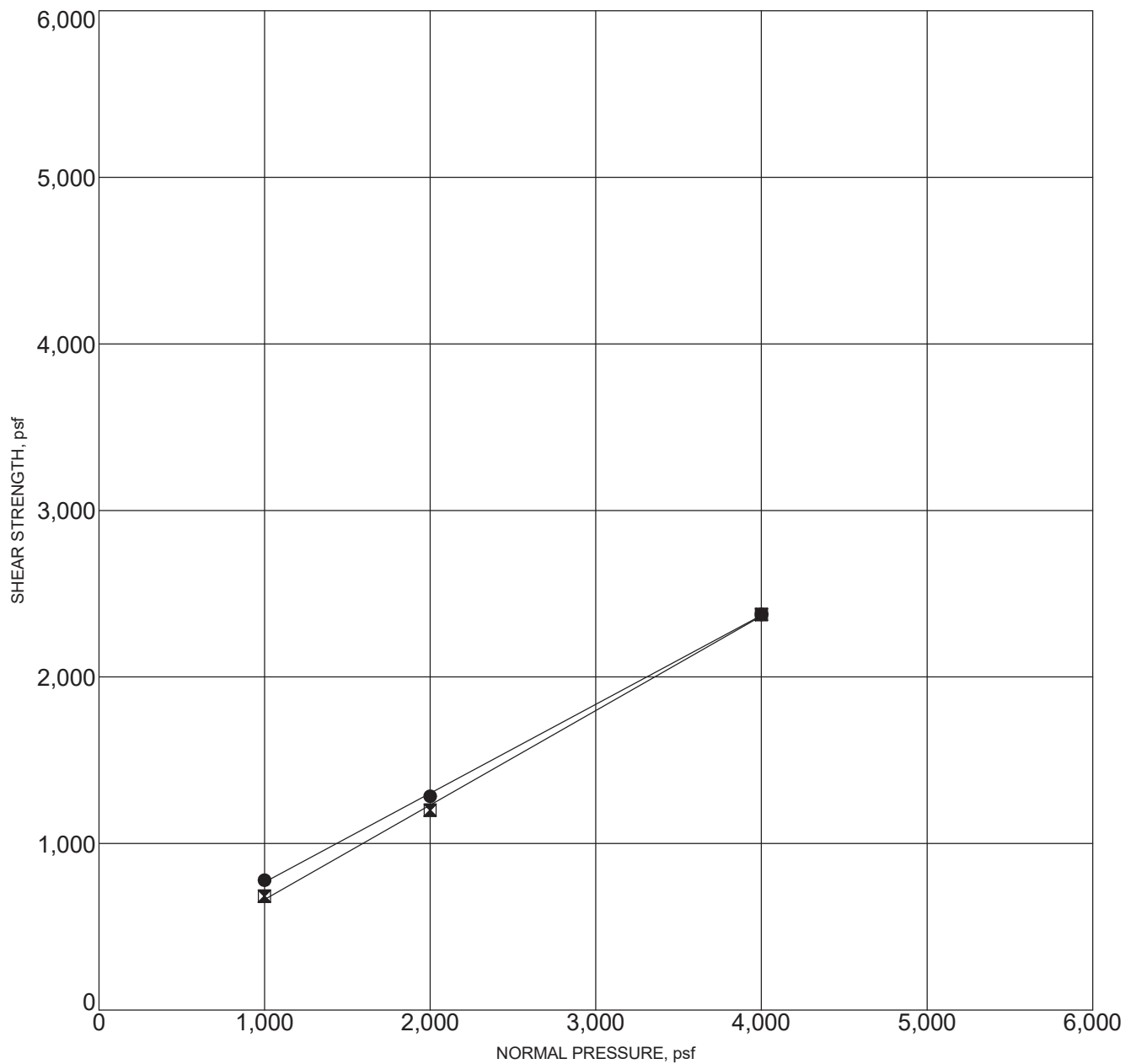
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FIGURE D-6



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- ! 9 8 : Ä6 % &#'(			Ä !""# \$% ! &#(		3378%\$; Ä7 <	
TP-5	@	0-5	SILTY SAND (SM)		118	8.5

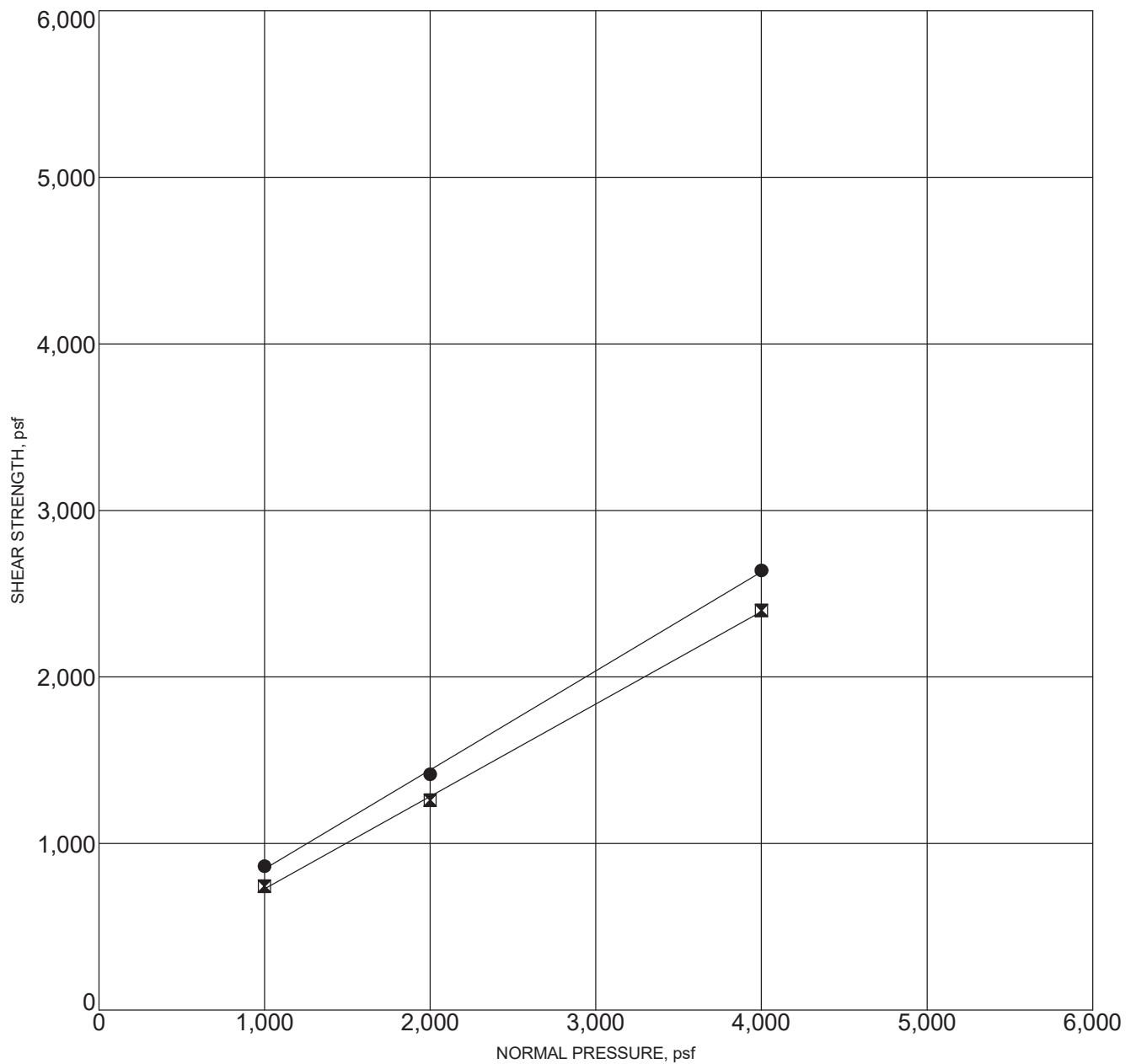
PROJECT: INERT DEBRIS LANDFILL

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FIGURE D-7



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- ! 9 8 : Ä6 % &#'(		Ä !""# \$% !&#(	3378%\$;Ä7 <	
TP-7	@ 5-10	Poorly Graded SAND w/ SILT and GRAVEL (SP-SM)	119	9.0

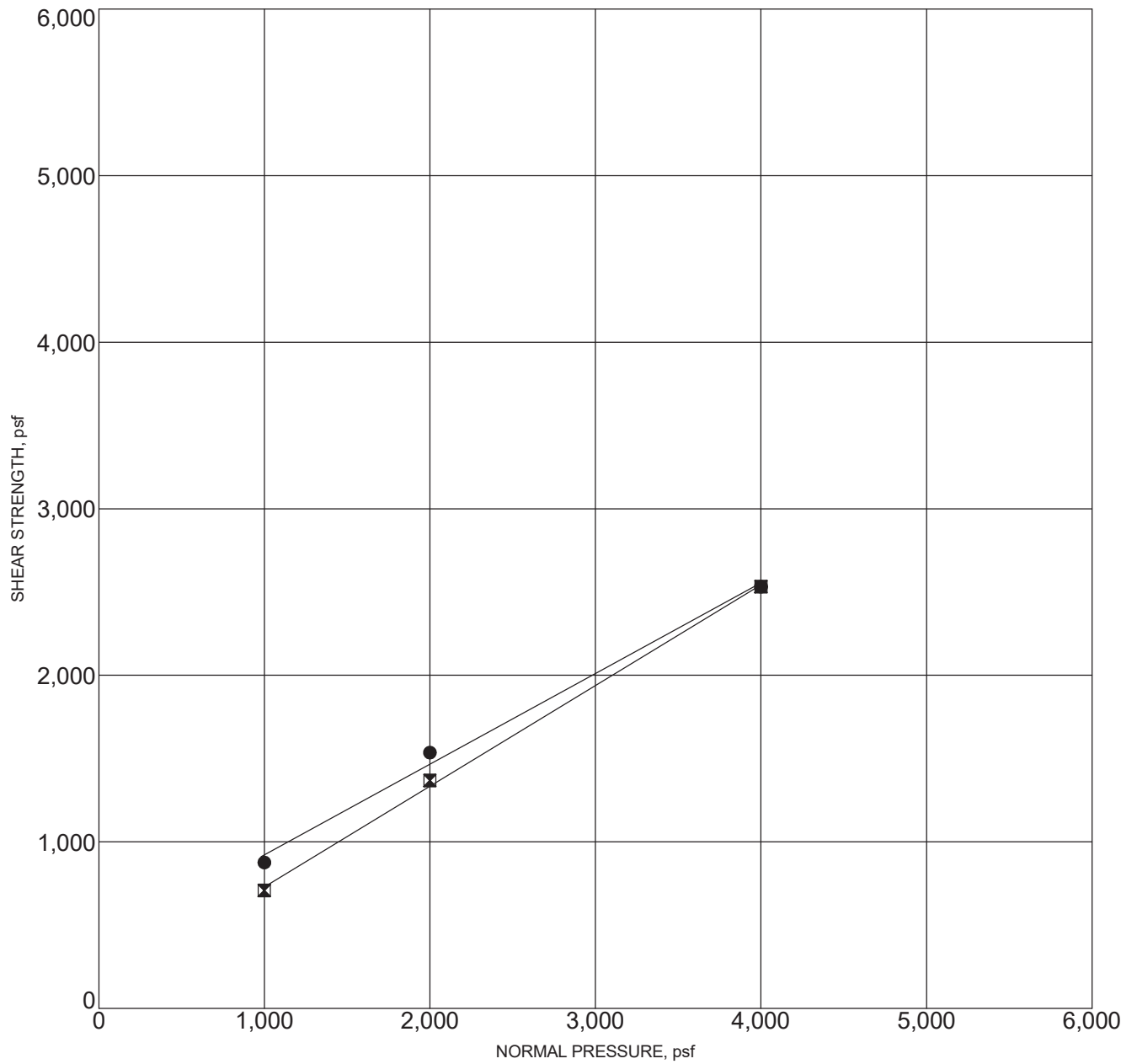
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FIGURE D-8



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- ! 9 8 : Ä6 % &#'(		Ä !""# \$% ! &#(	3378%\$;Ä7 <	
TP-15	@ 4-7	Well Graded GRAVEL w/ SAND (GW)	120	9.0

PROJECT: INERT DEBRIS LANDFILL

PROJECT NO.: 2993.04I



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FIGURE D-9

APPENDIX C

GEOPHYSICAL SURVEY

Terra Geosciences conducted a seismic refraction survey at the subject site on August 25, 26 and 28, 2020. Eleven refraction survey lines were performed (Seismic Lines S-1 through S-11). Details of the seismic refraction survey and the results of the survey are presented in the report dated August 31, 2020, by Terra Geosciences, which is included in this appendix.

The traverses were located in the field by use of Google™ Earth imagery (2020) and GPS coordinates and ranged from 125 to 250 feet in length. The approximate locations of the refraction survey lines are shown on Figure 2 and in the August 31, 2020 report by Terra Geosciences.



**SEISMIC REFRACTION SURVEY
INERT DEBRIS LANDFILL PROJECT
NWC OF MONTE VISTA AVENUE AND ARROW ROUTE
CITIES OF UPLAND AND CLAREMONT
SAN BERNARDINO AND LOS ANGELES COUNTIES, CALIFORNIA**

Project No. 203485-3

August 31, 2020

Prepared for:

Geotechnical Professionals Inc.
5736 Corporate Avenue
Cypress, CA 90630

Consulting Engineering Geology & Geophysics

P.O. Box 1090, Loma Linda, CA 92354 • 909 796-4667

Geotechnical Professionals Inc.
5736 Corporate Avenue
Cypress, CA 90630

Attention: Mr. Justin J. Kempton, GE

Regarding: Seismic Refraction Survey
Inert Debris Landfill Project
NWC of Monte Vista Avenue and Arrow Route
Cities of Upland and Claremont
San Bernardino and Los Angeles Counties, California
GPI Project No. 2993.02I

INTRODUCTION

In accordance with your request, we have completed a non-invasive geophysical survey using the seismic refraction method along selected portions of the subject site as referenced above. We understand that the subject site was previously used a sand and gravel quarry that has been partially backfilled with both compacted and uncompacted fill, of which the limits and depth are unknown at this time. This report describes in further detail the seismic refraction methodology, field procedures used, data processing of the various seismic modeling programs utilized, and the results of this survey, along with presentation of the subsurface seismic models, associated data, and representative survey line photographs. As authorized by you, the following services were performed:

- **Review of available pertinent published and unpublished geologic and geotechnical data in our files pertaining to the site, along with a field reconnaissance.**
- **Conducting a geophysical survey using the seismic refraction method, which consisted of eleven survey traverses, to aid in evaluating the deeper subsurface lithology and geologic structure present beneath the subject site. The field survey and the data analysis were performed by a licensed State of California Professional Geophysicist.**
- **Preparation of representative geologic seismic models and associated data, created from a compilation of various computer data analytical programs.**
- **Preparation of this report, presenting the results of our interpretation of the geophysical data.**

Accompanying Map and Appendices

Plate 1 - Seismic Line Location Map
Appendix A - Layer Velocity Models
Appendix B - References

PROJECT SUMMARY

As requested, we have performed a geophysical survey using the seismic refraction method along selected portions of the subject site as directed by you. The subject study area is located at the northwest corner of Monte Vista Avenue and Arrow Route, which straddles the cities of both Upland (San Bernardino County) to the east and Claremont (Los Angeles County) to the west. We understand that the subject site was previously occupied by a gravel quarry which had subsequently been partially filled both with undocumented and engineered fill materials. Additionally, the exact composition, limits, and depth of the fill materials are not known at this time.

The purpose of this geophysical study therefore, was to provide both a qualitative and quantified geophysical analysis of the subsurface earth materials, using the seismic refraction method, in order to ascertain the approximate contact boundaries between the native earth materials at depth, where practical, and the overlying landfill materials. The premise is that there may be a discernable seismic velocity differential between the presumed higher-velocity native earth materials at depth and the overlying lower-velocity uncontrolled landfill materials.

Our study involved using various seismic refraction computer modeling programs for both quality control and comparative purposes, which allowed for an unbiased and more thorough analysis. Each of these modeling programs, as described in more detail further in this report, have both strengths and limitations and it was our intention to compile these models to form a more coherent representation of the interpreted subsurface geologic structure. The traverses were located by your firm and are approximated on the Seismic Line Location Map, Plate 1, of which the base map is a captured Google™ Earth (2020) image.

SUMMARY OF SEISMIC REFRACTION SURVEY

Methodology

The seismic refraction method is well suited to identify whether there is a distinct velocity change at depth which could represent a possible subsurface structural differential. The seismic refraction method consists of measuring (at known points along the surface of the ground) the travel times of compressional waves generated by an impulsive energy source and can be used to estimate the layering, structure, and seismic acoustic velocities of subsurface horizons. Seismic waves travel down and through the soils and rocks, and when the wave encounters a contact between two earth materials having different velocities, some of the wave's energy travels along the contact at the velocity of the lower layer. The fundamental assumption is that each successively deeper layer has a velocity greater than the layer immediately above it. As the wave travels along the contact, some of the wave's energy is refracted toward the surface where it is detected by a series of motion-sensitive transducers (geophones).

The arrival time of the seismic wave at each of the geophone locations can be related to the relative seismic velocities of the subsurface layers in feet per second (fps), which can then be used to aid in interpreting both the depth and type of materials encountered.

Field Procedures

Eleven refraction survey lines were performed (Seismic Lines S-1 through S-11) along various portions of the subject site as directed. The traverses were located in the field by use of Google™ Earth imagery (2020) and GPS coordinates and have been delineated on the Seismic Line Location Map, as presented on Plate 1. The survey traverses ranged from 125 to 250 feet in length (depending of the local depth of interest), which consisted of a total of twenty-four 14-Hertz geophones, spaced at regular five- to ten-foot intervals, in order to detect both the direct and refracted waves. A 16-pound sledge-hammer was used as the energy source to produce the seismic waves at seven locations along each survey traverse. Multiple hammer impacts were utilized at each shot point in order to increase the signal to noise ratio, which enhanced the primary seismic “P”-waves.

The seismic wave arrivals were digitally recorded in SEG-2 format on a Geometrics StrataVisor™ NZXP model signal enhancement refraction seismograph. Seven shot points were utilized along each spread using forward, reverse, and several intermediate locations in order to obtain high resolution survey data for velocity analysis and depth modeling purposes. The data was acquired using a sampling rate of 0.0625 milliseconds having a record length of 0.08 to 0.220 seconds. No acquisition filters were used during data collection.

During acquisition, the seismograph displays the seismic wave arrivals on the computer screen which were used to analyze the arrival time of the primary seismic “P”-waves at each geophone station, in the form of a wiggle trace for quality control purposes in the field. If spurious “noise” was observed, the shot location was resampled during relatively quieter periods. Each geophone and seismic shot location were surveyed using a hand level and ruler for topographic correction, with “0” being the lowest point along each survey line.

Data Reduction

All of the recorded seismic data was subsequently transferred to our office computer for further processing and analyzing, using the computer programs **SIPwin** (Seismic Refraction Interpretation Program for **Windows**) developed by Rimrock Geophysics, Inc. (2004) and **Refractor** (Geogig, 2001-2019), and are summarized below.

- **SIPwin** is a ray-trace modeling program that evaluates the subsurface using layer assignments based on time-distance curves and is better suited for layered media, using the “Seismic Refraction Modeling by Computer” method (Scott, 1973). The first step in the modeling procedure is to compute layer velocities by least-squares

techniques. Then the program uses the delay-time method to estimate depths to the top of layer-2. A forward modeling routine traces rays from the shot points to each geophone that received a first-arrival ray refracted along the top of layer-2. The travel time of each such ray is compared with the travel time recorded in the field by the seismic system.

The program then adjusts the layer-2 depths so as to minimize discrepancies between the computed ray-trace travel times and the first arrival times picked from the seismic waveform record. The process of ray tracing and model adjustment is repeated a total of three times to improve the accuracy of depths to the top of layer-2. The layers that were used for the analysis have been established by the creation of a Time-Distance Plot which displays the curve derived from the arrival times of the first P-wave impulse for each geophone receiver in reference to its respective shot point.

➤ **Refractor** is seismic refraction software that also evaluates the subsurface using selected layer assignments from the Time-Distance Plots (see Appendix A) utilizing interactive and interchangeable analytical methods that include the Delay-Time method, the ABC method, and the Generalized Reciprocal Method (GRM). These methods are used for defining irregular non-planar refractors and are briefly described below.

1. The Delay-Time method will measure the delay time depth to a refractor beneath each geophone rather than at shot points. Delay-time is the time spent by a wave to travel up or down through the layer (slant path) compared to the time the wave would spend if traveling along the projection of the slant path on the refractor.
2. The ABC (intercept time) method makes use of critically refracted rays converging on a common surface position. This method involves using three surface to surface travel times between three geophones and the velocity of the first layer in an equation to calculate depth under the central geophone and is applied to all other geophones on the survey line.
3. The GRM method is a technique for delineating undulating refractors at any depth from in-line seismic refraction data consisting of forward and reverse travel-times and is capable of resolving dips of up to 20% and does not over-smooth or average the subsurface refracting layers. In addition, the technique provides an approach for recognizing and compensating for hidden layer conditions.

The combined use of these computer programs provided a more thorough analysis of the subsurface structure and velocity characteristics with respect to evaluating the contact boundary between the landfill materials and the underlying native alluvial deposits. All of the computer programs perform their analysis using exactly the same input data which includes first-arrival "P"-waves and survey line geometry.

SUMMARY OF DATA ANALYSIS

As previously discussed, the primary purpose of the seismic refraction survey was to attempt to discern the approximate contact boundaries between the native earth materials at depth and the overlying fill materials. In general, the site where locally surveyed, was noted to be characterized by two major subsurface layers (Layers V1 and V2) with respect to seismic velocities.

The following velocity layer summaries have been prepared using the **SIPwin** and **Refractor computer** analysis, with the representative Layer Velocity Models (Seismic Line S-1 through S-11) presented within Appendix A along with their respective Time-Distance Plots. The Time-Distance plots, also referred to as “travel-time curves”, display the time it takes (in milliseconds) for the induced seismic waves (shot points) to arrive at each of the seismic receivers (geophones), with respect to their location along the survey line (distance, in feet).

Velocity Layer V1:

The predominance of the uppermost velocity layer (V1) is most likely comprised of uncompacted fill and/or landfill debris, having an average weighted velocity of 1,940 to 2,608 fps, which is typical for these types of unconsolidated surficial earth materials. This velocity range is consistent with some landfill velocities, which can vary widely due to both the composition of the materials and the compactive effort (if any) during disposal.

The V1 velocity layer(s) for Seismic Line S-7 (noted as V1a and V1b in Appendix A) were found to be 2,801 fps and 4,177 fps, respectively, and are comprised of compacted engineered fill. The relatively lower velocity for the upper layer V1a may be due to the use of finer-grained fill materials when approaching final grade.

Locally along Seismic Line S-10, a relatively lower-velocity of 1,802 fps was obtained, which is most likely comprised of recent and active alluvial sedimentation along the lower portion of the quarry bottom in the east.

Velocity Layer V2:

The second layer (V2) predominantly yielded a seismic velocity range of 3,285 to 3,960 fps, which is typical for native, deeper undisturbed and more consolidated older alluvial sediments. Locally along Seismic Line S-10, a relatively lower-velocity of 2,416 fps was obtained, which may be comprised of a localized finer-grained (i.e., lacking significant cobbles and/or boulders) older alluvial deposit at depth. Locally along Seismic Line S-11, there was not overlying lower-velocity V1 layer.

The following table summarizes the results of the survey lines with respect to the “weighted average” seismic velocities for each layer, as indicated on the Layer Velocity Models, as presented within Appendix A.

TABLE 1- VELOCITY SUMMARY OF SEISMIC SURVEY LINES

Seismic Line	V1 Layer (fps)	V2 Layer (fps)
S-1	2,608	3,926
S-2	2,233	3,867
S-3	2,111	3,689
S-4	2,071	3,849
S-5	2,164	3,285
S-6	1,940	3,587
S-7	V1a- 2,801	-----
	V1b- 4,177	-----
S-8	2,480	3,507
S-9	2,209	3,622
S-10	1,802	2,416
S-11	-----	3,960

SUMMARY OF FINDINGS AND CONCLUSIONS

The raw field data was considered to be of fair to good quality with minor to moderate amounts of ambient “noise” that was introduced during our survey. The noise sources most likely were produced by a combination of vehicular traffic originating along the adjacent roadways, air traffic, and local high-frequency communication noise (possibly from the nearby airport to the northeast of the subject site. Analysis of the data and picking of the primary “P”-wave arrivals was therefore performed with some difficulty, with minor to moderate amounts of interpolation of the data being necessary. Application of both high- and low-frequency filters were partially necessary during processing as the raw first-wave distant arrivals were generally masked by the noise.

The Time-Distance Plots, as presented within Appendix A, have been included to present the results of the data picks of the first-arrivals of the “P”-Waves recorded during our survey. It can be seen that the data points vary somewhat both in linearity and slope, suggesting the heterogenous nature of the underlying landfill materials. There may be many inconsistencies in the landfill, which could include dense pockets from local compactive effort, loose areas of fill including decomposing organics, large areas of concrete debris, etc. Wave-path travel through these conditions can be very complicated and convoluted, which most likely added to the difficulty in interpretation of the data.

It was noted that the seismic velocities recorded in both the fill/landfill materials (V1) and the native older alluvial deposits (V2) were fairly consistent across the site where locally surveyed, suggesting a good correlation, with a higher confidence level in the resultant data and models as a result.

We understand that there are documented compacted fill materials present along the southern portion of the site (locally along Seismic Line S-7). The contact between the native older alluvial materials and the documented compacted fill materials at depth may be difficult to differentiate, especially if the velocities are similar. It is generally considered to be a “rule-of-thumb” that a seismic velocity differential of around 50 percent is needed to produce another velocity layer boundary at depth. If the two earth materials are similar with respect to seismic velocities, then it is not possible to detect the contact between them.

Additionally, if the seismic velocities of the native alluvial materials are less than the overlying compacted fill, this would create a “blind zone” wherein the sound waves would be refracted downward at the contact, being undetectable at the surface, rendering this contact boundary unidentifiable. Noting that the seismic velocity of the deeper compacted fill materials was greater than 4,000 fps and that the velocities of the native older alluvial materials were less than 4,000 fps, this condition would be expected and therefore, the contact and conversely the depth between the two materials cannot be discerned.

In summary, despite the challenges in the data processing, the final seismic models appear to have close similarities with respect to seismic velocities, indicating the reliability of the data. Additionally, the average of the seismic velocities for both velocity layers appear to be within the typical range for their respective materials types. The only variance across the site, with respect to the undocumented fill and native materials, was found along Seismic Line S-10, wherein it is possible that a localized finer-grained lens of alluvial materials is present (lacking significant cobbles and/or boulders), resulting in a relatively lower seismic velocity, with the upper layer consisting of recent alluvial deposition. The compacted engineered fill locally found along the southern portion of the site (Seismic Line S-7) appears to have a high relative seismic velocity, most likely due to the addition of water and the compactive effort during the grading process.

CLOSURE

The field survey was performed by the undersigned during August 2020 using "state of the art" geophysical equipment and techniques along selected portions of the subject site as directed by you. It should be noted that our data was obtained along only eleven specific locations therefore other areas in the local vicinity beyond the limits of our seismic lines may contain different velocity layers, depths, and structures not encountered during this field survey. As a rule-of-thumb, the estimates of the layer velocity boundaries are generally considered to be within 10± percent of the total depth of the contact.

It is important to understand that the fundamental limitation for seismic refraction surveys is known as nonuniqueness, wherein a specific seismic refraction data set does not provide sufficient information to determine a single "true" earth model. Therefore, the interpretation of any seismic data set uses "best-fit" approximations along with the geologic models that appear to be most reasonable for the local area being surveyed. Client should also understand that when using the theoretical geophysical principles and techniques discussed in this report, sources of error are possible in both the data obtained and in the interpretation and that the results of this survey may not represent actual subsurface conditions.

These are all factors beyond **Terra Geosciences** control and no guarantees as to the results of this survey can be made. We make no warranty, either express or implied. If the client does not understand the limitations of this geophysical survey, additional input should be sought from the consultant.

This opportunity to be of service is sincerely appreciated. If you should have any questions regarding this report or do not understand the limitations of this study or the data that is presented, please do not hesitate to contact our office at your earliest convenience.

Respectfully submitted,
TERRA GEOSCIENCES



Donn C. Schwartzkopf
Professional Geophysicist
PGP 1002



SEISMIC LINE LOCATION MAP



Base Map: Google™ Earth imagery (2020); Seismic traverses shown as yellow lines.

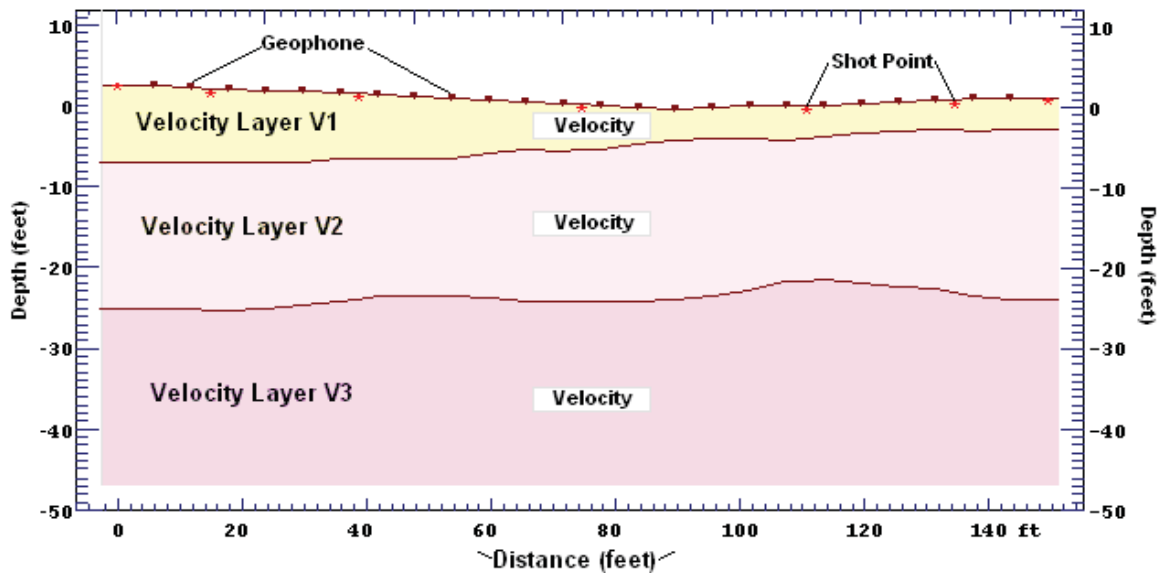
APPENDIX A

LAYER VELOCITY MODELS

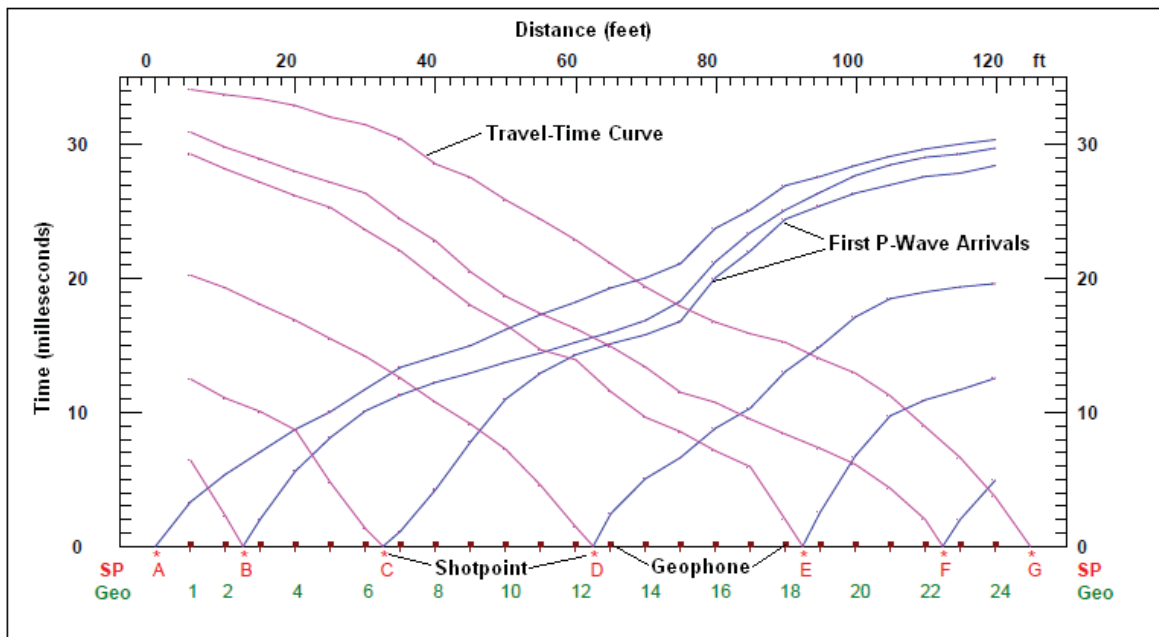


LAYER VELOCITY MODEL LEGEND

LAYER VELOCITY MODEL



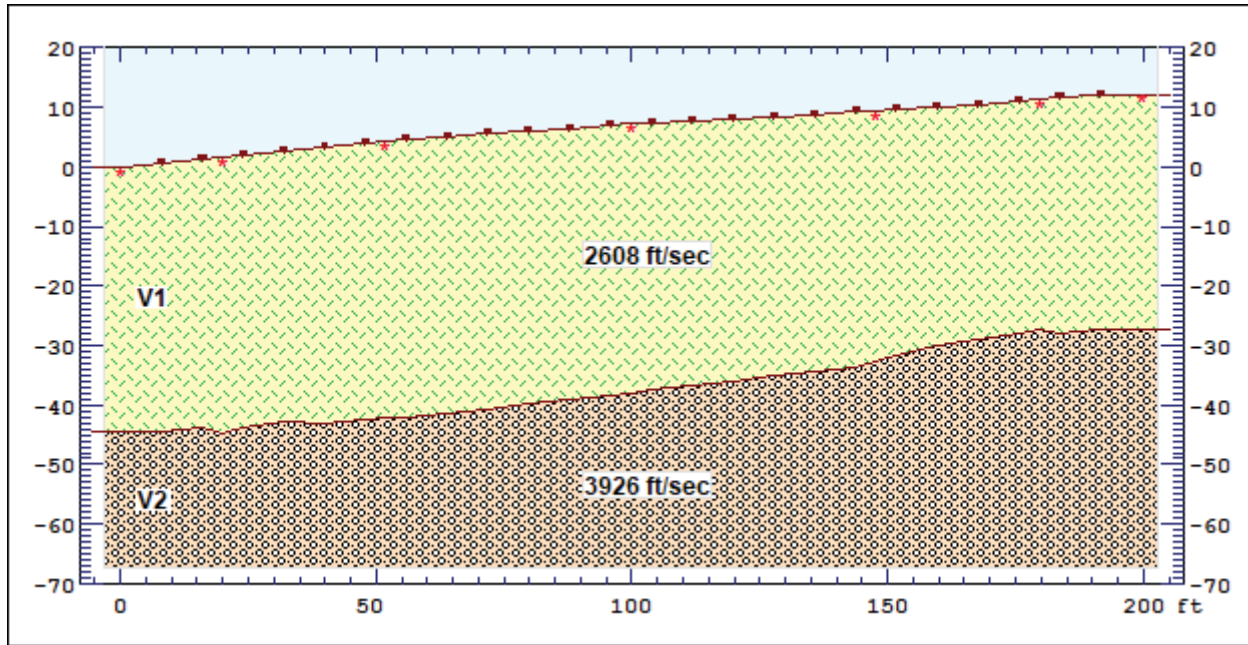
TIME-DISTANCE PLOT



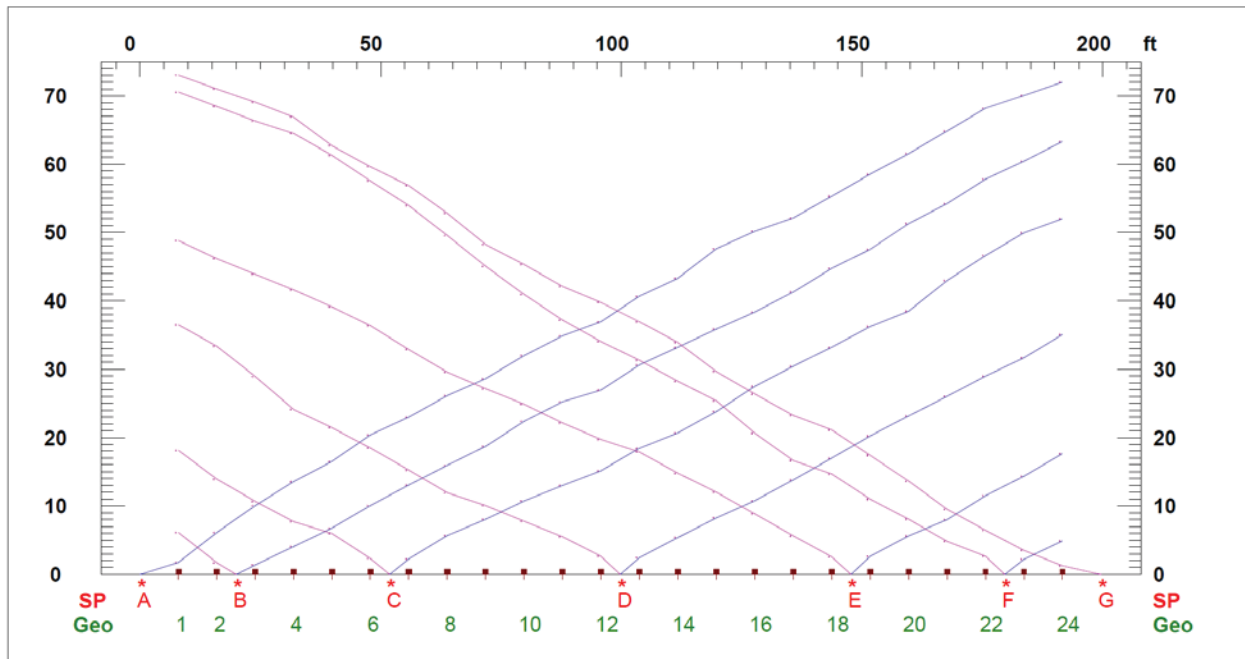
SEISMIC LINE S-1

North 9° West >

LAYER VELOCITY MODEL



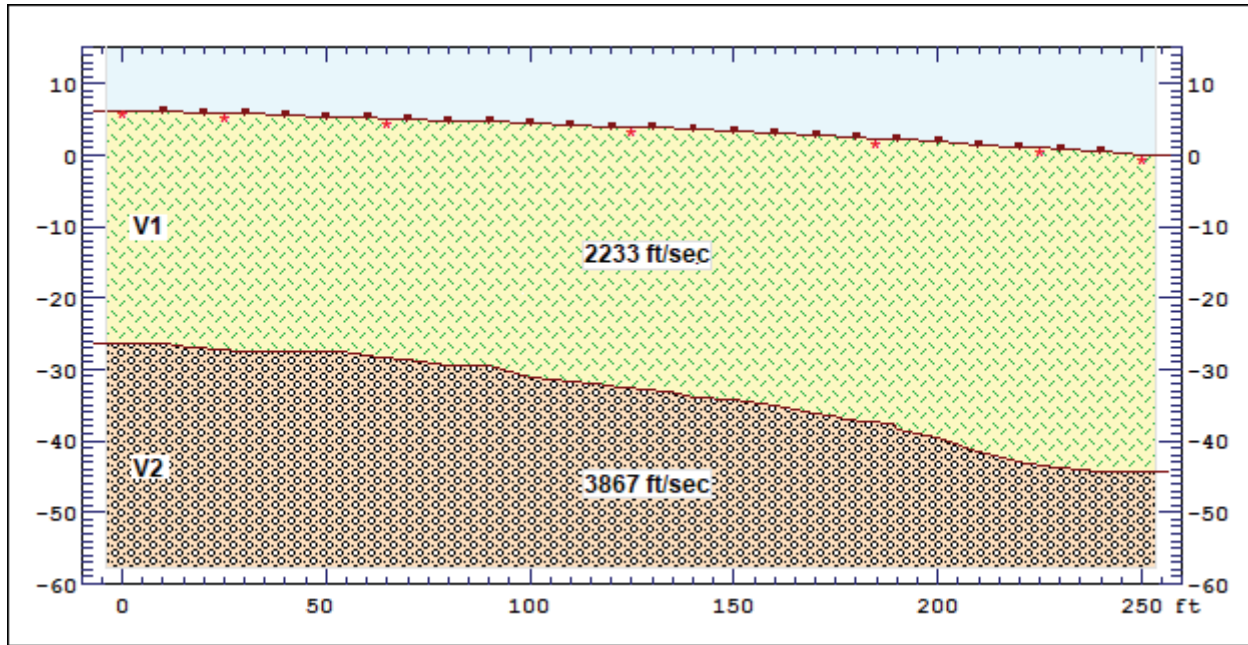
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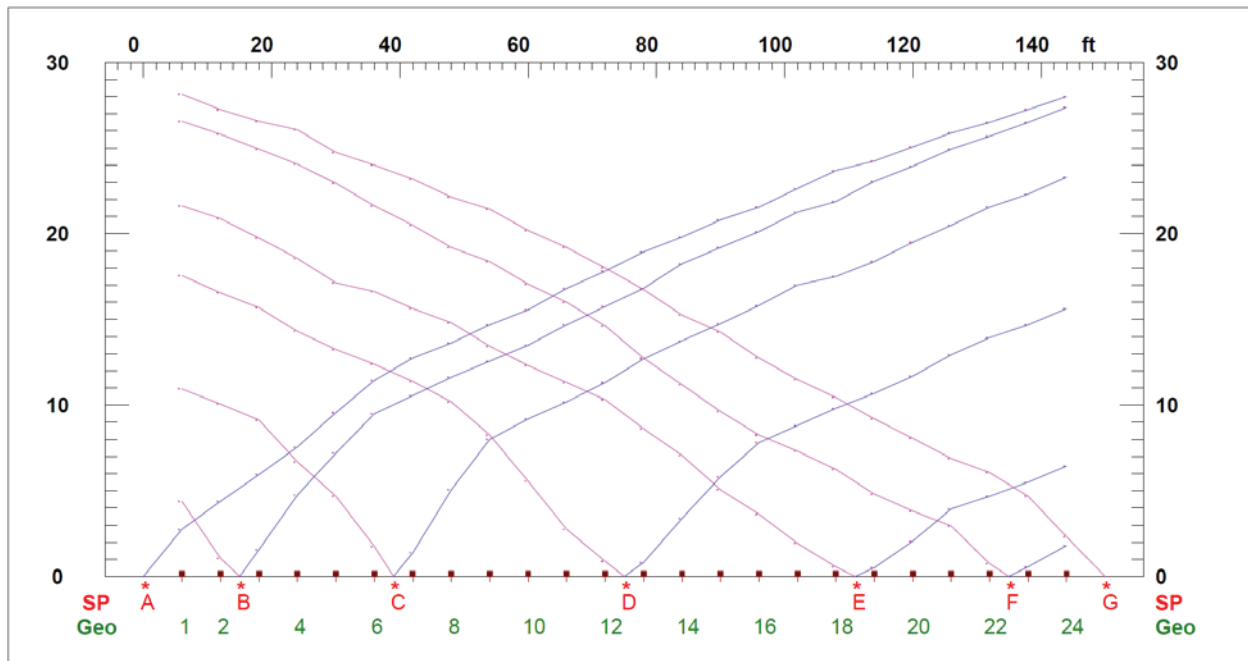
SEISMIC LINE S-2

South 78° East >

LAYER VELOCITY MODEL



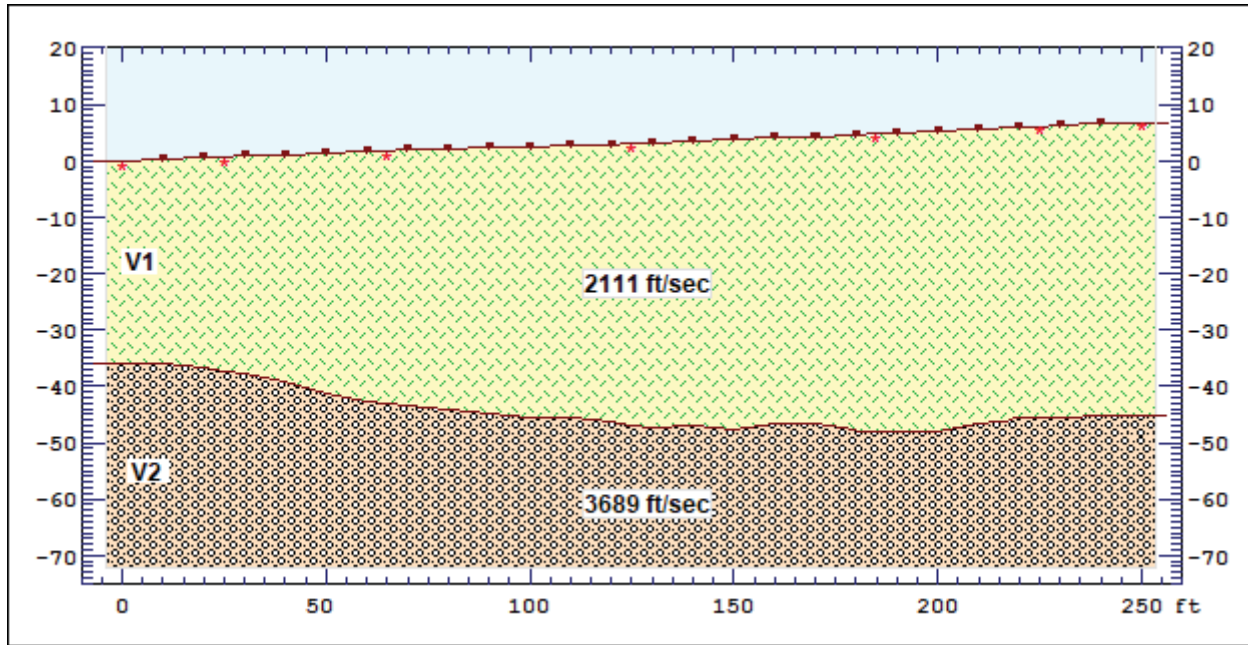
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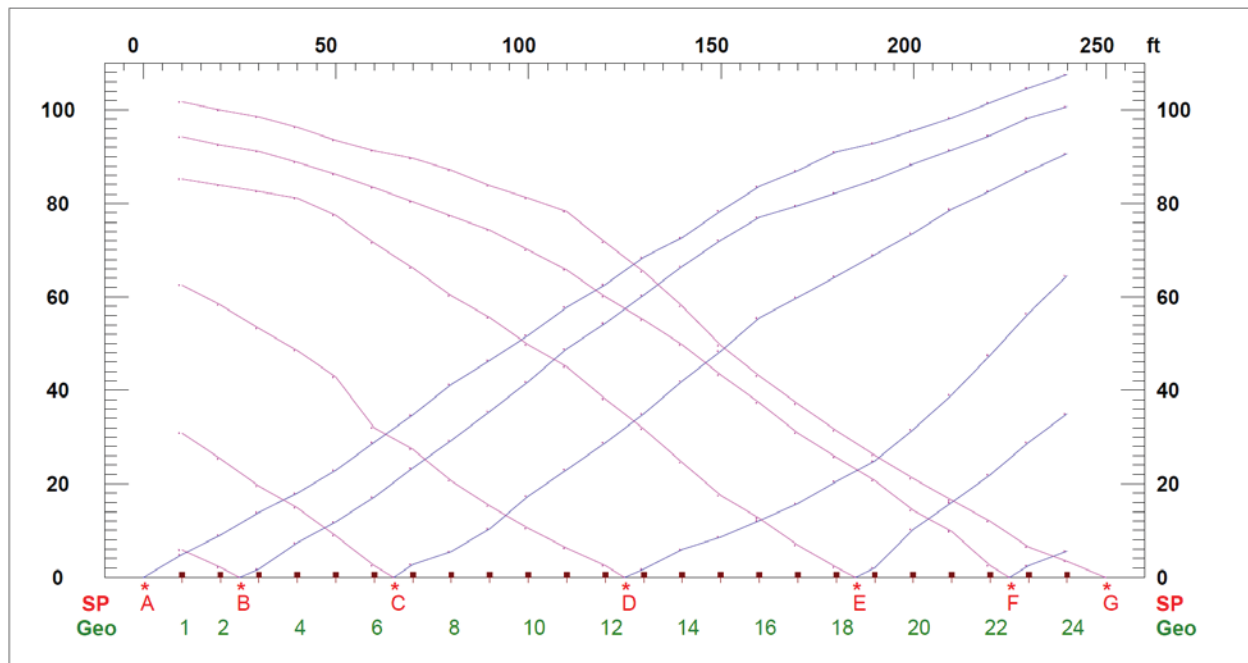
SEISMIC LINE S-3

North 8° West >

LAYER VELOCITY MODEL



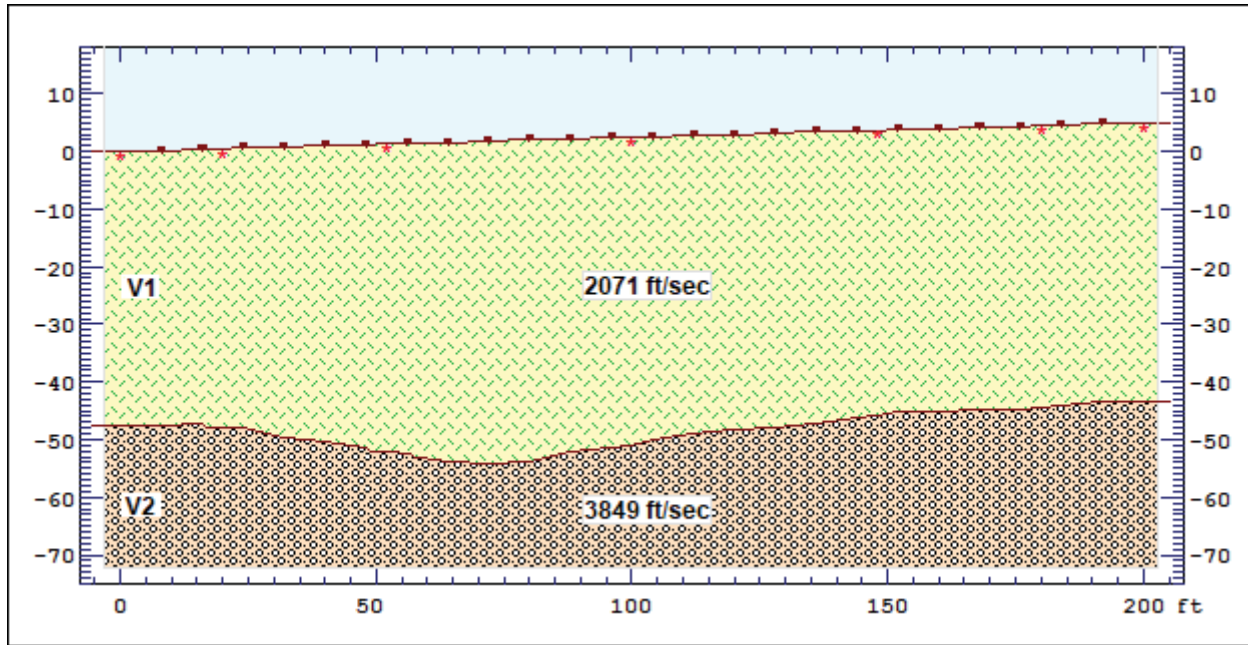
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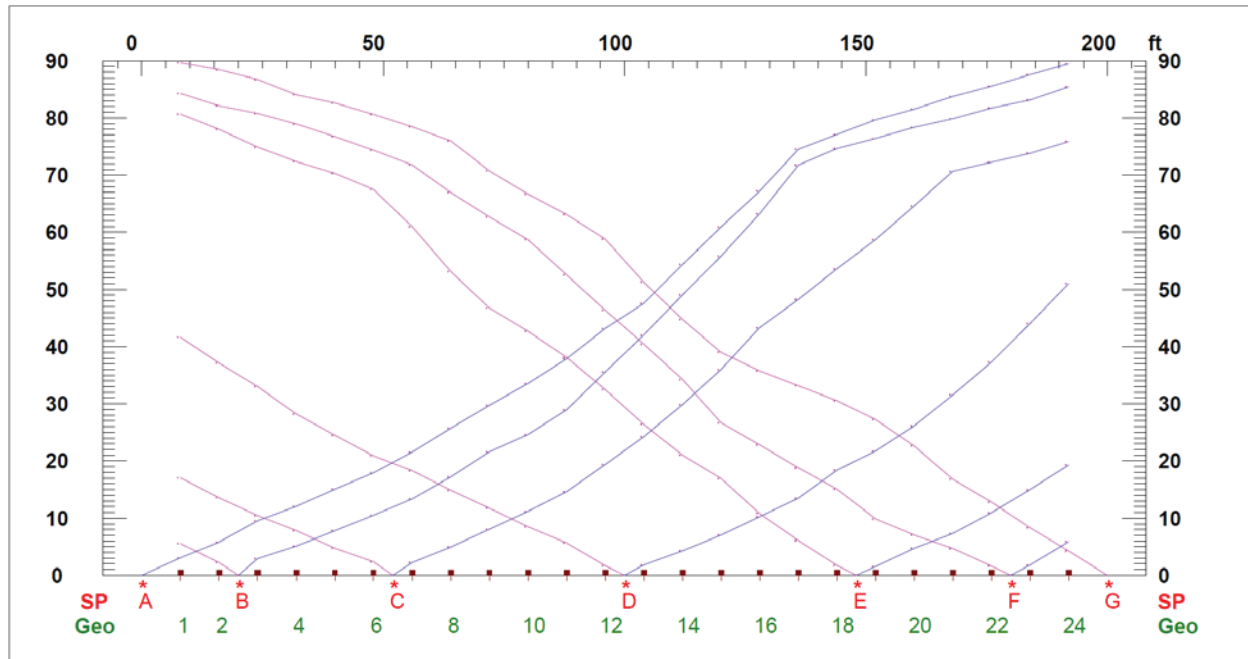
SEISMIC LINE S-4

North 7° East >

LAYER VELOCITY MODEL



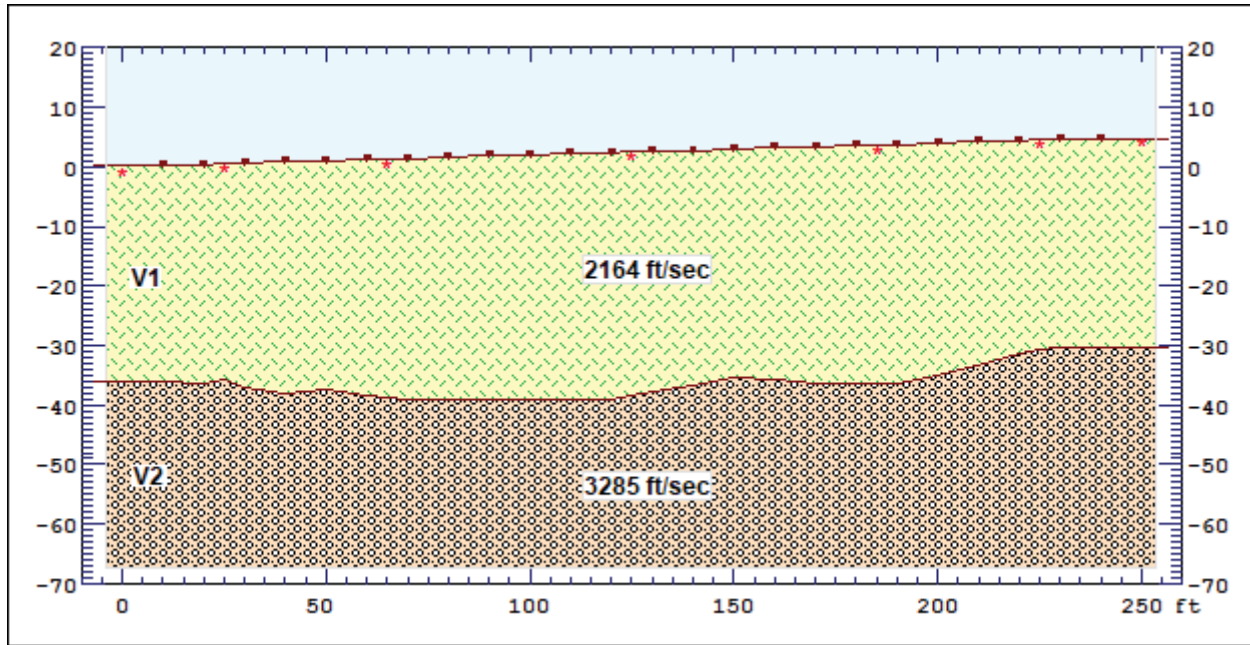
TIME-DISTANCE PLOT



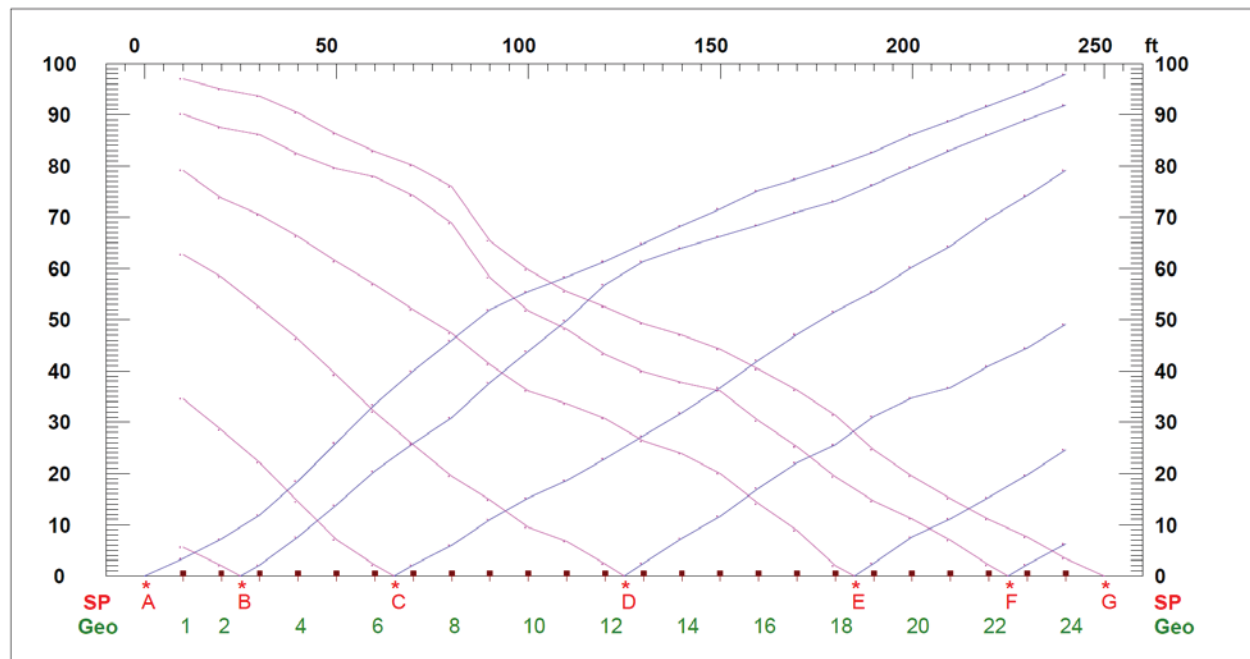
SEISMIC LINE S-5

< South - North >

LAYER VELOCITY MODEL



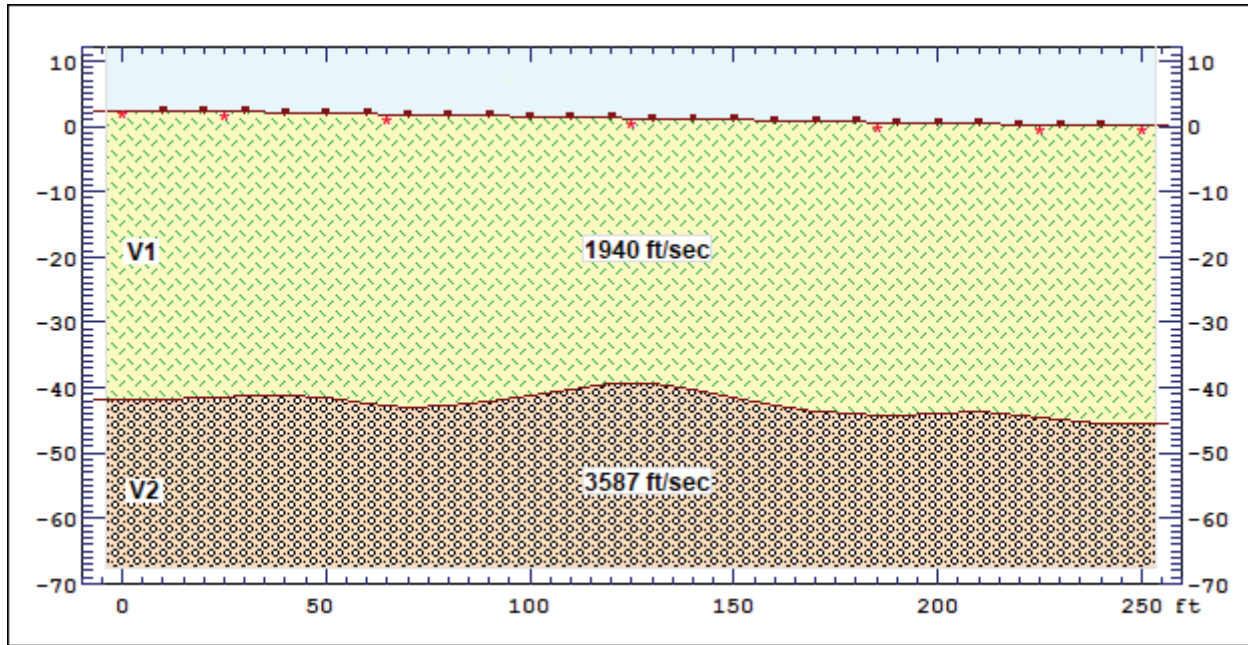
TIME-DISTANCE PLOT



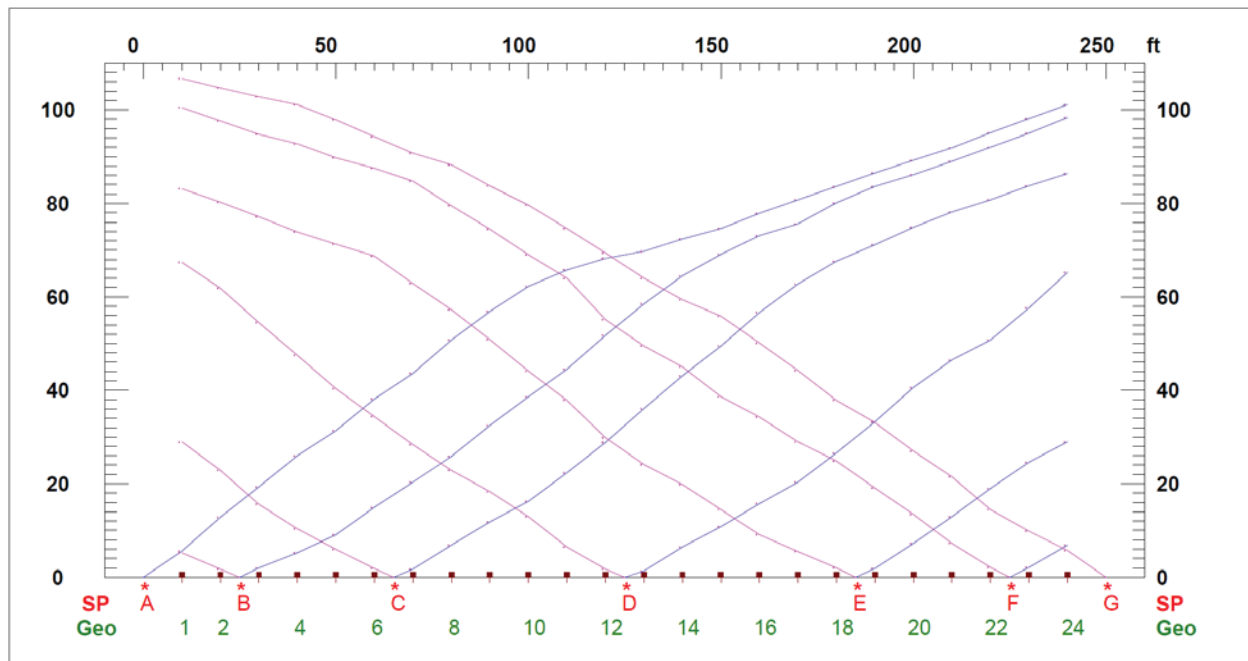
SEISMIC LINE S-6

< South - North >

LAYER VELOCITY MODEL



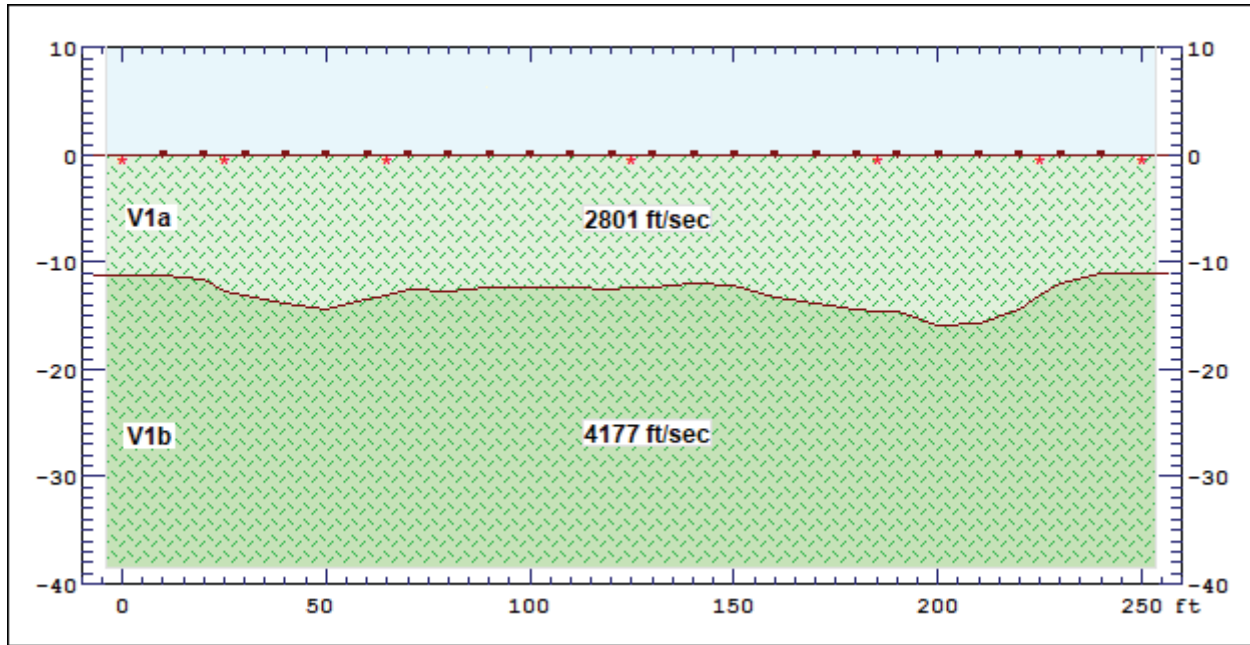
TIME-DISTANCE PLOT



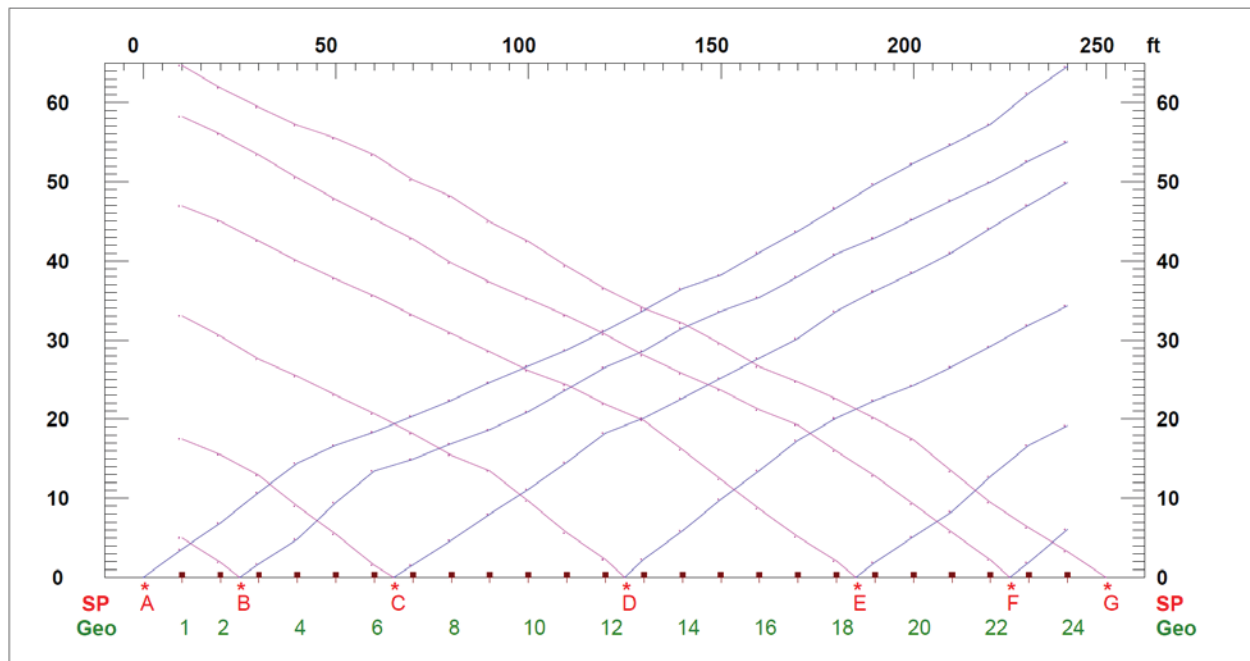
SEISMIC LINE S-7

< West - East >

LAYER VELOCITY MODEL



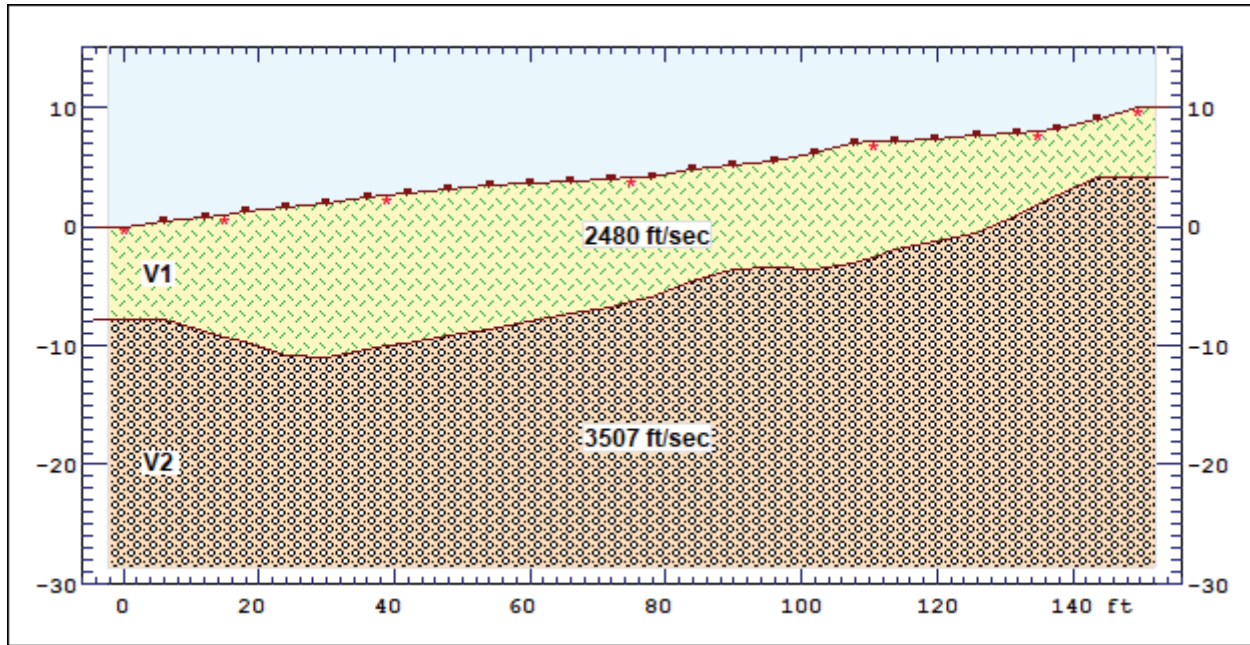
TIME-DISTANCE PLOT



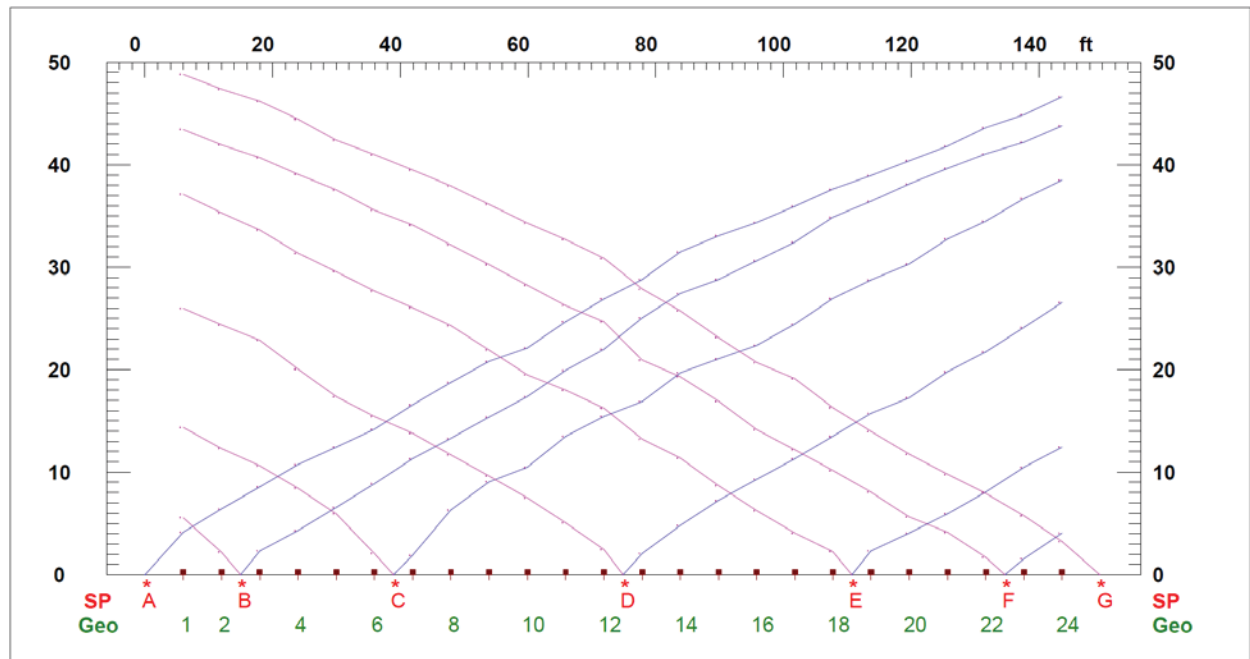
SEISMIC LINE S-8

North 3° West >

LAYER VELOCITY MODEL



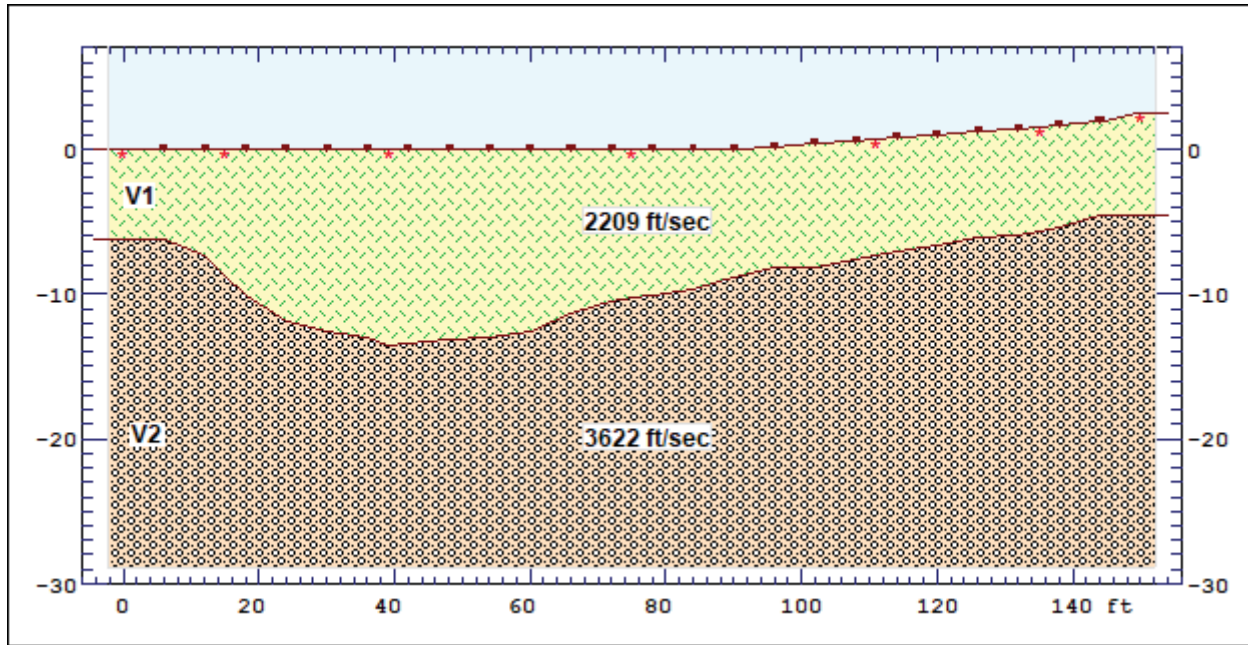
TIME-DISTANCE PLOT



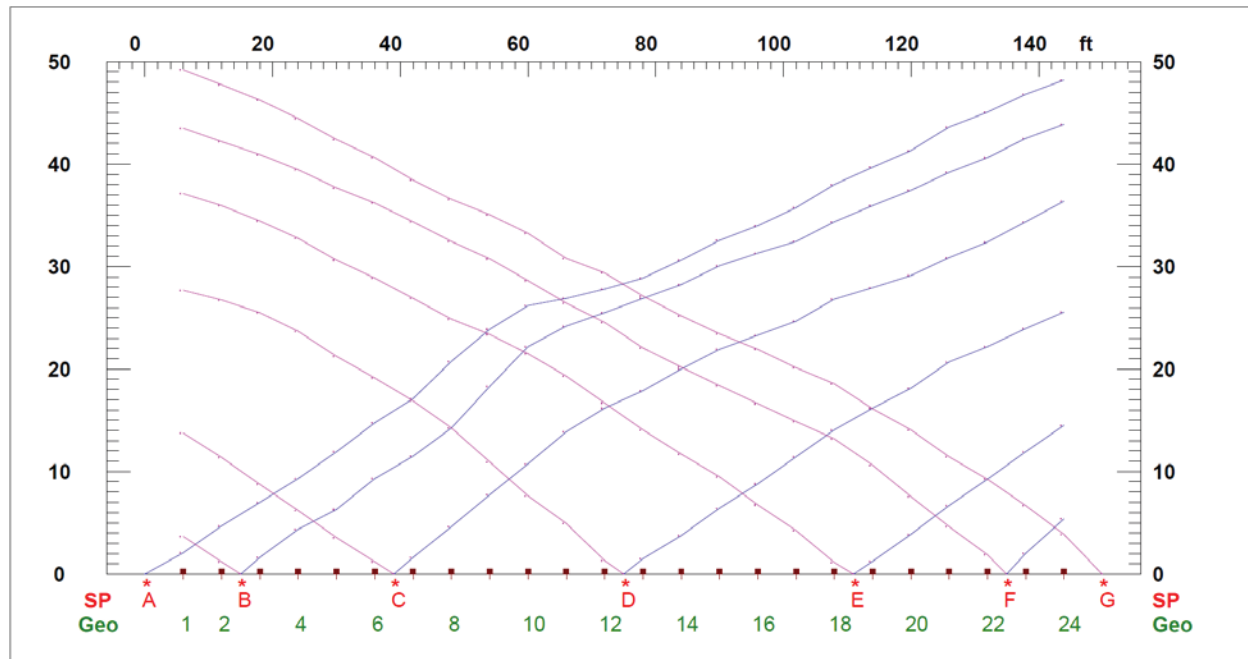
SEISMIC LINE S-9

North 28° East >

LAYER VELOCITY MODEL



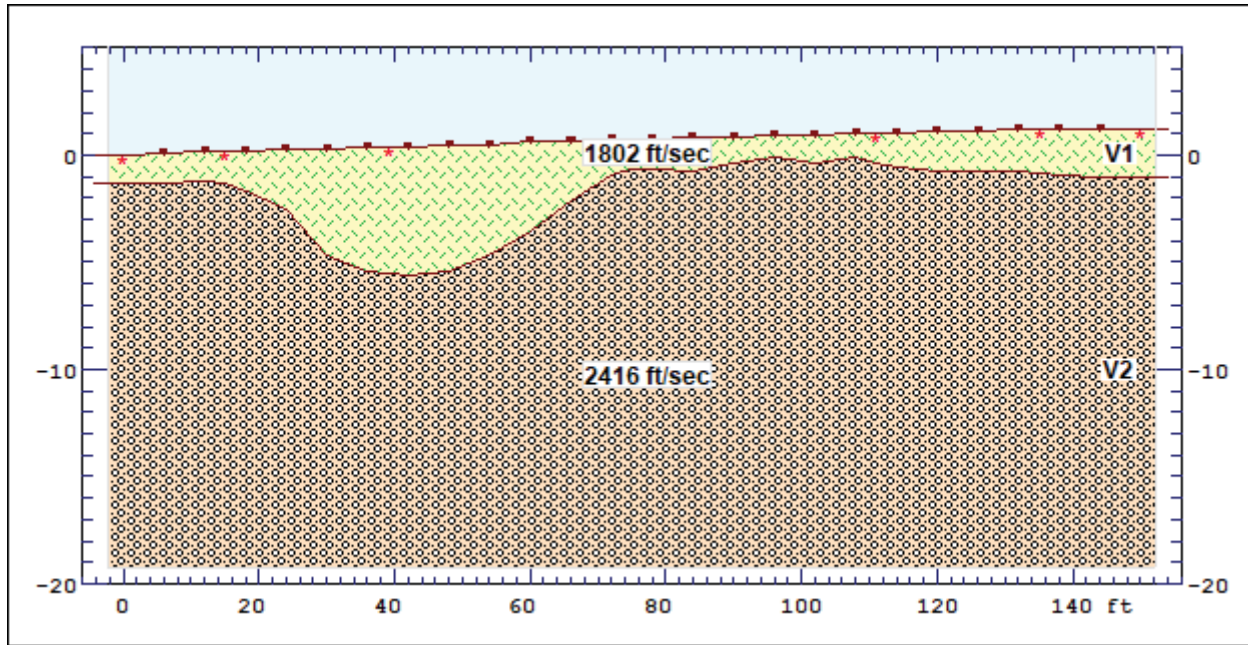
TIME-DISTANCE PLOT



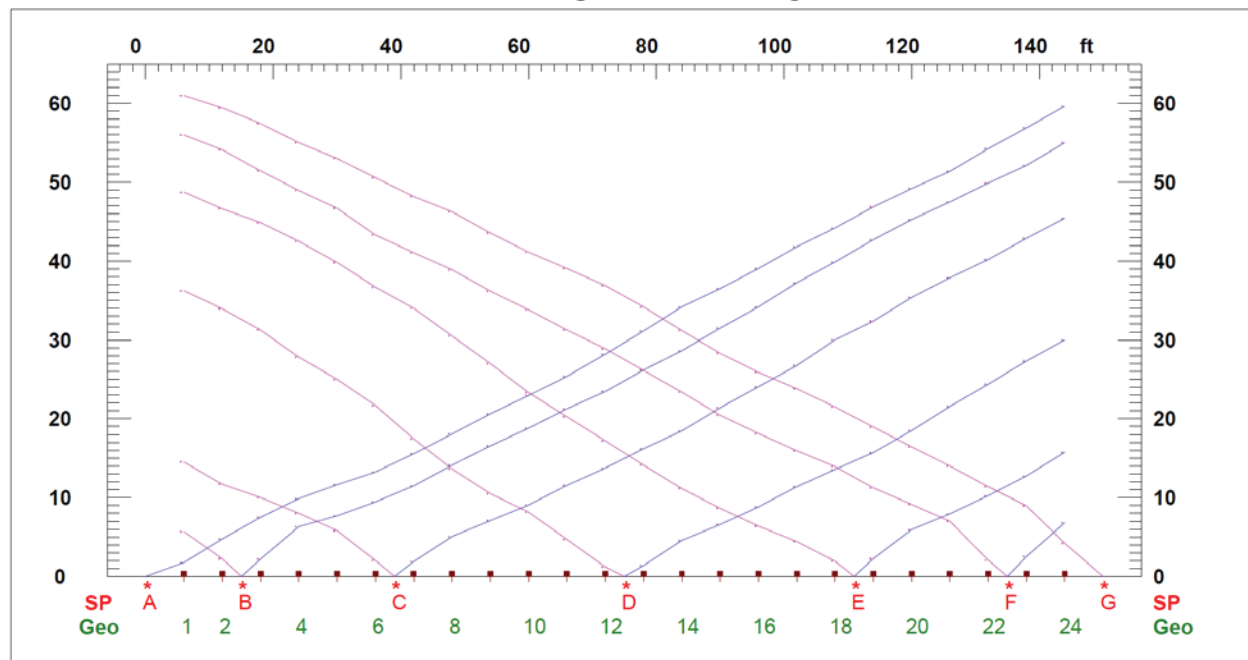
SEISMIC LINE S-10

North 23° West >

LAYER VELOCITY MODEL



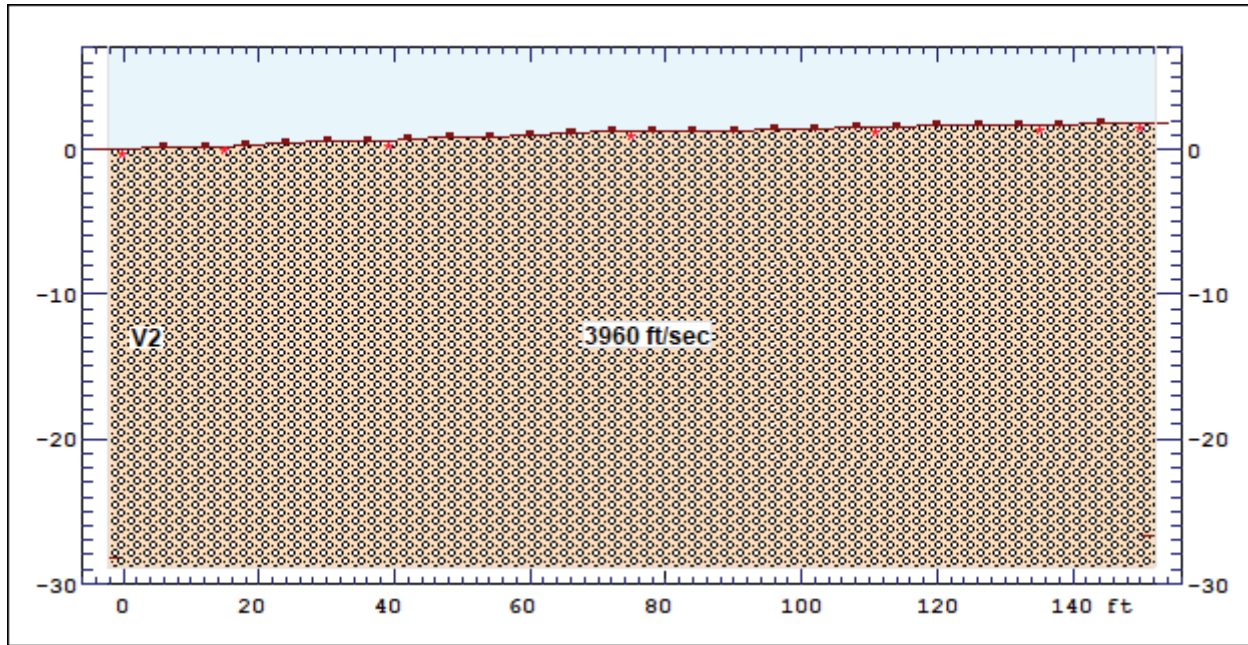
TIME-DISTANCE PLOT



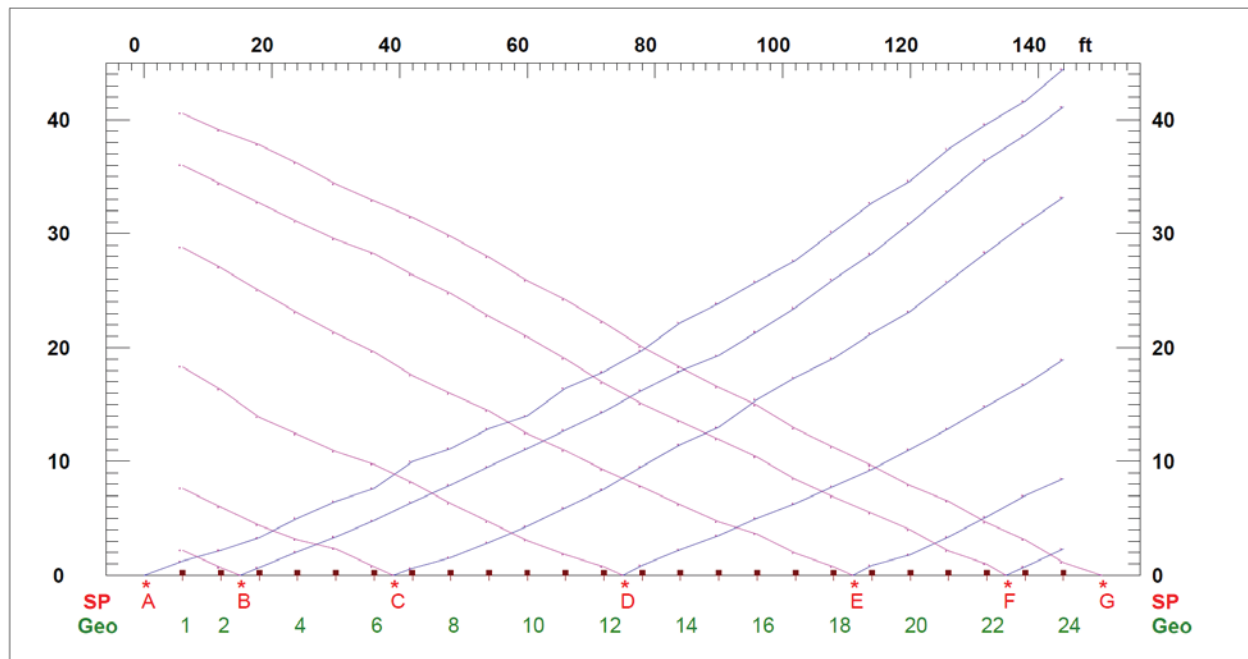
SEISMIC LINE S-11

North 19° East >

LAYER VELOCITY MODEL



TIME-DISTANCE PLOT



APPENDIX B

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REFERENCES

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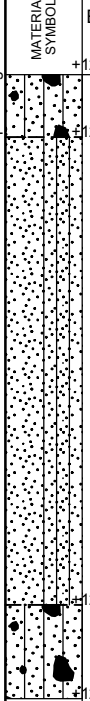
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APPENDIX C

Field Percolation Testing

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1235 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/21/2022		Date Finished 10/21/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 10 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 2	Undisturbed -
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽ -	Completion ▽ -
Casing Hammer -	Weight (lbs) -	Drop (in) -	Drilling Foreman George		
Sampler 2-inch O.D. SPT Split-Barrel			Field Engineer N. Ghanta		
Sampler Hammer Automatic	Weight (lbs) 140	Drop (in) 30			

Sample Description		Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)		
MATERIAL SYMBOL	Elev. (ft)		Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1235.0	0					10	20	30	40	
	+1234.0	1									
		2									
		3	S-1	SPT	18	27					
		4				30					
						22					
		5									
		6									
		7									
		8									
	+1226.5	9	S-2	SPT	18	15					
	+1225.0	10				17					
		11				32					
		12									
		13									
		14									
		15									
		16									
		17									
		18									
		19									
		20									

Grain Size Analysis

52

49

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1215 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 10/21/2022		Date Finished 10/21/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 10 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed 2	Undisturbed -
Casing Diameter (in) -			Casing Depth (ft) -	Water Level (ft.) First ▽	Completion ▽
Casing Hammer	Weight (lbs) -	Drop (in) -	Drilling Foreman George		
Sampler 2-inch O.D. SPT Split-Barrel			Field Engineer N. Ghanta		
Sampler Hammer Automatic	Weight (lbs) 140	Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/ft	N-Value (Blows/ft)	
	+1215.0	Undocumented Surficial Fill (asf) Silty SAND with Gravel (SM), brown, dry, rock and cobble clasts.	0							
			1							
			2							
			3							
	+1211.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), brown to orange brown, dense, slightly moist, fine to coarse sand, manganese oxide (MnO) stained gravel.	4	S-1	SPT	18	21			
			5				24			
			6				24			
			7							
			8							
			9	S-2	SPT	18	21			
			10				22			
	+1205.0	Total depth = 10 feet bgs. Groundwater not encountered. Percolation well installed and tested per county guidelines. Borehole backfilled with cuttings subsequent testing.	11				26			
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			19							
			20							

48

48

Grain Size Analysis

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1229 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 10 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 3		Disturbed - Undisturbed - Core -	
Casing Diameter (in) -		Casing Depth (ft) -		Water Level (ft.) First ▽ -		Completion ▽ - 24 HR. ▽ -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Drilling Foreman George	
Sampler 2-inch O.D. SPT Split-Barrel				Field Engineer N. Ghanta			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)									
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)										
	+1229.0	Undocumented Artificial Fill (afu) Silty SAND with Gravel (SM), dark brown, dry, crushed cobble clasts.	0															
		Very dense, dry to slightly moist.	1															
			2															
			3	S-1	SPT	18	50/3"						50/3"	Sampler bouncing on cobble; poor recovery. Heavy auger chattering; slow drilling.				
			4															
			5															
		+1225.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), brown to orangish brown, dense, slightly moist, fine to coarse sand, manganese oxide (MnO) stained gravel.	6	S-2	SPT	18	9 8 8					16	Grain Size Analysis				
			7															
			8															
		+1220.5	Gravelly SAND with Clay & Silt (SP-SC), brown to orangish brown, very dense, dry to slightly moist, cobble clasts, fine to coarse gravel.	9	S-3	SPT	17	21 38 50/5"										
	+1219.0	Total depth = 10 feet bgs. Groundwater not encountered. Percolation well installed and tested per county guidelines. Borehole backfilled with cuttings subsequent testing.	10										50/5"					
			11															
			12															
			13															
			14															
			15															
			16															
			17															
			18															
			19															
			20															

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Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1195 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 10/21/2022		Date Finished 10/21/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 20 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 2		Disturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Undisturbed -	
Casing Hammer -				Weight (lbs) -		Drop (in) -	
Sampler 2-inch O.D. SPT Split-Barrel				Water Level (ft.) First -		Completion -	
Sampler Hammer Automatic				Weight (lbs) 140		Drop (in) 30	
				Drilling Foreman George			
				Field Engineer N. Ghanta			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1195.0	Undocumented Surficial Fill (asf) Silty SAND (SM), dark brown, dry to slightly moist, trace gravel.	0							
			1							
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
	-1186.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), brown to orangish brown, very dense, slightly moist.	10							
			11	S-1	SPT	18	29	39		
			12				50/6"			
			13							
			14							
			15							
			16							
			17							
			18							
			19	S-2	SPT	5	50/5"			
	-1176.0	Fine to coarse sand, manganese oxide (MnO) stained gravel. Total depth = 19 feet bgs. Groundwater not encountered.	20							Grain Size Analysis

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Project Proposed Athletic Complex		Project No. 700114101	
Location Claremont Mckenna College		Elevation and Datum Approx. 1195 (feet, MSL)	

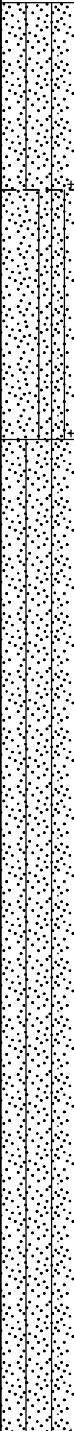
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)		
	+1175.0	Percolation well installed and tested per county guidelines. Borehole backfilled with cuttings subsequent testing.	20							
			21							
			22							
			23							
			24							
			25							
			26							
			27							
			28							
			29							
			30							
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			34							
			35							
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			37							
			38							
			39							
			40							
			41							
			42							
			43							
			44							
			45							

Project Proposed Athletic Complex				Project No. 700114101			
Location Claremont Mckenna College				Elevation and Datum Approx. 1247 (feet, MSL)			
Drilling Company 2R Drilling				Date Started 11/29/2022		Date Finished 11/29/2022	
Drilling Equipment CME-75 Truck-mounted Drill Rig				Completion Depth 70.5 ft		Rock Depth -	
Size and Type of Bit 8-inch O.D. Hollow Stem Auger				Number of Samples 14		Disturbed -	
Casing Diameter (in) -				Casing Depth (ft) -		Core -	
Casing Hammer -		Weight (lbs) -		Drop (in) -		Water Level (ft.) First - Completion - 24 HR. -	
Sampler 2-inch O.D. SPT Split-Barrel				Drilling Foreman S. Wilkins			
Sampler Hammer Automatic		Weight (lbs) 140		Drop (in) 30		Field Engineer S. Wilkins	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1247.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel (SM), light yellowish brown, slightly moist, fine to coarse sand, abundant gravel, and cobbles to 6-inches. Brown.	0							
			1							
			2							
			3							
			4							
			5	S-1	SPT	0	50/1"		50/1"	No sample recovery; sampled on a rock.
			6							
			7							
	+1239.5	Older Alluvial Fan Deposits (Qof) Silty SAND with Gravel (SM), reddish brown, medium dense, moist, fine to coarse sand, some fine to coarse gravel.	8							
			9							
	+1237.0	Sandy SILT (ML) to Silty SAND (SM), reddish brown, hard to very dense, moist, fine gravel, few clay.	10	S-2	SPT	15	11	13	31	
			11				18			
			12							
			13							
	+1233.0	Silty SAND with Gravel (SM), orangish brown, very dense, slightly moist to moist, fine to coarse sand, some fine gravel.	14	S-3	SPT	18	30	39	89	
			15				50			
			16							
			17							
			18							
			19							
			20							

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Project Proposed Athletic Complex			Project No. 700114101																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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	+1227.0		20	S-4	SPT		30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</

Project Proposed Athletic Complex			Project No. 700114101							
Location Claremont Mckenna College			Elevation and Datum Approx. 1247 (feet, MSL)							
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)	
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40		
	+1202.0		45	S-9	SPT	0	50/4"		50/4"	Poor sample recovery; sampled on a rock.
			46							
			47							
	+1199.0	SAND with Silt (SP-SM), olive gray to yellowish brown, very dense, moist, fine to coarse sand, few fine gravel.	48							
			49							
			50	S-10	SPT	15	40	40		
			51				49		89	
	+1195.0	Silty SAND with Gravel (SM), orangish brown, very dense, moist, fine to coarse sand, some fine to coarse gravel.	52							Grain Size Analysis
			53							
			54							
			55	S-11	SPT	6	50			
			56							
			57							
			58							
			59							
			60	S-12	SPT	5	50/5"		50/5"	
			61							
			62							
			63							
			64							
		65	S-13	SPT	18	31	33	83		
		66				50				
		67								
+1179.0	SAND with Silt and Gravel (SP-SM), orangish brown to grayish brown, very dense, slightly moist, fine to coarse sand, some fine to coarse gravel.	68								
		69								
		70								

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Grain Size Analysis

Project Proposed Athletic Complex			Project No. 700114101						
Location Claremont Mckenna College			Elevation and Datum Approx. 1247 (feet, MSL)						
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	
	+1177.0		70	14	SPT	6	50	10 20 30 40	
	+1176.5	Total depth = 70.5 feet bgs. Groundwater not encountered. Percolation well installed and tested per county guidelines. Borehole backfilled with cuttings subsequent testing.	71						
			72						
			73						
			74						
			75						
			76						
			77						
			78						
			79						
			80						
			81						
			82						
			83						
			84						
			85						
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			87						
			88						
			89						
			90						
		91							
		92							
		93							
		94							
		95							

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1185 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 11/29/2022		Date Finished 11/29/2022
Drilling Equipment CME-75 Truck-mounted Drill Rig			Completion Depth 40.3 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples 8		Undisturbed -
Casing Diameter (in) -			Casing Depth (ft) -		Core -
Casing Hammer -			Weight (lbs) -		Drop (in) -
Sampler 2-inch O.D. SPT Split-Barrel			Water Level (ft.) First - Completion - 24 HR. -		
Sampler Hammer Automatic			Weight (lbs) 140		
			Drop (in) 30		
			Drilling Foreman S. Wilkins		
			Field Engineer S. Wilkins		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data						Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				Number	Type	Recov. (in)	Penetr. resist	BL/6in	N-Value (Blows/ft)	
	+1185.0	Undocumented Inert Debris Fill (alf) Silty SAND with Gravel (SM), light yellowish brown, moist, fine to coarse sand, some fine to coarse gravel.	0							
			1							
			2							
			3							
	+1181.0	Old Alluvial Fan Deposits (Qof) Silty SAND with Clay and Gravel (SM), reddish brown, very moist, fine to coarse sand, some gravel and clay.	4							
	+1179.5	Sandy SILT with Clay and Gravel (ML), orangish brown, very stiff, fine to medium sand, few fine gravel, some clay.	5				8			
			6	S-1	SPT	18	9			
			7				10			
	+1177.0	SAND with Silt and Gravel (SP-SM), orangish brown to grayish brown, dense, slightly moist, fine to coarse sand, some fine to coarse gravel.	8							
			9							
			10							
			11	S-2	SPT	18	34			
			12				34			
			13				37			
			14							
			15							
	+1169.0	Sandy SILT (ML), orangish brown, hard, moist, fine sand.	16	S-3	SPT	18	29			
	+1168.0	SAND with Silt and Gravel (SP-SM), grayish brown, dense, moist, fine to coarse sand and gravel, some silt, thin lenses of sandy silt.	17				18			
			18				15			
			19							
			20							

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Project Proposed Athletic Complex			Project No. 700114101																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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	+1165.0	Olive gray to olive brown.	20	S-4	SPT	18	28	16	66	Drill rig chatter.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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PERCOLATION TEST DATA SHEET

Project:		Claremont McKenna College				Project No.:		700114101		Date:		10/21/2022	
Test Hole No.:		FP-1				Tested By:		S. Wilkins					
Depth of Test Hole (ft):		10				USCS Soil Classification:				SM			
PVC Pipe Dimension:		3-in I.D. Perforated by 10 Feet				Test Hole Diameter (in):				8			
Trial No.	Date	Time of Measurement	Initial Depth to Water (ft)	Time of Measurement	Final Depth to Water (ft)	Volume of Water Infiltrated (cu.in.)	Surface Area (sq.in.)	Time Interval (min)	Infiltration Rate (in/hr)				
#1 (Refill)	10/21/2022	1:16 PM	5.00	1:46 PM	6.56	941	1558	30	1.21				
#2 (Refill)	10/21/2022	1:48 PM	5.00	2:18 PM	6.47	887	1558	30	1.14				
#3 (Refill)	10/21/2022	2:20 PM	5.00	2:50 PM	6.38	832	1558	30	1.07				
#4 (Refill)	10/21/2022	2:55 PM	5.00	3:25 PM	6.44	869	1558	30	1.11				
#5 (Refill)	10/21/2022	3:26 PM	5.00	3:56 PM	6.40	844	1558	30	1.08				
#6 (Refill)	10/21/2022	3:58 PM	5.00	4:28 PM	6.36	820	1558	30	1.05				
Comments:	1. Percolation test was performed in accordance with the Boring Percolation Test Procedure provided in the "Guidelines for Design, Investigation, and Reporting - Low Impact Development Stormwater Infiltration," prepared by County of Los Angeles Department of Public Works, dated 30 June 2021. 2. Weather: Sunny and warm.					Average Stabilized Rate		1.08					
						Reduction Factors RF _t =1, RF _v =1, RF _s =1		3					
						Design Infiltration Rate (in/hr)		0.36					

PERCOLATION TEST DATA SHEET

Project:	Claremont McKenna College	Project No.:	700114101	Date:	10/21/2022				
Test Hole No.:	FP - 2	Tested By:	shaun wilkins	Updated:	11/11/2022				
Depth of Test Hole (ft):	10	USCS Soil Classification:	SP-SM						
PVP Pipe Dimension:	2-in I.D. x 10 ft long (10 ft slotted) with 10 ft screen	Test Hole Diameter (in):	8						
SANDY SOIL CRITERIA TEST*									
Trial No.	Date	Start Time	Stop Time	Time Interval (min)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (in.)	Greater than or Equal to 6" (Y/N)	
1	10/21/2022	11:10 AM	11:12 AM	2.0	5	5.5	6	Y	
2	10/21/2022	11:12 AM	11:15 AM	3.0	5.5	6	6	Y	
* If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches.									
Trial No.	Date	Time of Measurement	Initial Depth to Water (ft)	Time of Measurement	Final Depth to Water (ft)	Volume of Water Infiltrated (cu.in.)	Surface Area (sq.in.)	Time Interval (min)	Infiltration Rate (in/hr)
#1 (Refill)	10/21/2022	11:15 AM	5.00	11:25 AM	6.50	905	1332	10.0	4.08
#2 (Refill)	10/21/2022	11:26 AM	5.00	11:36 AM	6.42	857	1344	10.0	3.82
#3 (Refill)	10/21/2022	11:37 AM	5.00	11:48 AM	6.43	863	1343	10.0	3.85
#4 (Refill)	10/21/2022	11:50 AM	5.00	12:00 PM	6.43	863	1343	10.0	3.85
#5 (Refill)	10/21/2022	12:01 PM	5.00	12:11 PM	6.42	857	1344	10.0	3.82
#6 (Refill)	10/21/2022	12:12 PM	5.00	12:22 PM	6.41	850	1346	10.0	3.79
Comments:	1. Percolation test was performed in accordance with the Technical Guidance Document Appendices provided on San Bernardino Gov. website. https://www.sbcounty.gov/uploads/DPW/docs/AppendixD-OCInfiltrationRateEvaluationProtocol.pdf 2. Infiltration Rate is calculated based on Porchet Method (Inverse Borehole method). 3. Weather: Sunny and warm.					Stabilized Infiltration Rate (in/hr)		3.79	
						Combined Safety Factor, $S_{TOT}=S_A \times S_B$ ($S_A=2$, $S_B=2$)		4.00	
						Design Infiltration Rate (in/hr)		0.95	

PERCOLATION TEST DATA SHEET

Project:	Claremont McKenna College				Project No.:	700114101	Date:	10/21/2022	
Test Hole No.:	FP - 3				Tested By:	shaun wilkins	Updated:	11/11/2022	
Depth of Test Hole (ft):	10				USCS Soil Classification:	SP-SM			
PVP Pipe Dimension:	2-in I.D. x 10 ft long (5 ft solid and 5 ft slotted) with 10 ft screen				Test Hole Diameter (in):	8			
SANDY SOIL CRITERIA TEST*									
Trial No.	Date	Start Time	Stop Time	Time Interval (min)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (in.)	Greater than or Equal to 6" (Y/N)	
1	10/21/2022	1:26 PM	1:30 PM	4.0	3.5	4	6	Y	
2	10/21/2022	1:30 PM	1:34 PM	4.0	4	4.5	6	Y	
* If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches.									
Trial No.	Date	Time of Measurement	Initial Depth to Water (ft)	Time of Measurement	Final Depth to Water (ft)	Volume of Water Infiltrated (cu.in.)	Surface Area (sq.in.)	Time Interval (min)	Infiltration Rate (in/hr)
#1 (Refill)	10/21/2022	1:38 PM	5.00	1:48 PM	6.46	881	1338	10.0	3.95
#2 (Refill)	10/21/2022	1:54 PM	5.00	2:04 PM	5.47	283	1487	10.0	1.14
#3 (Refill)	10/21/2022	2:06 PM	5.00	2:16 PM	6.23	742	1373	10.0	3.24
#4 (Refill)	10/21/2022	2:16 PM	5.00	2:26 PM	6.22	736	1374	10.0	3.21
#5 (Refill)	10/21/2022	2:27 PM	5.00	2:37 PM	6.22	736	1374	10.0	3.21
#6 (Refill)	10/21/2022	2:38 PM	5.00	2:48 PM	6.21	730	1376	10.0	3.18
Comments:	1. Percolation test was performed in accordance with the Technical Guidance Document Appendices provided on San Bernardino Gov. website. https://www.sbcounty.gov/uploads/DPW/docs/AppendixD-OCInfiltrationRateEvaluationProtocol.pdf 2. Infiltration Rate is calculated based on Porchet Method (Inverse Borehole method). 3. Weather: Sunny and warm.					Stabilized Infiltration Rate (in/hr)	3.18		
						Combined Safety Factor, $S_{TOT} = S_A \times S_B$ ($S_A=2$, $S_B=2$)	4.00		
						Design Infiltration Rate (in/hr)	0.80		

PERCOLATION TEST DATA SHEET

Project:	Claremont McKenna College				Project No.:	700114101	Date:	10/21/2022	
Test Hole No.:	FP - 4				Tested By:	shaun wilkins	Updated:	11/11/2022	
Depth of Test Hole (ft):	19				USCS Soil Classification:	SP-SM			
PVP Pipe Dimension:	2-in I.D. x 20 ft long (5 ft solid and 15 ft slotted) with 20 ft screen				Test Hole Diameter (in):	8			
SANDY SOIL CRITERIA TEST*									
Trial No.	Date	Start Time	Stop Time	Time Interval (min)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (in.)	Greater than or Equal to 6" (Y/N)	
1	10/21/2022	12:17 PM	12:21 PM	4.0	8.5	9	6	Y	
2	10/21/2022	12:21 PM	12:24 PM	3.0	9.05	9.55	6	Y	
* If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches.									
Trial No.	Date	Time of Measurement	Initial Depth to Water (ft)	Time of Measurement	Final Depth to Water (ft)	Volume of Water Infiltrated (cu.in.)	Surface Area (sq.in.)	Time Interval (min)	Infiltration Rate (in/hr)
#1 (Refill)	10/21/2022	12:28 PM	10.00	12:38 PM	10.68	410	2662	10.0	0.92
#2 (Refill)	10/21/2022	12:40 PM	10.00	12:50 PM	10.87	525	2633	10.0	1.20
#3 (Refill)	10/21/2022	12:51 PM	10.00	1:01 AM	10.88	531	2632	10.0	1.21
#4 (Refill)	10/21/2022	1:02 AM	10.00	1:12 AM	10.85	513	2636	10.0	1.17
#5 (Refill)	10/21/2022	1:13 AM	10.00	1:23 AM	10.84	507	2638	10.0	1.15
#6 (Refill)	10/21/2022	1:24 AM	10.00	1:34 AM	10.83	501	2639	10.0	1.14
Comments:	1. Percolation test was performed in accordance with the Technical Guidance Document Appendices provided on San Bernardino Gov. website. https://www.sbcounty.gov/uploads/DPW/docs/AppendixD-OCInfiltrationRateEvaluationProtocol.pdf 2. Infiltration Rate is calculated based on Porchet Method (Inverse Borehole method). 3. Weather: Sunny and warm.					Stabilized Infiltration Rate (in/hr)	1.14		
						Combined Safety Factor, $S_{TOT} = S_A \times S_B$ ($S_A=2$, $S_B=2$)	4.00		
						Design Infiltration Rate (in/hr)	0.28		

PERCOLATION TEST DATA SHEET

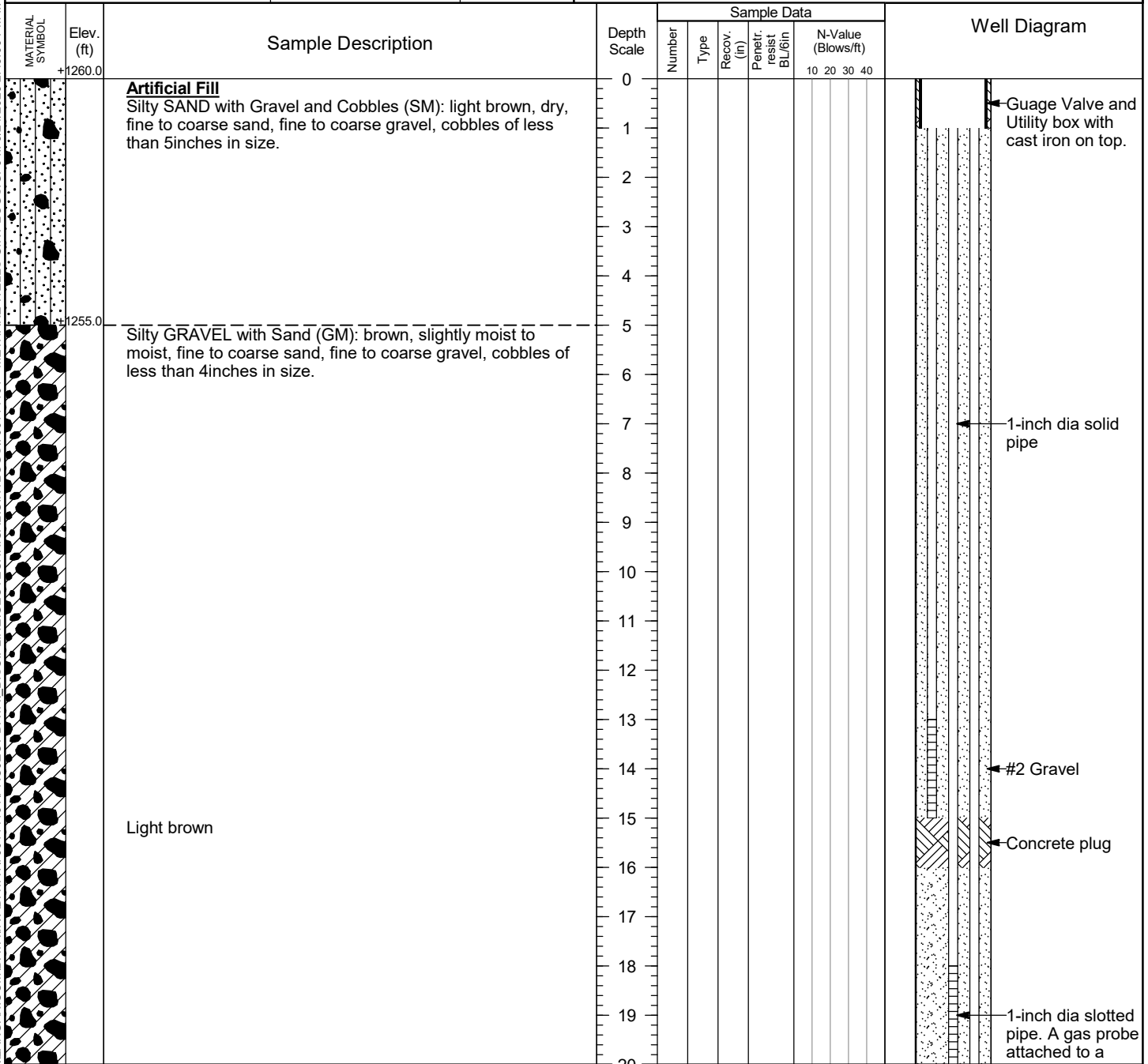
Project:	Claremont McKenna College Sports Complex	Project No.:	700114101	Date Tested:	11/29/2022			
Test Hole No.:	FP - 5	Tested By:	SHW	Updated:	12/15/2023			
Depth of Test Hole (ft):	70	USCS Soil Classification:	SP-SM					
PVP Pipe Dimension:	3-in I.D. x 70 ft long (20 ft perforated and 50 ft solid)	Test Hole Diameter (in):	8					
SANDY SOIL CRITERIA TEST*								
Trial No.	Start Time	Stop Time	Time Interval (sec)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (in.)	Greater than or Equal to 6" (Y/N)	
1	4:50 PM	4:50 PM	22	55.00	55.50	6	Y	
2	4:51 PM	4:51 PM	28	55.50	56.00	6	Y	
* If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches.								
Trial No.	Start Time	Stop Time	Time Interval (min)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (ft)	Percolation Rate (min/in)	Infiltration Rate (in/hr)
#1 (Refill)	4:55 PM	5:05 PM	10.0	60.00	63.90	3.90	0.21	5.70
#2 (Refill)	5:16 PM	5:26 PM	10.0	60.00	63.87	3.87	0.22	5.64
#3 (Refill)	5:27 PM	5:37 PM	10.0	60.00	63.78	3.78	0.22	5.48
#4 (Refill)	5:39 PM	5:49 PM	10.0	60.00	63.75	3.75	0.22	5.43
#5 (Refill)	5:50 PM	6:00 PM	10.0	60.00	63.74	3.74	0.22	5.41
#6 (Refill)	6:02 PM	6:12 PM	10.0	60.00	63.72	3.72	0.22	5.37
Comments:	1. Percolation test was performed in accordance with the Technical Guidance Document Appendices provided on San Bernardino Gov. website. (https://www.sbcounty.gov/uploads/DPW/docs/AppendixD-OCInfiltrationRateEvaluationProtocol.pdf) 2. Infiltration Rate is calculated based on Porchet Method (aka inverse borehole method) 3. Weather: Partly cloudy and cool				Tested Infiltration Rate (in/hr)	5.37		
					Combined Safety Factor, $S_{TOT}=S_A \times S_B$ ($S_A=1$, $S_B=2$)	2		
					Design Infiltration Rate (in/hr)	2.69		

PERCOLATION TEST DATA SHEET

Project:	Claremont McKenna College Sports Complex	Project No.:	700114101	Date Tested:	11/29/2022			
Test Hole No.:	FP - 6	Tested By:	SHW	Updated:	12/15/2023			
Depth of Test Hole (ft):	40	USCS Soil Classification:	SP-SM					
PVP Pipe Dimension:	3-in I.D. x 40 ft long (20 ft perforated and 20 ft solid)	Test Hole Diameter (in):	8					
SANDY SOIL CRITERIA TEST*								
Trial No.	Start Time	Stop Time	Time Interval (sec)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in water Level (in.)	Greater than or Equal to 6" (Y/N)	
1	3:30 PM	3:30 PM	9	29.00	29.50	6	Y	
2	3:30 PM	3:30 PM	11	29.50	30.00	6	Y	
* If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches.								
Trial No.	Start Time	Stop Time	Time Interval (min)	Initial Depth to Water (ft)	Final Depth to Water (ft)	Change in Water Level (ft)	Percolation Rate (min/in)	Infiltration Rate (in/hr)
#1 (Refill)	3:30 AM	3:40 AM	10.0	30.00	37.40	7.40	0.11	13.73
#2 (Refill)	5:16 PM	5:26 PM	10.0	30.00	34.90	4.90	0.17	7.62
#3 (Refill)	5:27 PM	5:37 PM	10.0	30.00	36.22	6.30	0.13	10.58
#4 (Refill)	5:39 PM	5:49 PM	10.0	30.00	36.19	6.28	0.13	10.50
#5 (Refill)	5:50 PM	6:00 PM	10.0	30.00	35.90	6.12	0.14	9.81
#6 (Refill)	6:02 PM	6:12 PM	10.0	30.00	35.85	5.85	0.14	9.69
Comments:	1. Percolation test was performed in accordance with the Technical Guidance Document Appendices provided on San Bernardino Gov. website. (https://www.sbcounty.gov/uploads/DPW/docs/AppendixD-OCInfiltrationRateEvaluationProtocol.pdf) 2. Infiltration Rate is calculated based on Porchet Method (aka inverse borehole method) 3. Weather: Partly cloudy and cool				Tested Infiltration Rate (in/hr)		9.69	
					Combined Safety Factor, $S_{TOT} = S_A \times S_B$ ($S_A = 1$, $S_B = 2$)		2	
					Design Infiltration Rate (in/hr)		4.85	

APPENDIX D
Soil-gas (Methane) Testing

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1260 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/14/2023		Date Finished 08/14/2023
Drilling Equipment LAR - CME			Completion Depth 30.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed -	Undisturbed -
Casing Diameter (in)			Casing Depth (ft)	Water Level (ft.) First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jerry		
Sampler -			Field Engineer B. Watkins		
Casing Hammer	Weight (lbs)	Drop (in)			



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Project Proposed Athletic Complex				Project No. 700114101										
Location Claremont Mckenna College				Elevation and Datum Approx. 1260 (feet, MSL)										
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data							Well Diagram			
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)						
	+1240.0	Light brown to brown, moist	20							10	20	30	40	 flexible tubing extending from surface to center of the slotted pipe. <

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flexible tubing extending from surface to center of the slotted pipe.

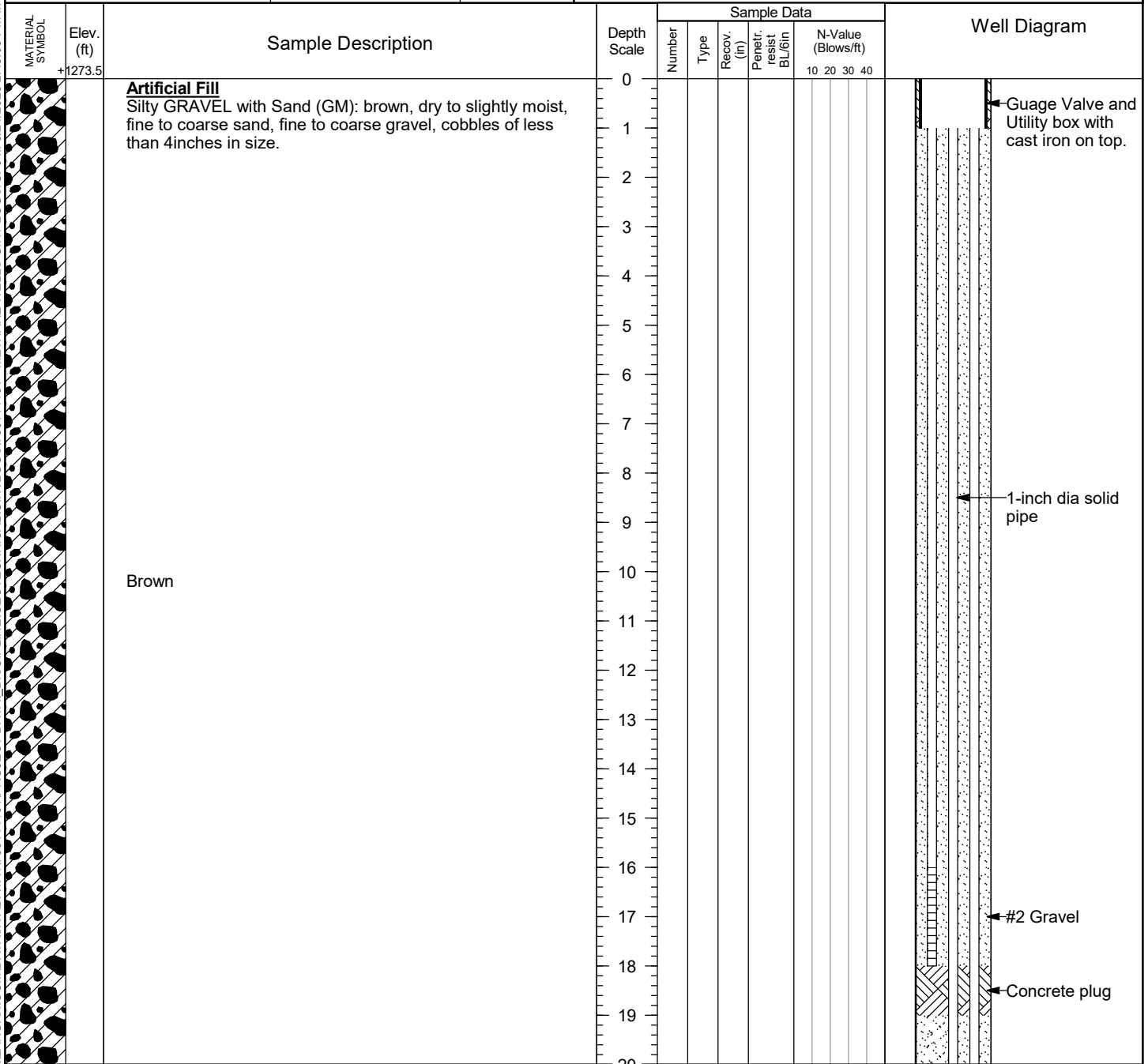
6-inches of #2 gravel at the bottom

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1273.5 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/14/2023		Date Finished 08/15/2023
Drilling Equipment LAR - CME			Completion Depth 33.5 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed -	Undisturbed -
Casing Diameter (in)			Casing Depth (ft)	Water Level (ft.) First ▽	Completion ▽ - 24 HR. ▽ -
Casing Hammer	Weight (lbs) -	Drop (in) -	Drilling Foreman Jerry		
Sampler -			Field Engineer B. Watkins		
Sampler Hammer	Weight (lbs) -	Drop (in) -			

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data								
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)				
	+1273.5		0					10	20	30	40	
		Artificial Fill Silty SAND with Gravel and Cobbles (SM): light brown, dry to sightly moist, fine to coarse sand, fine to coarse gravel, cobbles of less than 6inches in size.	1									
			2									
	+1270.5		3									
		Silty GRAVEL with Sand (GM): brown, slightly moist to moist, fine to coarse sand, fine to coarse gravel, cobbles of less than 4inches in size.	4									
			5									
			6									
			7									
			8									
			9									
		Light brown	10									
			11									
			12									
			13									
			14									
			15									
			16									
			17									
			18									
			19									
			20									

Project Proposed Athletic Complex			Project No. 700114101										
Location Claremont Mckenna College			Elevation and Datum Approx. 1273.5 (feet, MSL)										
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data									
				Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)					
	+1253.5		20							10	20	30	40
	21												
	22												
	23												
	24												
	25												
	26												
	27												
	28												
	29												
	+1248.5	Silty SAND with Gravel (SM): light brown, moist, fine to coarse sand, fine to coarse gravel.	30										
	31												
	32												
	33												
	34												
	35												
	36												
	37												
	38												
	39												
	40												
	41												
	42												
	43												
	44												
	45												
	+1240.0	Total Depth = 33.5 feet No groundwater encountered Backfilled with augur cuttings.	46										
	47												
	48												
	49												
	50												
	51												
	52												
	53												
	54												
	55												

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1273.5 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/15/2023		Date Finished 08/15/2023
Drilling Equipment LAR - CME			Completion Depth 34 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed -	Undisturbed -
Casing Diameter (in)			Casing Depth (ft)	Water Level (ft.) First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jerry		
Sampler			Field Engineer B. Watkins		
Sampler Hammer	Weight (lbs)	Drop (in)			



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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1273.5 (feet, MSL)

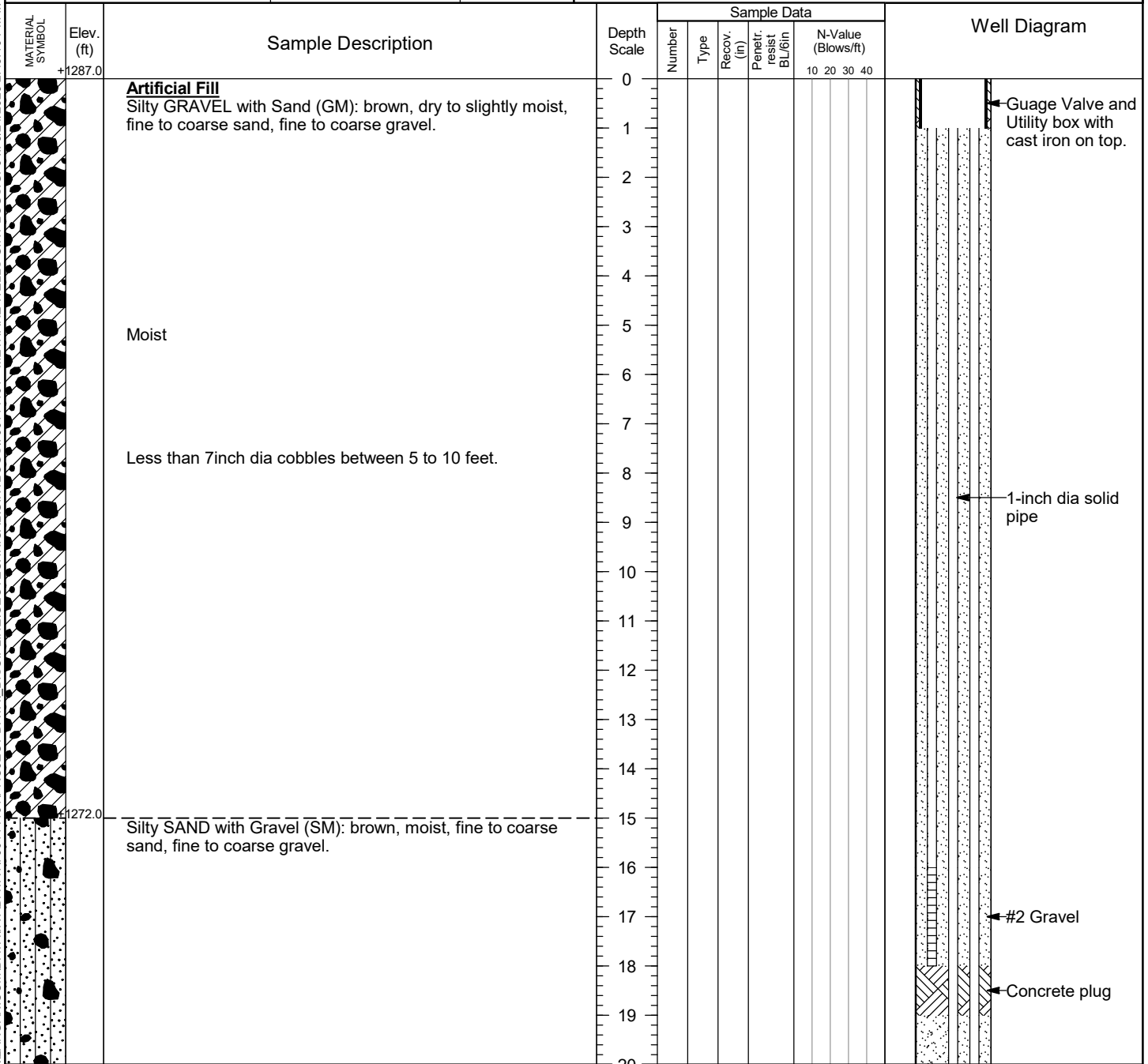
MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Well Diagram
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1253.5		20					10 20 30 40	
			21						
			22						
		Large cobble between 23 to 24 feet	23						
			24						
	+1248.5	Silty SAND with Gravel (SM): light brown to brown, moist, fine to coarse sand, fine to coarse gravel.	25						
			26						
			27						
			28						
			29						
			30						
			31						
			32						
			33						
	+1239.5	Total Depth = 34.0 feet No groundwater encountered Boring converted to methane test well.	34						
			35						
			36						
			37						
			38						
			39						
			40						
			41						
			42						
			43						
			44						
			45						

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1-inch dia slotted pipe. A gas probe attached to a flexible tubing extending from surface to center of the slotted pipe.

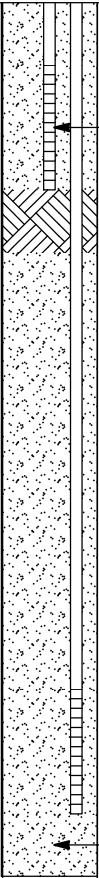
1 feet of #2 gravel at the bottom

Project Proposed Athletic Complex			Project No. 700114101		
Location Claremont Mckenna College			Elevation and Datum Approx. 1287 (feet, MSL)		
Drilling Company 2R Drilling			Date Started 08/15/2023		Date Finished 08/15/2023
Drilling Equipment LAR - CME			Completion Depth 34 ft		Rock Depth -
Size and Type of Bit 8-inch O.D. Hollow Stem Auger			Number of Samples	Disturbed -	Undisturbed -
Casing Diameter (in)			Casing Depth (ft)	Water Level (ft.) First ▽	Completion ▽
Casing Hammer	Weight (lbs)	Drop (in)	Drilling Foreman Jerry		
Sampler -			Field Engineer B. Watkins		
Sampler Hammer	Weight (lbs)	Drop (in)			



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Project	Proposed Athletic Complex	Project No.	700114101
Location	Claremont Mckenna College	Elevation and Datum	Approx. 1287 (feet, MSL)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Depth Scale	Sample Data					Well Diagram
				Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft)	
	+1267.0	Light brown to brown, moist	20					10 20 30 40	 1-inch dia slotted pipe. A gas probe attached to a flexible tubing extending from surface to center of the slotted pipe. 1 foot of #2 gravel at the bottom
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						
			31						
			32						
			33						
			34						
			35						
			36						
			37						
			38						
			39						
			40						
			41						
			42						
			43						
			44						
			45						
	+1253.0	Total Depth = 34 feet No groundwater encountered Boring converted to methane test well.							

FORM 1 (CONTINUED) - CERTIFICATE OF COMPLIANCE FOR METHANE TEST DATA

Part 2: Test Data - Shallow Soil Gas Test and Gas Probe Test

Site Address: Claremont McKenna

Description of Gas Analysis Instrument(s):

Instrument Name and Model: Lanotec GEM5000

Instrument Accuracy: $\pm$ 20 ppmv.

City of Los Angeles Testing License #:

	Date	Time	Probe Set #	Concentration (ppmv)	Pressure (inches water column)	Probe Depth (feet)	Description / Probe Location
MW1 1st reading	8/15/23	11:30 AM	MW1-#1	0.0	0.02	29	south side of bldg
	"	"	" #2	0.0	0.04	19	"
	"	"	" #3	0.0	0.02	14	"
8/15/23 11:30 AM MW1-#1 0.0 0.01 29 south side of bldg							
MW1 2nd reading	8/16/23	12:00 PM	MW1-#1	0.0	0.01	29	south side of bldg
	"	"	" #2	0.0	0.04	19	"
	"	"	" #3	0.0	0.03	14	"
MW2 1st reading	8/16/23	12:30 PM	MW2-#1	0.0	0.03	32	center of bldg
	"	"	#2	0.0	0.06	22	"
	"	"	#3	0.0	0.04	17	"
MW3 1st reading	8/16/23	1:30 PM	MW3-#1	0.0	0.03	32	north side of bldg
	"	"	#2	0.0	0.05	22	"
	"	"	#3	0.0	0.04	17	"
8/16/23 1:30 PM MW3-#1 0.0 0.03 32 north side of bldg							
MW2 2nd reading	8/17/23	12:30 PM	MW2-#1	0.0	0.02	32	center
	"	"	#2	0.0	0.01	22	"
	"	"	#3	0.0	0.02	17	"
MW3 2nd reading	8/17/23	1:30 PM	MW3-#1	0.0	0.07	32	north side
	"	"	#2	0.0	0.07	22	"
	"	"	#3	0.0	0.06	17	"

APPENDIX E
Historical Aerial Photographs



Notes:
1. Aerial imagery provided by HistoricalAerials.com.

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Environmental Services, Inc.

18575 Jamboree Road, Suite 150
Irvine, CA 92612

T: 949.561.9200 F: 949.561.9201 www.langan.com

Project

**CLAREMONT
MCKENNA COLLEGE**

UPLAND

SAN BERNARDINO
COUNTY

CALIFORNIA

Figure Title

**HISTORICAL AERIAL
1938**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

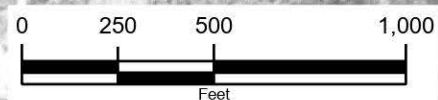
MG

Figure

C-1



Notes:
1. Aerial imagery provided by the United States Geological Survey.



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Figure Title

**HISTORICAL AERIAL
1948**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

MG

Figure

C-2



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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MCKENNA COLLEGE**

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COUNTY CALIFORNIA

Figure Title

**HISTORICAL AERIAL
1952**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

MG

Figure

C-3



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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			Date NOVEMBER 2022	
			Scale 1 inch = 500 ft	
			Drawn By MG	



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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			Date NOVEMBER 2022	
			Scale 1 inch = 500 ft	
			Drawn By MG	



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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Project

**CLAREMONT
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CALIFORNIA

Figure Title

**HISTORICAL AERIAL
1964**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

MG

Figure

C-6



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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Project

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UPLAND

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COUNTY

CALIFORNIA

Figure Title

**HISTORICAL AERIAL
1972**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

MG

Figure

C-7



Notes:
1. Aerial imagery provided by the United States Geological Survey.

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Notes:
1. Aerial imagery provided by the United States Geological Survey.

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Notes:
1. Aerial imagery provided by the California Department of Fish and Wildlife.

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Project

**CLAREMONT
MCKENNA COLLEGE**

UPLAND

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CALIFORNIA

Figure Title

**HISTORICAL AERIAL
2005**

Project No.

700114101

Date

NOVEMBER 2022

Scale

1 inch = 500 ft

Drawn By

MG

Figure

C-10

APPENDIX F
Estimate of Landfill Materials Debris Type

Summary of Reclamation Fill Units

Relative Location	Boring	Fill Unit	Fill Thickness	Approximate Percentage of Generalized Fill Units					
				>50% Soil	>50% Oversize	>50% Concrete	>50% Asphalt	>50% Brick	Misc. Debris
Eastern Edge of Site, East of Proposed Fields/Sediment Pond	B-20	asf	7.5	75	25				
	B-23	asf	5	90	10				
	B-40	asf	5	85	15				
	B-8	asf	5	95	5				
	FP-2	asf	4	85	15				
	TP-13	asf	6.5	60	40				
	TP-16	asf	2	85	15				
	TP-18	asf	4.5	85	15				
	TP-19	asf	3	100					
	TP-22	asf	8	90			10		
	TP-25	asf	4	90					10
	TP-26	asf	2	95	5				
	TP-27	asf	2	100					
	TP-28	asf	5	85	15				
	TP-29	asf	2	85	15				
	TP-30	asf	2	85	15				
	TP-31	asf	1	100					
	TP-32	asf	2.5	75	15	5			5
	TP-8	asf	4.5	75	15	5	5		
Weighted Average %				86%	12%	1%	1%	0%	1%
South of Proposed Track and Football Field	B-14	afc	>17	75	25				
	B-15	afc	>14	75	25				
	B-16	afc	>15	75	25				
	B-17	afc	45	75	25				
	B-7	afc	13	50	50				
	TP-7	afc	>10	70	15		5	5	5
Weighted Average %				70%	28%	0%	1%	1%	1%
South Central and Central Portion of the Site, South of G-G'	B-10	afu	30	75	25				
	B-11	afu	2.5	85	15				
	B-12	afu	16.5	75	15	5		5	
	B-21	afu	50	55	20	15	5	5	
	B-22	afu	46	55	25	10	5	5	
	B-24	afu	50	65	30			5	
	B-25	afu	8	85	15				
	B-26	afu	35	85	15				
	B-27	afu	30	85	15				
	B-28	afu	6	80	20				
	B-29	afu	20	85	15				
	B-30	afu	26.5	85	15				

South Central and Central Portion of the Site, South of G-G'	B-31	afu	7.5	85	15				
	B-32	afu	2.5	100					
	B-33	afu	5	100					
	B-34	afu	20	85	15				
	B-35	afu	2.5	100					
	B-36	afu	20	85	15				
	B-37	afu	2.5	85	15				
	B-38	afu	12.5	75	15		5	5	
	B-39	afu	30	80	20				
	B-41	afu	7.5	85	15				
	B-42	afu	7.5	80	15	5			
	B-9	afu	1.5	100					
	FP-1	afu	1	85	15				
	TP-10	afu	>8	85	15				
	TP-11	afu	3	75	15			5	5
	TP-12	afu	>7.5	70	15	5		5	5
	TP-14	afu	>7.5	80	15		5		
	TP-15	afu	2.5	85	15				
	TP-17	afu	>7	25	5	35	30	5	
	TP-9	afu	1	100					
Weighted Average %				81%	14%	2%	2%	1%	0%
Western Edge of Site near Proposed Tunnel and Parking	B-1	alf	41	80	15	5			
	B-13	alf	10	60	15	5	10	5	5
	B-3	alf	>25	80	20				
	B-4	alf	>33	70	20	10			
	B-43	alf	>52	55	15		25		5
	B-5	alf	40	90			10		
	B-50	alf	30	80	20				
	B-51	alf	40	80	15	5			
	B-52	alf	30	75	15	5	5		
	B-53	alf	45	80	10		10		
	B-54	alf	35	80	15		5		
	B-55	alf	46	75	10	5	10		
	B-56	alf	20	80	10	5	5		
	B-57	alf	55	95	5				
	B-58	alf	31	75	15		5	5	
	B-59	alf	50	75	5	5	5	5	5
	B-6	alf	30	80	15		5		
	B-60	alf	28	75	10		10	5	
	B-61	alf	55	70	15	5	10		
	B-62	alf	30	85	10		5		
	TP-1	alf	>5	60	35				5

	TP-24	alf	>12	55	15	25			5
	TP-3	alf	>5	80	10		5	5	
	TP-4	alf	>10	55	20	15	5		5
	TP-5	alf	>6	55	25	5	5	5	5
	TP-6	alf	>7	75	15		10		
Weighted Average %				74%	14%	4%	5%	1%	1%
North Central and Northern Portion of the Site, Near and N of G-G'	TP-2	alf	>10	50	17	15	15		3
	B-43	alf	>52	55	15		25		5
	B-2	alf	>28.5	50	20	10	15		5
	TP-1	alf	>5	60	35				5
	B-2	alf	>28.5	50	20	10	15		5
	TP-23	arf	9	80	15				5
	B-46	alf	20	65	15	10	10		
	B-41	afu	7.5	85	15				
	B-42	afu	7.5	80	15	5			
	B-44	alf	38	65	10	5	15	5	
	B-45	alf	35	70	15	5	5	5	
	B-46	alf	20	65	15	10	10		
	B-1	alf	41	80	15	5			
	B-3	alf	>25	80	20				
	TP-3	alf	>5	80	10		5	5	
	B-8	asf	5	95	5				
Weighted Average %				69%	16%	4%	7%	1%	2%

Appendix F

Greenhouse Gas Emissions Assumptions and Modeling

Construction Greenhouse Gas Emissions

Claremont McKenna Phase 1 GHG Emission Calculations

	Annual CO ₂ e MT
3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated	
Off-road Equipment	2.64
Worker	0.45
Vendor	0.25
Hauling	0
3.3. Site Prep: Street Improvement (2024) - Unmitigated	
Off-road Equipment	3.22
Worker	0.31
Vendor	0.21
Hauling	0
3.5. Site Prep: Street Improvement (2025) - Unmitigated	
Off-road Equipment	0.54
Worker	0.05
Vendor	0.03
Hauling	0
3.7. Site Prep: Tunnel (2024) - Unmitigated	
Off-road Equipment	24.1
Worker	0.81
Vendor	0.25
Hauling	0
3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated	
Off-road Equipment	127
Worker	22.2
Vendor	2.44
Hauling	20
3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated	
Off-road Equipment	7.32
Worker	1.25
Vendor	0.14
Hauling	1.13
3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated	
Off-road Equipment	74.4
Worker	5.13
Vendor	1.09
Hauling	41.6
3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated	
Off-road Equipment	19.8
Worker	1.97
Vendor	1.09
Hauling	11.9
3.17. Grading: Tunnel (Rough) (2024) - Unmitigated	
Off-road Equipment	12.8
Worker	2.02
Vendor	0.61
Hauling	20.2
3.19. Grading: Tunnel (Fine) (2025) - Unmitigated	
Off-road Equipment	4.93
Worker	0.66
Vendor	0.36
Hauling	4.95
3.21. BC: Structures + Parking (2024) - Unmitigated	
Off-road Equipment	33.3
Worker	5.16
Vendor	6.52
Hauling	11.9
3.23. BC: Structures + Parking (2025) - Unmitigated	
Off-road Equipment	163
Worker	24.8
Vendor	31.5
Hauling	57.3

Yearly Emissions		CO ₂ e MT
	2024	307
	2025	739
	2030	78
	2031	260
Total		1385
Amortized 30-Years		46

Claremont McKenna Phase 2 GHG Emission Calculations

	Annual CO ₂ e MT
3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated	
Off-road Equipment	1.5
Worker	0.22
Vendor	0.11
Hauling	0
3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated	
Off-road Equipment	47.6
Worker	10.4
Vendor	0.99
Hauling	17.6
3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated	
Off-road Equipment	37.5
Worker	8.05
Vendor	0.76
Hauling	13.5
3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated	
Off-road Equipment	58.5
Worker	5
Vendor	0.91
Hauling	20.1
3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated	
Off-road Equipment	32.5
Worker	3.96
Vendor	6.99
Hauling	0
3.11. BC: Pathways + Parking (2031) - Unmitigated	
Off-road Equipment	15.7
Worker	8.84
Vendor	8.67
Hauling	38.6

3.25. BC: Street Improvements (2025) - Unmitigated

Off-road Equipment	31.5
Worker	5.61
Vendor	11.6
Hauling	0

3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated

Off-road Equipment	3.1
Worker	0.31
Vendor	0.63
Hauling	0

3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated

Off-road Equipment	43.8
Worker	4.26
Vendor	8.8
Hauling	0

3.31. BC: Pathways + Parking (2025) - Unmitigated

Off-road Equipment	18.7
Worker	8.42
Vendor	9.66
Hauling	21.1

3.33. BC: Tunnel (2024) - Unmitigated

Off-road Equipment	4.73
Worker	1
Vendor	1.05
Hauling	0

3.35. BC: Tunnel (2025) - Unmitigated

Off-road Equipment	78.1
Worker	16.1
Vendor	17.1
Hauling	0

3.37. Arch Coating: Structures (2025) - Unmitigated

Off-road Equipment	3.76
Worker	2.46
Vendor	0
Hauling	0

3.39. Arch Coating: Street Improvements (2025) - Unmitigated

Off-road Equipment	2.81
Worker	0.42
Vendor	0.29
Hauling	0

Operational Greenhouse Gas Emissions

Project Operational GHG Emissions

Annual MT CO2e

Source	
Mobile	974
Area	1.02
Energy	230
Water	64.8
Waste	0.43
Refrig.	0.05
Total	1270

CalEEMod Assumptions and Output

Claremont McKenna Phase 1 Construction Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 1 Construction
Construction Start Date	8/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.10354503733571, -117.7007727686169
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

Unenclosed Parking Structure	470	Space	4.23	10,500	0.00	0.00	—	—
Parking Lot	240	Space	2.16	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Mit.	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
% Reduced	92%	94%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Mit.	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
% Reduced	87%	90%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Mit.	0.24	0.20	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
Mit.	0.04	0.04	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
% Reduced	89%	91%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	29.5	29.4	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	15.4	15.3	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	2.24	2.10	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307

2025	0.41	0.38	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740
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2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.50	0.43	3.33	14.6	0.03	0.04	0.60	0.64	0.04	0.15	0.18	—	3,813	3,813	0.19	0.12	3.11	3,856
2025	2.37	1.77	22.3	69.9	0.13	0.25	2.83	3.07	0.25	0.72	0.97	—	16,535	16,535	1.01	1.02	17.9	16,883
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.61	1.37	14.1	53.9	0.10	0.18	1.72	1.88	0.18	0.43	0.57	—	12,063	12,063	0.60	0.57	0.28	12,178
2025	1.94	1.50	19.8	62.5	0.11	0.22	2.08	2.30	0.22	0.53	0.75	—	14,037	14,037	0.82	0.76	0.34	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	0.20	1.97	7.14	0.02	0.02	0.29	0.31	0.02	0.07	0.09	—	1,831	1,831	0.10	0.08	0.71	1,857
2025	NaN	NaN	6.20	18.6	0.03	0.06	0.77	0.83	0.06	0.19	0.26	—	4,387	4,387	0.25	0.24	2.02	4,467
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.36	1.30	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	303	303	0.02	0.01	0.12	307
2025	NaN	NaN	1.13	3.40	0.01	0.01	0.14	0.15	0.01	0.04	0.05	—	726	726	0.04	0.04	0.34	740

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.29	4.06	0.01	0.01	—	0.01	0.01	—	0.01	—	581	581	0.02	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	16.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.64	2.64	< 0.005	< 0.005	—	2.64

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.64	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	< 0.005	< 0.005	0.42	106
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Prep: Street Improvement (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Prep: Street Improvement (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	76.8	76.8	< 0.005	< 0.005	0.01	77.8
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Site Prep: Street Improvement (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Site Prep: Street Improvement (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	826	826	0.03	0.01	—	829
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.54	0.54	< 0.005	< 0.005	—	0.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	75.1	75.1	< 0.005	< 0.005	0.01	76.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Site Prep: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Site Prep: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Grading: Roberts Sports Bowl Site (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.10. Grading: Roberts Sports Bowl Site (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,816	2,816	0.11	0.02	—	2,826
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.70	3.01	0.01	0.01	—	0.01	0.01	—	0.01	—	766	766	0.03	0.01	—	769
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	127	127	0.01	< 0.005	—	127
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.19	3.18	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	523	523	0.02	0.02	2.08	532
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.14	54.2
Hauling	0.06	0.01	0.52	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	422	422	0.05	0.07	0.89	445

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.22	2.46	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	480	480	0.03	0.02	0.05	486
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.06	0.01	0.54	0.29	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	423	423	0.05	0.07	0.02	444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.70	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.24	134
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.7
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.44
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.11. Grading: Roberts Sports Bowl Site (Rough) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13

3.12. Grading: Roberts Sports Bowl Site (Rough) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,815	2,815	0.11	0.02	—	2,825
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.1	44.1	< 0.005	< 0.005	—	44.2

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.30	7.30	< 0.005	< 0.005	—	7.32
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.19	2.26	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	470	470	0.02	0.02	0.05	476
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.05	0.01	0.52	0.28	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	415	415	0.04	0.07	0.02	436
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.57
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.83
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
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3.13. Grading: Roberts Sports Bowl Site (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.14. Grading: Roberts Sports Bowl Site (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.27	22.5	0.03	0.07	—	0.07	0.07	—	0.07	—	3,633	3,633	0.15	0.03	—	3,646
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.65	2.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	448	448	0.02	< 0.005	—	449
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.2	74.2	< 0.005	< 0.005	—	74.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.25	0.04	2.32	1.30	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,936	1,936	0.20	0.32	4.11	2,040
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.25	0.04	2.42	1.31	0.01	0.02	0.52	0.54	0.02	0.14	0.17	—	1,937	1,937	0.20	0.32	0.11	2,037
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.5	30.5	< 0.005	< 0.005	0.05	31.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	239	239	0.03	0.04	0.22	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.06	5.06	< 0.005	< 0.005	0.01	5.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.04	41.6

3.15. Grading: Street Improvements (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.16. Grading: Street Improvements (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.22	6.76	0.01	0.02	—	0.02	0.02	—	0.02	—	967	967	0.04	0.01	—	971
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.27	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	119	119	< 0.005	< 0.005	—	120
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104

Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.9	93.9	< 0.005	< 0.005	0.01	95.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	< 0.005	53.2
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.26	6.26	< 0.005	< 0.005	0.01	6.57
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	68.2	68.2	0.01	0.01	0.06	71.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.17. Grading: Tunnel (Rough) (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2

3.18. Grading: Tunnel (Rough) (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.28	7.02	0.01	0.02	—	0.02	0.02	—	0.02	—	1,129	1,129	0.05	0.01	—	1,133
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.3	77.3	< 0.005	< 0.005	—	77.6

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.88	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	< 0.005	54.0
Hauling	0.22	0.03	2.16	1.17	0.01	0.03	0.44	0.48	0.02	0.12	0.14	—	1,690	1,690	0.19	0.27	0.09	1,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.10	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61

Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.2
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3.19. Grading: Tunnel (Fine) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.20. Grading: Tunnel (Fine) (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.95	5.05	0.01	0.01	—	0.01	0.01	—	0.01	—	723	723	0.03	0.01	—	725
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.92	4.92	< 0.005	< 0.005	—	4.93
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.59	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.38	104
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.09	0.01	0.83	0.47	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	691	691	0.07	0.11	1.47	728
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.19
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.4	28.4	< 0.005	< 0.005	0.03	29.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.95

3.21. BC: Structures + Parking (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9

3.22. BC: Structures + Parking (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.39	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	200	200	0.01	< 0.005	—	201

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.07	0.01	0.72	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	563	563	0.06	0.09	0.03	592
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.06	31.2
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.6	37.6	< 0.005	0.01	0.04	39.4
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.3	68.3	0.01	0.01	0.06	71.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.16
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.52

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.9
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3.23. BC: Structures + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150
Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.24. BC: Structures + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	3.20	8.92	0.02	0.03	—	0.03	0.03	—	0.03	—	1,650	1,650	0.07	0.01	—	1,656
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.11	0.11	1.90	5.31	0.01	0.02	—	0.02	0.02	—	0.02	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	163	163	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.07	0.01	0.69	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	0.03	582
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.73	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	147	147	0.01	0.01	0.25	150

Vendor	0.02	0.01	0.22	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	181	181	0.01	0.03	0.22	190
Hauling	0.04	0.01	0.42	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	329	329	0.03	0.05	0.30	346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.0	30.0	< 0.005	< 0.005	0.04	31.5
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.5	54.5	0.01	0.01	0.05	57.3

3.25. BC: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.26. BC: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.10	0.10	1.61	6.03	0.01	0.02	—	0.02	0.02	—	0.02	—	864	864	0.04	0.01	—	867
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.35	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	189	189	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.4	31.4	< 0.005	< 0.005	—	31.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.94	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.60	166
Vendor	0.03	0.01	0.36	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.85	320
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.4	33.4	< 0.005	< 0.005	0.06	33.9
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	66.8	66.8	0.01	0.01	0.08	70.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.53	5.53	< 0.005	< 0.005	0.01	5.61
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.27. BC: Roberts Sports Bowl Utilities (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.28. BC: Roberts Sports Bowl Utilities (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.08	3.08	< 0.005	< 0.005	—	3.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.79	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	154	154	0.01	0.01	0.02	156
Vendor	0.03	0.01	0.39	0.21	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	310	310	0.03	0.05	0.02	324
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.29. BC: Roberts Sports Bowl Utilities (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.30. BC: Roberts Sports Bowl Utilities (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,587	1,587	0.06	0.01	—	1,592
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.43	1.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	264	264	0.01	< 0.005	—	265
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	150	150	0.01	0.01	0.02	152
Vendor	0.03	0.01	0.37	0.20	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	305	305	0.02	0.05	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.4	25.4	< 0.005	< 0.005	0.04	25.7
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.7	50.7	< 0.005	0.01	0.06	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.20	4.20	< 0.005	< 0.005	0.01	4.26
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.39	8.39	< 0.005	< 0.005	0.01	8.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.31. BC: Pathways + Parking (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.32. BC: Pathways + Parking (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.6	18.6	< 0.005	< 0.005	—	18.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	1.41	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	246	246	0.01	0.01	0.91	250

Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.07	0.01	0.66	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	553	553	0.06	0.09	1.18	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.1	50.1	< 0.005	< 0.005	0.09	50.9
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.07	58.4
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	0.01	0.02	0.11	128
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.42
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.22	9.22	< 0.005	< 0.005	0.01	9.66
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.1	20.1	< 0.005	< 0.005	0.02	21.1

3.33. BC: Tunnel (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.34. BC: Tunnel (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.5	28.5	< 0.005	< 0.005	—	28.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.72	4.72	< 0.005	< 0.005	—	4.73
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.28	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	249	249	0.01	0.01	0.03	253
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	258	258	0.02	0.04	0.02	270

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.94	5.94	< 0.005	< 0.005	0.01	6.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.06	6.06	< 0.005	< 0.005	0.01	6.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	1.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.35. BC: Tunnel (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.36. BC: Tunnel (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	1.15	5.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,214	1,214	0.05	0.01	—	1,218
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.45	2.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	470	470	0.02	< 0.005	—	472
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	77.9	77.9	< 0.005	< 0.005	—	78.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.52	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	266	266	0.01	0.01	0.98	270
Vendor	0.03	0.01	0.30	0.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.71	267
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.17	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	244	244	0.01	0.01	0.03	248
Vendor	0.03	0.01	0.31	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.02	0.04	0.02	266
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.0	96.0	< 0.005	< 0.005	0.16	97.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.01	0.12	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.03	16.1
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.37. Arch Coating: Structures (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	14.8	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	1.14	1.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.38. Arch Coating: Structures (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.38	2.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	295	295	0.01	< 0.005	—	296
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.75	3.75	< 0.005	< 0.005	—	3.76
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	1.17	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	205	205	0.01	0.01	0.76	208
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.90	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	0.01	0.01	0.02	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.39. Arch Coating: Street Improvements (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	14.0	14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	0.46	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.40. Arch Coating: Street Improvements (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	514	514	0.02	< 0.005	—	515
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	16.9
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.80	2.80	< 0.005	< 0.005	—	2.81
Architectural Coatings	NaN	NaN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.30	83.2
Vendor	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.8	50.8	< 0.005	0.01	0.14	53.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.75
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	8/1/2024	8/14/2024	5.00	10.0	—

Site Prep: Street Improvement	Site Preparation	12/20/2024	1/2/2025	5.00	10.0	—
Site Prep: Tunnel	Site Preparation	11/1/2024	11/14/2024	5.00	10.0	—
Grading: Roberts Sports Bowl Site (Rough)	Grading	8/15/2024	1/8/2025	5.00	105	—
Grading: Roberts Sports Bowl Site (Fine)	Grading	3/13/2025	5/14/2025	5.00	45.0	—
Grading: Street Improvements (Fine)	Grading	3/26/2025	5/27/2025	5.00	45.0	—
Grading: Tunnel (Rough)	Grading	11/15/2024	12/19/2024	5.00	25.0	—
Grading: Tunnel (Fine)	Grading	4/25/2025	5/15/2025	5.00	15.0	—
BC: Structures + Parking	Building Construction	10/31/2024	10/31/2025	5.00	262	—
BC: Street Improvements	Building Construction	4/30/2025	8/19/2025	5.00	80.0	—
BC: Roberts Sports Bowl Utilities	Building Construction	12/26/2024	3/26/2025	5.00	65.0	—
BC: Pathways + Parking	Building Construction	5/1/2025	8/20/2025	5.00	80.0	—
BC: Tunnel	Building Construction	12/20/2024	7/17/2025	5.00	150	—
Arch Coating: Structures	Architectural Coating	9/1/2025	10/8/2025	5.00	28.0	—
Arch Coating: Street Improvements	Architectural Coating	9/15/2025	9/30/2025	5.00	12.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37

Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

Grading: Tunnel (Rough)	Tractors/Loaders/Backh	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backh oes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Street Improvement	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Site Prep: Tunnel	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Prep: Tunnel	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sports Bowl Site (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85

Grading: Roberts Sports Bowl Site (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sports Bowl Site (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sports Bowl Site (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sports Bowl Site (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	8.00	82.0	0.42
Grading: Street Improvements (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Street Improvements (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Street Improvements (Fine)	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading: Tunnel (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	2.00	8.00	16.0	0.38
Grading: Tunnel (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading: Tunnel (Fine)	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Structures + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Structures + Parking	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Structures + Parking	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29

BC: Structures + Parking	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
BC: Street Improvements	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
BC: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sports Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sports Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Tunnel	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
BC: Tunnel	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Structures	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Arch Coating: Street Improvements	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Arch Coating: Street Improvements	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Arch Coating: Street Improvements	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT
Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—

Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT
BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—

BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT
Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT

Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	13.4	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Site Prep: Street Improvement	—	—	—	—
Site Prep: Street Improvement	Worker	8.00	13.4	LDA,LDT1,LDT2
Site Prep: Street Improvement	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Street Improvement	Hauling	0.00	20.0	HHDT
Site Prep: Street Improvement	Onsite truck	0.00	—	HHDT
Site Prep: Tunnel	—	—	—	—
Site Prep: Tunnel	Worker	18.0	13.4	LDA,LDT1,LDT2
Site Prep: Tunnel	Vendor	2.00	8.33	HHDT,MHDT
Site Prep: Tunnel	Hauling	0.00	20.0	HHDT
Site Prep: Tunnel	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Rough)	—	—	—	—
Grading: Roberts Sports Bowl Site (Rough)	Worker	50.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Rough)	Hauling	6.00	20.0	HHDT

Grading: Roberts Sports Bowl Site (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sports Bowl Site (Fine)	—	—	—	—
Grading: Roberts Sports Bowl Site (Fine)	Worker	26.0	13.4	LDA,LDT1,LDT2
Grading: Roberts Sports Bowl Site (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Roberts Sports Bowl Site (Fine)	Hauling	28.0	20.0	HHDT
Grading: Roberts Sports Bowl Site (Fine)	Onsite truck	0.00	—	HHDT
Grading: Street Improvements (Fine)	—	—	—	—
Grading: Street Improvements (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Street Improvements (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Street Improvements (Fine)	Hauling	8.00	20.0	HHDT
Grading: Street Improvements (Fine)	Onsite truck	0.00	—	HHDT
Grading: Tunnel (Rough)	—	—	—	—
Grading: Tunnel (Rough)	Worker	18.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Rough)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Rough)	Hauling	24.0	20.0	HHDT
Grading: Tunnel (Rough)	Onsite truck	—	—	HHDT
Grading: Tunnel (Fine)	—	—	—	—
Grading: Tunnel (Fine)	Worker	10.0	13.4	LDA,LDT1,LDT2
Grading: Tunnel (Fine)	Vendor	2.00	8.33	HHDT,MHDT
Grading: Tunnel (Fine)	Hauling	10.0	20.0	HHDT
Grading: Tunnel (Fine)	Onsite truck	—	—	HHDT
BC: Structures + Parking	—	—	—	—
BC: Structures + Parking	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Structures + Parking	Vendor	12.0	8.33	HHDT,MHDT

BC: Structures + Parking	Hauling	8.00	20.0	HHDT
BC: Structures + Parking	Onsite truck	0.00	—	HHDT
BC: Street Improvements	—	—	—	—
BC: Street Improvements	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Street Improvements	Vendor	12.0	8.33	HHDT,MHDT
BC: Street Improvements	Hauling	0.00	20.0	HHDT
BC: Street Improvements	Onsite truck	0.00	—	HHDT
BC: Roberts Sports Bowl Utilities	—	—	—	—
BC: Roberts Sports Bowl Utilities	Worker	16.0	13.4	LDA,LDT1,LDT2
BC: Roberts Sports Bowl Utilities	Vendor	12.0	8.33	HHDT,MHDT
BC: Roberts Sports Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sports Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	13.4	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	8.33	HHDT,MHDT
BC: Pathways + Parking	Hauling	8.00	20.0	HHDT
BC: Pathways + Parking	Onsite truck	—	—	HHDT
BC: Tunnel	—	—	—	—
BC: Tunnel	Worker	26.0	13.4	LDA,LDT1,LDT2
BC: Tunnel	Vendor	10.0	8.33	HHDT,MHDT
BC: Tunnel	Hauling	0.00	20.0	HHDT
BC: Tunnel	Onsite truck	0.00	—	HHDT
Arch Coating: Structures	—	—	—	—
Arch Coating: Structures	Worker	20.0	13.4	LDA,LDT1,LDT2
Arch Coating: Structures	Vendor	0.00	8.33	HHDT,MHDT
Arch Coating: Structures	Hauling	0.00	20.0	HHDT
Arch Coating: Structures	Onsite truck	0.00	—	HHDT

Arch Coating: Street Improvements	—	—	—	—
Arch Coating: Street Improvements	Worker	8.00	13.4	LDA,LDT1,LDT2
Arch Coating: Street Improvements	Vendor	2.00	8.33	HHDT,MHDT
Arch Coating: Street Improvements	Hauling	0.00	20.0	HHDT
Arch Coating: Street Improvements	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Arch Coating: Structures	0.00	0.00	59,265	18,444	11,883
Arch Coating: Street Improvements	0.00	0.00	24,026	7,477	4,818

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sports Bowl Site (Rough)	0.00	3,700	8.53	0.00	—
Grading: Street Improvements (Fine)	8,000	1,000	20.8	0.00	—
Grading: Tunnel (Rough)	0.00	4,300	9.91	0.00	—
Grading: Tunnel (Fine)	0.00	1,000	2.31	0.00	—
BC: Structures + Parking	16,000	0.00	36.9	0.00	—

BC: Pathways + Parking	4,000	0.00	9.22	0.00	—
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Unenclosed Parking Structure	4.23	100%
Parking Lot	2.16	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6

Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—

Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353
Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6

Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0
Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—

Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific Information
Construction: Construction Phases	Project Specific Schedule
Construction: Off-Road Equipment	Project Specific Equipment and Tier 4 Final Project Design Feature
Construction: Dust From Material Movement	Project Specific Information

Construction: Trips and VMT	Project Specific Information, Updated Trips
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Claremont McKenna Phase 2 Construction Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Phase 2 Construction
Construction Start Date	11/3/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.103620476606324, -117.70105472026464
County	Los Angeles-South Coast
City	Claremont
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5052
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	25.7	Acre	25.7	1,120,799	0.00	—	—	—

Parking Lot	80.0	Space	0.72	0.00	0.00	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Mit.	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Mit.	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567

Mit.	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
Mit.	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2031	0.78	0.63	9.31	29.4	0.06	0.11	3.21	3.32	0.11	1.26	1.38	—	7,555	7,555	0.30	0.47	6.21	7,707
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.41	0.35	3.96	13.7	0.04	0.04	0.97	1.01	0.04	0.24	0.28	—	4,462	4,462	0.17	0.21	0.09	4,530
2031	0.80	0.71	9.81	36.3	0.06	0.12	2.75	2.86	0.12	1.14	1.26	—	7,347	7,347	0.29	0.31	0.11	7,446
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.04	0.04	0.42	1.47	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.03	—	466	466	0.02	0.02	0.15	473
2031	0.16	0.13	1.82	5.77	0.01	0.02	0.49	0.51	0.02	0.17	0.19	—	1,538	1,538	0.06	0.09	0.55	1,567
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.01	0.01	0.08	0.27	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	77.1	77.1	< 0.005	< 0.005	0.03	78.3
2031	0.03	0.02	0.33	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.03	0.03	—	255	255	0.01	0.02	0.09	260

3. Construction Emissions Details

3.1. Site Prep: Roberts Sports Bowl Site (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Prep: Roberts Sports Bowl Site (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.55	5.77	0.01	0.02	—	0.02	0.02	—	0.02	—	825	825	0.03	0.01	—	828
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.04	9.04	< 0.005	< 0.005	—	9.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.50	1.50	< 0.005	< 0.005	—	1.50
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	120	120	< 0.005	< 0.005	0.01	121
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading: Roberts Sport Bowl (Rough) (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6

3.4. Grading: Roberts Sport Bowl (Rough) (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,823
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.26	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	286	286	0.01	< 0.005	—	287

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.4	47.4	< 0.005	< 0.005	—	47.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.16	0.15	2.09	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	598	598	0.01	0.02	0.04	606
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.5	56.5	< 0.005	0.01	< 0.005	58.9
Hauling	0.07	0.02	1.19	0.47	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	994	994	0.05	0.16	0.05	1,042
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.8	61.8	< 0.005	< 0.005	0.06	62.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	6.00
Hauling	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.08	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.99

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.01	17.6
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3.5. Grading: Roberts Sport Bowl (Rough) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.6. Grading: Roberts Sport Bowl (Rough) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.03	0.03	—	0.03	0.03	—	0.03	—	2,813	2,813	0.11	0.02	—	2,822
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	226	226	0.01	< 0.005	—	226
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.15	1.96	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	589	589	0.01	0.02	0.03	597
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.06	0.02	1.15	0.46	0.01	0.01	0.30	0.31	0.01	0.08	0.10	—	968	968	0.05	0.15	0.04	1,015
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.0	48.0	< 0.005	< 0.005	0.05	48.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	< 0.005	4.58
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.7	77.7	< 0.005	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.5

3.7. Grading: Roberts Sport Bowl (Fine) (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686

Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement:	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement:	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement:	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.8. Grading: Roberts Sport Bowl (Fine) (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.40	5.29	22.8	0.03	0.07	—	0.07	0.07	—	0.07	—	3,673	3,673	0.15	0.03	—	3,686
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.51	2.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.21	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	323	323	< 0.005	< 0.005	0.68	324
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	0.13	57.1
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	307	307	< 0.005	0.01	0.02	310
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	54.6	54.6	< 0.005	0.01	< 0.005	57.0
Hauling	0.08	0.02	1.44	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	0.05	1,269
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.03	30.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	5.47
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.09	122
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.01	20.1

3.9. BC: Roberts Sport Bowl Utilities (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. BC: Roberts Sport Bowl Utilities (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.56	11.1	0.01	0.03	—	0.03	0.03	—	0.03	—	1,586	1,586	0.06	0.01	—	1,591
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	1.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	196	196	0.01	< 0.005	—	196
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	—	32.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.63	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.01	191
Vendor	0.02	0.01	0.34	0.16	< 0.005	< 0.005	0.10	0.11	< 0.005	0.03	0.03	—	328	328	0.01	0.05	0.02	342
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.4	40.4	< 0.005	0.01	0.04	42.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	< 0.005	3.96
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. BC: Pathways + Parking (2031) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299

Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

3.12. BC: Pathways + Parking (2031) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.81	3.02	0.01	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.15	0.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	94.2	94.2	< 0.005	< 0.005	—	94.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.11	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	298	298	< 0.005	< 0.005	0.63	299
Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.63	286
Hauling	0.08	0.02	1.38	0.57	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,210	1,210	0.06	0.19	2.07	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.7	52.7	< 0.005	< 0.005	0.05	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	0.05	52.4
Hauling	0.01	< 0.005	0.27	0.10	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.16	233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.72	8.72	< 0.005	< 0.005	0.01	8.84
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.30	8.30	< 0.005	< 0.005	0.01	8.67
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.8	36.8	< 0.005	0.01	0.03	38.6

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep: Roberts Sports Bowl Site	Site Preparation	11/3/2030	11/7/2030	5.00	4.00	—
Grading: Roberts Sport Bowl (Rough)	Grading	11/10/2030	2/10/2031	5.00	66.0	—
Grading: Roberts Sport Bowl (Fine)	Grading	3/11/2031	4/28/2031	5.00	35.0	—
BC: Roberts Sport Bowl Utilities	Building Construction	1/28/2031	3/31/2031	5.00	45.0	—
BC: Pathways + Parking	Building Construction	4/8/2031	7/9/2031	5.00	67.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38
Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep: Roberts Sports Bowl Site	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Site Prep: Roberts Sports Bowl Site	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Rough)	Crushing/Proc. Equipment	Diesel	Tier 4 Final	3.00	8.00	12.0	0.85
Grading: Roberts Sport Bowl (Rough)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Rough)	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Rough)	Dumpers/Tenders	Diesel	Tier 4 Final	20.0	8.00	16.0	0.38

Grading: Roberts Sport Bowl (Fine)	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading: Roberts Sport Bowl (Fine)	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading: Roberts Sport Bowl (Fine)	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading: Roberts Sport Bowl (Fine)	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Grading: Roberts Sport Bowl (Fine)	Other Construction Equipment	Diesel	Tier 4 Final	1.00	9.00	82.0	0.42
BC: Roberts Sport Bowl Utilities	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
BC: Roberts Sport Bowl Utilities	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
BC: Roberts Sport Bowl Utilities	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
BC: Pathways + Parking	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
BC: Pathways + Parking	Pumps	Diesel	Tier 4 Final	1.00	8.00	11.0	0.74
BC: Pathways + Parking	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Rough)	—	—	—	—

Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep: Roberts Sports Bowl Site	—	—	—	—
Site Prep: Roberts Sports Bowl Site	Worker	10.0	18.5	LDA,LDT1,LDT2
Site Prep: Roberts Sports Bowl Site	Vendor	2.00	10.2	HHDT,MHDT
Site Prep: Roberts Sports Bowl Site	Hauling	0.00	20.0	HHDT
Site Prep: Roberts Sports Bowl Site	Onsite truck	0.00	—	HHDT

Grading: Roberts Sport Bowl (Rough)	—	—	—	—
Grading: Roberts Sport Bowl (Rough)	Worker	50.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Rough)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Rough)	Hauling	16.0	20.0	HHDT
Grading: Roberts Sport Bowl (Rough)	Onsite truck	0.00	—	HHDT
Grading: Roberts Sport Bowl (Fine)	—	—	—	—
Grading: Roberts Sport Bowl (Fine)	Worker	26.0	18.5	LDA,LDT1,LDT2
Grading: Roberts Sport Bowl (Fine)	Vendor	2.00	10.2	HHDT,MHDT
Grading: Roberts Sport Bowl (Fine)	Hauling	20.0	20.0	HHDT
Grading: Roberts Sport Bowl (Fine)	Onsite truck	0.00	—	HHDT
BC: Roberts Sport Bowl Utilities	—	—	—	—
BC: Roberts Sport Bowl Utilities	Worker	16.0	18.5	LDA,LDT1,LDT2
BC: Roberts Sport Bowl Utilities	Vendor	12.0	10.2	HHDT,MHDT
BC: Roberts Sport Bowl Utilities	Hauling	0.00	20.0	HHDT
BC: Roberts Sport Bowl Utilities	Onsite truck	0.00	—	HHDT
BC: Pathways + Parking	—	—	—	—
BC: Pathways + Parking	Worker	24.0	18.5	LDA,LDT1,LDT2
BC: Pathways + Parking	Vendor	10.0	10.2	HHDT,MHDT
BC: Pathways + Parking	Hauling	20.0	20.0	HHDT
BC: Pathways + Parking	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading: Roberts Sport Bowl (Rough)	0.00	8,000	11.9	0.00	—
Grading: Roberts Sport Bowl (Fine)	3,000	2,000	7.46	0.00	—
BC: Pathways + Parking	10,000	0.00	14.9	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Parking Lot	0.72	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	84.6
AQ-PM	94.4
AQ-DPM	81.2
Drinking Water	98.0
Lead Risk Housing	—
Pesticides	19.8
Toxic Releases	56.7
Traffic	28.1
Effect Indicators	—
CleanUp Sites	2.59
Groundwater	49.0
Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	12.5
Solid Waste	64.9
Sensitive Population	—
Asthma	29.2
Cardio-vascular	45.1
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	2.71
Housing	—
Linguistic	—
Poverty	—
Unemployment	93.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	64.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	88.7
Physically Disabled	99.2
Heart Attack ER Admissions	43.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	5.3
SLR Inundation Area	0.0

Children	98.7
Elderly	99.3
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	83.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.4
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project Specific Information
Construction: Off-Road Equipment	Project Specific Equipment, Tier 4 Final
Construction: Dust From Material Movement	Project Specific Information
Construction: Trips and VMT	Project Specific Information, Updated Trips
Construction: Off-Road Equipment EF	Crushing/Proc. Equipment Change to Diesel

Claremont McKenna | Operations v2 Detailed Report

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5. Activity Data

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Claremont McKenna Operations v2
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	2.40
Location	34.1033741482496, -117.70077931750569
County	San Bernardino-South Coast
City	Upland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5227
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	50.0	1000sqft	16.1	50,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Mit.	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Mit.	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Mit.	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
Mit.	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270
% Reduced	—	2%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.12	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Total	3.75	4.53	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.44	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.79	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.69	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Area	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387

Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	4.37	5.05	3.94	35.3	0.09	0.10	7.49	7.59	0.10	1.90	2.00	42.0	10,240	10,282	4.80	0.49	27.1	10,575
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Area	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	3.75	4.46	4.17	27.7	0.08	0.10	7.49	7.59	0.10	1.90	2.00	42.0	9,692	9,734	4.81	0.50	1.01	10,006
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.59	2.32	2.58	20.0	0.06	0.04	5.29	5.33	0.04	1.34	1.38	—	5,786	5,786	0.27	0.28	8.18	5,885
Area	0.27	1.38	0.01	1.49	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.15
Energy	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,382	1,382	0.10	0.01	—	1,387
Water	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	2.92	3.73	3.17	21.9	0.06	0.09	5.29	5.37	0.08	1.34	1.43	42.0	7,388	7,430	4.70	0.39	8.49	7,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Area	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	229	229	0.02	< 0.005	—	230
Water	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.53	0.68	0.58	4.00	0.01	0.02	0.96	0.98	0.02	0.25	0.26	6.96	1,223	1,230	0.78	0.06	1.41	1,270

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Total	3.92	3.53	3.34	32.7	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,635	8,635	0.37	0.38	26.8	8,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Total	3.68	3.30	3.59	27.2	0.08	0.06	7.49	7.54	0.05	1.90	1.95	—	8,096	8,096	0.39	0.40	0.69	8,224
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974
Total	0.47	0.42	0.47	3.64	0.01	0.01	0.96	0.97	0.01	0.25	0.25	—	958	958	0.05	0.05	1.35	974

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Total	—	—	—	—	—	—	—	—	—	—	—	—	695	695	0.04	0.01	—	698
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116
Total	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.01	< 0.005	—	116

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Total	0.06	0.03	0.58	0.48	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.55	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.26	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39	0.36	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Total	0.39	1.49	0.02	2.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.94	8.94	< 0.005	< 0.005	—	8.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	—	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.04	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02
Total	0.05	0.25	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.01	1.01	< 0.005	< 0.005	—	1.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Total	—	—	—	—	—	—	—	—	—	—	—	41.3	214	255	4.25	0.10	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8
Total	—	—	—	—	—	—	—	—	—	—	—	6.83	35.4	42.2	0.70	0.02	—	64.8

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Total	—	—	—	—	—	—	—	—	—	—	—	0.74	0.00	0.74	0.07	0.00	—	2.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.43

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipme Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Arena	559	947	947	244,498	6,229	10,553	10,553	2,724,654

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	75,000	25,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250
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5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	476,886	532	0.0330	0.0040	2,144,306

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	21,538,506	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	1.38	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	6.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	8.23	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	88.7
AQ-PM	95.3
AQ-DPM	80.9
Drinking Water	97.1
Lead Risk Housing	31.1
Pesticides	2.66
Toxic Releases	58.9
Traffic	29.8
Effect Indicators	—
CleanUp Sites	43.6
Groundwater	10.6
Haz Waste Facilities/Generators	46.8
Impaired Water Bodies	12.5
Solid Waste	39.3
Sensitive Population	—
Asthma	60.1
Cardio-vascular	70.9
Low Birth Weights	64.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	69.5
Linguistic	54.6
Poverty	64.9
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.74849224
Employed	14.1537277
Median HI	26.85743616
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	57.52598486
Transportation	—
Auto Access	68.11240857
Active commuting	41.48594893
Social	—
2-parent households	77.65943796
Voting	45.33555755
Neighborhood	—
Alcohol availability	19.50468369
Park access	37.14872321
Retail density	77.55678173
Supermarket access	43.19260875
Tree canopy	13.34530989
Housing	—
Homeownership	1.539843449
Housing habitability	40.93417169
Low-inc homeowner severe housing cost burden	99.12742205
Low-inc renter severe housing cost burden	59.36096497
Uncrowded housing	43.53907353

Health Outcomes	—
Insured adults	61.15744899
Arthritis	95.5
Asthma ER Admissions	15.4
High Blood Pressure	94.6
Cancer (excluding skin)	93.3
Asthma	32.2
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	90.6
Life Expectancy at Birth	49.1
Cognitively Disabled	80.8
Physically Disabled	93.4
Heart Attack ER Admissions	12.7
Mental Health Not Good	41.5
Chronic Kidney Disease	95.6
Obesity	49.6
Pedestrian Injuries	90.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	13.6
Current Smoker	40.7
No Leisure Time for Physical Activity	62.9
Climate Change Exposures	—
Wildfire Risk	8.7
SLR Inundation Area	0.0

Children	1.1
Elderly	90.4
English Speaking	26.8
Foreign-born	58.5
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.5
Traffic Density	40.2
Traffic Access	55.1
Other Indices	—
Hardship	50.3
Other Decision Support	—
2016 Voting	48.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific
Operations: Vehicle Data	Project Adjusted Vehicle Trip Rates

Appendix G
**Cable Airport Land Use
Compatibility Plan Consistency
Review**

TECHNICAL MEMORANDUM



To: Elizabeth Camacho, Loeb & Loeb LLP

From: Ken Brody, Senior Airport Planner

Date: March 5, 2024

Subject: Cable ALUCP Consistency Review of Roberts Campus Sports Bowl

1. OVERVIEW

Claremont McKenna College (CMC) proposes to construct a sports field complex known as the Roberts Campus Sports Bowl (the “Sports Bowl”) on a 66.5-acre portion of an approximately 74-acre site known as the “Roberts Campus East” (formerly known generally as East Campus). The site straddles the boundary between San Bernardino County on the east and Los Angeles County on the west and is situated in the Cities of Upland and Claremont in those counties, respectively. The project site is also located within the influence area of Cable Airport as established in the *Cable Airport Land Use Compatibility Plan (ALUCP)* adopted by the City of Upland. The current proposal modifies and refines the project that was approved by the two cities in 2016 but has not been constructed.

Mead & Hunt reviewed the prior proposal in April 2016. Our findings were detailed in a Memorandum to the City of Upland Development Services Director. This present Memorandum updates the previous one, focusing on concerns noted at that time and changes that have been made to the project since then. As was the case previously, the purpose of this Memorandum is to evaluate whether the proposed project is consistent with the criteria set forth in the ALUCP.

As documented herein and further described in the conclusions section of this Memorandum, Mead & Hunt finds that the Sports Bowl project can be deemed consistent with the ALUCP criteria provided that the City of Upland determines, based on appropriate findings, that the proposed football/track/lacrosse stadium and soccer/rugby field bleachers are compatible in accordance with ALUCP Policy 3.1.6. The proposed capacities of each of these facilities exceed the single-acre intensity safety criterion of the ALUCP. However, the soccer/rugby facility would meet, or come close to meeting, this criterion under typical less-than-capacity usage and its design alleviates the safety concern. Similarly, the proposed design of the stadium addresses the safety concern represented by this criterion. ALUCP Policy 3.1.6 provides for consideration of special conditions unique to a project when a local agency assesses a project's compatibility with Cable Airport. As discussed in detail below, the design and other features of the proposed football/track/lacrosse stadium and soccer/rugby field bleachers are among the types of findings that Policy 3.1.6 is intended to take into account and therefore would support a City of Upland determination of compatibility under the provisions of this policy.

A. Background

Mead & Hunt began work with the City of Upland and its General Plan consultants in 2008 to prepare an airport land use compatibility plan (ALUCP) for Cable Airport. State law requires that an ALUCP be prepared

for each public-use and military airport in the state. In most counties, this work is accomplished by a countywide airport land use commission (ALUC). San Bernardino County, however, has opted to utilize a provision of the state law known as the “alternative process” which delegates the ALUCP preparation process to each local agency—city or county—that has an airport in its territory.

Preparation of an ALUCP must be guided by information in the *California Airport Land Use Planning Handbook (Handbook)* published by the Caltrans Division of Aeronautics. The current edition is dated 2011. Mead & Hunt was the primary author or a major contributor to all editions of the *Handbook*. With regard to airport land use compatibility criteria, the *Handbook* dictates that four types of compatibility concerns be addressed: noise, overflight, safety, and airspace protection. Each of these factors as reflected in the Cable ALUCP and as they relate to the proposed Sports Bowl project are examined in this Memorandum. The City of Upland adopted the Cable ALUCP in September 2015. A new General Plan was adopted at that time as well. The ALUCP replaced the previous plan, *Cable Airport Comprehensive Airport Land Use Plan*, dated 1981. The older plan was greatly outdated and did not meet the guidelines of the state *Handbook*.

Importantly, the ALUCP officially applies only to the parts of the airport influence area that are within the Cities of Upland and Montclair. Although relevant to the City of Claremont, that city is in Los Angeles County and therefore the ALUCP has no enforceability there. The ALUCP encourages the Los Angeles County Airport Land Use Commission to adopt compatibility policies for its part of the Cable Airport environs, but that Commission has yet to do so. Nevertheless, it is Mead & Hunt’s understanding that the Los Angeles County ALUC staff advises project applicants to voluntarily comply with the Cable ALUCP. Furthermore, Mead & Hunt understands that CMC desires for its project to comply with the ALUCP policies not only for the portions within the City of Upland but also the area within the City of Claremont. Our review in this Memorandum applies the Cable ALUCP criteria to the entire project site.

B. Proposed Project

Proposals for construction of sports fields on Roberts Campus East go back to before 2008 and have evolved over time. A February 2008 memorandum prepared by Walter E. Gillfillan and Associates evaluates the land use compatibility issues associated with a prior proposal. An exhibit included with that memo identified a proposed project consisting of baseball, softball, soccer, club sports, and multipurpose fields plus various other smaller facilities. None of the facilities in the 2008 proposal appear to have any large amount of spectator seating. A September 2008 letter from the Cable Airport management commented on the proposal and the Gillfillan analysis and found the project to be “acceptable,” although acknowledging that the site is in the airport’s direct departure route and the ability to limit aircraft overflights is “minimal at best.”

The 2008 proposal was later modified to add a football/track stadium with spectator seating to the mix of proposed sports fields. In 2016, the cities of Upland and Claremont approved a project that included the football/track stadium as well as other sports fields. Furthermore, a letter dated April 2016 from Robert Cable, President of Cable Airport, Inc., stated that “Cable Airport is in full support of the project and has no issues with the project’s proposed purpose and proposed use.”

The current proposal, details of which were provided to Mead & Hunt by CMC, includes the same types of uses approved in 2016 but has fewer playing fields and modifies the layout and positions of the various components. No changes to the types or intensity of uses are proposed. The proposed project calls for development of approximately 66.5 acres of the approximately 74-acre site. The current project area includes approximately 8.87 acres in the northeastern corner of the site that was not part of the conceptual site plan approved in 2016 but does not include the approximately 7.6 acres along the southern edge of the site which is not proposed for development as part of this project. Approximately 60% of the site falls within the City of Upland and the western 40% within the City of Claremont.

The corner of the site nearest to Cable Airport, the northeast corner, is approximately 2,500 feet southwest of the western end of the runway and the southern edge of the site is about 4,500 feet distant. The ground elevation at the northeast corner is approximately 60 feet below the nearby runway end and perimeter elevations slope downward from there. Because the site is a former quarry, elevations elsewhere within it are even lower.

As with the 2016 plan, the current proposal contains a mixture of different types of playing fields plus supporting facilities and automobile parking. Five playing areas are designed for specific sports with some areas usable by more than one sport: baseball; softball; soccer/rugby; football plus track and field and lacrosse; and golf practice. A sixth, large playing area is multi-purpose and can also function as several smaller fields for simultaneous use. The soccer/rugby field, football/track/lacrosse venue and the baseball and softball fields will each have spectator seating. As depicted in Attachment 1, the current plan places the football/ track/lacrosse stadium at the south end of the site. The baseball and softball fields and the golf practice facility are in the central area and the soccer/rugby and multi-purpose facilities are in the northern portion.

Support facilities, including locker rooms, classrooms, office space, and maintenance and equipment areas, are to be situated close to the stadium and baseball and softball fields. Most automobile parking will be located in a parking structure on the west side of the site. Smaller surface parking lots are planned for adjacent to the south end of the parking structure and in the northeast and southeast corners of the site. Solar panels are proposed for the roofs of most of the structures including on the shade structures over the spectator seating bleachers and above the parking structure and the surface parking along Claremont Boulevard. Pedestrian paths wrap around each venue and along the site's perimeter.

The only difference between the proposed primary plan and its variation shown in Attachment 2 is that the latter consolidates the football stadium field structures into one building on the north side of the stadium as opposed to having two smaller structures, one at each end of the stadium and a separate field house between the baseball and softball fields. The two individual structures are primarily locker rooms and restrooms. In either the primary plan or the alternate, the north field house will contain a multipurpose room, office space, and at least some locker room and restroom facilities.

As documented in the analysis that follows, a key factor regarding the proposed project is its usage intensity; that is, the number of people who could be on the site at one time or concentrated in one area. CMC provided the following details regarding the maximum numbers of people, including participants and spectators, likely to occupy each facility at one time.

Facility	Maximum Participants	Spectator Capacity	Notes
Multi-Purpose Fields (3)	150	—	- Participant number includes all three fields - No fixed spectator seating
Baseball Field	100	250	Bleacher seating with shaded covering
Softball Field	100	250	Bleacher seating with shaded covering
Soccer / Rugby Field	100	500	- Bleacher seating with shaded covering - All on north side of field
Football Field / Track / Lacrosse	250	1,800	- Bleacher seating with shaded covering - Located on both sides of field - Maximum 900 seats on either side
Golf Practice	25	—	No fixed spectator seating

2. AIRPORT LAND USE CONSISTENCY EVALUATION

A. ALUCP Criteria

The Cable ALUCP addresses the four airport land use compatibility factors required by the state *Handbook*: noise, overflight, safety, and airspace protection.

- *Noise and Overflight*: The noise factor deals with high noise levels that may be disruptive to activities on the ground. Overflight addresses noise from individual aircraft overflights in locations outside of the noise contours and not necessarily disruptive to activities, but which may nevertheless be annoying to some people.
- *Airspace Protection*: The objective of airspace protection criteria is to ensure that proposed land uses do not have features that can cause or contribute to causing an aircraft accident. These features can be physical, visual, or electronic in character. The primary component of airspace protection criteria is a limitation on the height of structures and other objects. The specific limits are set by the Federal Aviation Administration (FAA) in Part 77 of the Code of Federal Regulations (14 CFR 77), *Safe, Efficient Use and Preservation of Navigable Airspace*. Another important component of airspace protection is glare. Bright lights along routes flown by aircraft at low altitudes can create hazards by momentarily blinding pilots. Yet another concern is any land use that attracts birds near a runway or its approach and departure paths. FAA guidance with regard to bird strike hazards is noted in Cable ALUCP Policy 3.4.3 and Footnote 12.
- *Safety*: The safety factor addresses the potential consequences of an aircraft accident should one occur. Safety compatibility criteria limit the density (dwelling units per acre) of proposed residential uses and intensity (people per acre) of proposed nonresidential uses and also restrict creation of certain particularly risk-sensitive uses such as children's schools. The ALUCP safety criteria take into account two different types of aircraft accidents. For events in which the aircraft is descending but under control, the pilot will try to land on any available relatively flat and open area free of large objects and people. Because buildings and other development of most projects are not evenly spread over the site, the risks to people on the ground can be reduced by limiting the overall usage intensity, thus creating areas that are relatively unoccupied. Clustering of people in one part of a site presents

a different type of risk, however. This risk arises from accidents in which the aircraft is not under the pilot's control and will fall on whatever is in its path. The ALUCP addresses this potential consequence by restricting the number of people concentrated in a small area, specifically a single acre, and by limiting the percent lot coverage of the building footprint.

To facilitate compatibility reviews by the City of Upland, Table 3A of the ALUCP addresses most aspects of the four factors in a composite manner. The table provides a list of land use categories and indicates whether that use is "Normally Compatible," "Conditional," or "Incompatible" depending upon proximity to the airport runway. The criteria in Table 3A are supplemented and further detailed in Sections 3.2 through 3.5 containing policies for each of the four compatibility factors separately. The airport influence area within which the compatibility criteria apply is illustrated in Map 3A (included here as Attachment 3). This map divides the airport environs into nine compatibility zones having varying degrees of airport impacts. Although each zone is affected to different degrees by the four compatibility factors, the boundaries of the zones take into account the impacts of all factors in a composite manner.

B. Compatibility Evaluation

The project site falls within three compatibility zones, B1, B2, and B3 (see Attachment 4). As indicated in Table 3B of the ALUCP, these are zones within which noise impacts are moderate to high, safety concerns range from low/moderate in B3 to high in B1, and airspace protection is critical. Zones B1 and B2 are both exposed to a high concentration of aircraft overflights, particularly departures. Unlike at most airports where aircraft typically proceed on the runway heading until they gain altitude, aircraft departing to the west at Cable Airport turn left shortly beyond the departure end of the runway. This procedure keeps aircraft over the currently uninhabited area that is the Sports Bowl project site and enables them to avoid overflight of the Claremont Colleges campus but means many overfly the project site at altitudes below that of the airport traffic pattern (800 feet above the airport elevation).

The northern edge of the project site is proposed to be devoted to 80 parking spaces for nearby campus facilities. Nearly all of the parking area along the northern edge is within Compatibility Zone B1. No functions other than the northern parking lot and a segment of walking path are in Zone B1. In Zone B2, the only sports facilities are the eastern half of the multi-purpose field, about two-thirds of the soccer/rugby field, and small pieces of the baseball outfield and the golf practice area. All of the occupied structures and most of the sports facilities are placed in the Zone B3 part of the site.

3. NOISE AND OVERFLIGHT FACTORS

Noise and overflight are not a concern for the Sports Bowl project. Although aircraft departing Cable Airport already overfly the project site on a routine basis, will continue to do so, and will certainly be audible, the activities that would take place at the sports complex would not be materially impacted by the noise.

4. AIRSPACE PROTECTION

The height of objects to be placed on the site is also not a concern for the Sports Bowl project. Due to the site's elevation at least 60 feet below that of the runway, any object would need to be nearly 150 feet tall to become an airspace penetration even at the most critical northeast corner. The ground elevation at the

western end of the runway is 1,393 feet above mean sea level (MSL). At the northeast corner of the project site, the FAR Part 77 airspace protection surface is about 1,480 feet MSL and the ground elevation is about 1,330 feet MSL—a difference of about 150 feet.

Even if light poles and trees on the site would not penetrate the airport airspace, federal aviation regulations could require that notice be given to the FAA so that they can conduct an Aeronautical Study to determine whether the objects would be a hazard to flight. Notice is required for most proposed objects (permanent or temporary such as construction cranes) exceeding a 100:1 slope from the runway end. However, at 2,500 feet from the runway end, an object at the northeast corner would need to be taller than 85 feet ($2,500/100 + 60$) to necessitate FAA notice. Objects elsewhere on the site would need to be even taller. None of the light towers, trees, or any other tall objects contemplated on the site thus appear to represent a potential hazard to flight. That said, if any objects on the site would reach an elevation higher than light poles or other objects along the surrounding streets, notice to the FAA would be warranted to determine if obstruction lighting would be beneficial.

With respect to glare, the criteria for evaluating it are less precise than those for the height of objects. In general, any lighting that has an upward component would be a concern. Shielding of the sports field lights may be required. The project does not propose upward lighting, but the applicant should nonetheless provide an analysis by a lighting expert, preferably one who is familiar with aviation, to document that glare will be minimized. The solar panels proposed for building roofs, stadium seating canopies, and above the parking structure and surface parking on Claremont Boulevard do not present a concern provided that, as proposed, they will be comprised of flat panels similar to ones typically found on residences and businesses.

Finally, with respect to the bird attraction aspect of airspace protection, the proposed Sports Bowl project does not appear to contain any components that might tend to attract more birds than now visit the undeveloped site (e.g., new retention basins or other water features). Nevertheless, the proximity of the project site to the airport warrants that this potential concern be considered in the selection of plants and design of drainage features. Because the proposed project as reviewed in this Memorandum consists of conceptual site plans and does not provide all design details, Mead & Hunt has not conducted a review of the plant selection or drainage design. However, it is understood that the drainage system will not allow for any ponding water for more than 48 hours and will avoid a need for an aboveground retention pond by using a system of drywells and belowground retention for stormwater. On this basis, bird attraction due to water retention should not be an issue. Nevertheless, prior to issuance of vertical building permits, the applicant should be required to provide additional design detail, including landscape plans, which can be reviewed by the approving cities for consistency with this criterion.

5. SAFETY FACTOR

Safety is the primary issue to be considered for the proposed Sports Bowl. The large number of people expected to be on the site and particularly the large number that would be in the several spectator stands requires careful evaluation. Among the land use categories listed in Table 3A of the ALUCP, the two most relevant to the proposed sports complex are:

- Outdoor Major Assembly Facilities (capacity $\geq 1,000$ people): spectator-oriented outdoor stadiums, amphitheaters, fairgrounds, zoos.
- Group Recreation (limited spectator stands): athletic fields, water recreation facilities, picnic areas.

Table 3A sets site-wide average intensity limits of 40, 80, and 120 people per acre in Compatibility Zones B1, B2, and B3, respectively, and 80, 160, and 300, people per any 1-acre area. Outdoor Major Assembly Facilities are therefore considered incompatible within all three of these zones as they are presumed to be unable to meet these criteria. Group recreation uses are deemed incompatible only in the zones adjacent to the runway: A, B1 and C1. In Compatibility Zones B2 and B3, as well as C2, this type of use is conditional, with the condition being that the intensity criteria must be met, and farther away from the runway it is compatible. The major issue presented by Outdoor Major Assembly Facilities as compared to Group Recreation uses is the high concentration of people in a confined area. Moreover, an outdoor stadium provides no protection that the structure of an indoor arena would offer from a crash by a small airplane like those that operate at Cable Airport. *Important to emphasize here is that both the overall site and each of its individual components are subject to the intensity criteria regardless of which land use categories apply.*

CMC proposes to limit the football/track/lacrosse stadium facility's spectator capacity to be no more than 1,800 people split into two bleachers, one on each side of the field, with neither having more than 900 seats as was conditioned in the 2016 approval.¹ The combined fixed seating capacities of the soccer/rugby, baseball and softball venues are also within the range approved by the 2016 approval. Together with the site plan shown in Attachments 1 and 2, conceptual designs of the seating areas including capacity data (Attachment 5), egress locations (Attachment 6), and cross-sections (Attachment 7), have served as the basis for this review.

To determine whether the 2023 Sports Bowl project meets the ALUCP safety criteria, average-acre and single-acre intensities within each of the three affected compatibility zones must be examined individually. Compatibility Zone B1 contains approximately 3.0 acres of the 66.5-acre project site; Zone B2 is 16.0 acres; and Zone B3 is 47.5 acres. The intensity numbers can be calculated as described below. For the purposes of these calculations, no distinction need be made for the portions of each zone that are in San Bernardino County (City of Upland) versus Los Angeles County (City of Claremont).

Compatibility Zone B1

- *Average-Acre Intensity:* At the intensity limit of 40 people per average acre, the 3.0 acres in this most highly restricted zone is allowed to have up to 120 people. The major use of this area is 80 automobile parking spaces. If there were to be an average of two people per vehicle, 60 vehicles could be occupied or have people walking to or from them in the lot and remain consistent with the criterion. Assuming that the lot will be used in a typical manner for campus facilities with vehicles coming and going at various times and people not loitering in the parking lot (e.g., tailgate parties), it seems doubtful that more than 120 people would be present at the same time, even allowing for

¹ The condition from the 2016 approval limited seating to no more than 999 seats on each side, but the present Sports Bowl proposal reduces this limit to a maximum of 900 seats on each side.

some people to be walking along the nearby paths. The planned uses for Compatibility Zone B1 therefore are deemed consistent with the average-acre criterion.

- *Single-Acre Intensity:* Assuming that the number of people in vehicles or walking in the parking lot are distributed relatively equally, the number of people concentrated in a 1.0-acre area would be well below the limit of 80 people.

Compatibility Zone B2

- *Average-Acre Intensity:* The average-acre intensity limit of 80 people per acre for Zone B2 will be met if no more than 1,280 people are present in the 16.0-acre area. The only sports facilities in Zone B2 are about half of the multi-purpose field and two-thirds of the soccer/rugby field. Although the latter facility is proposed to have up to 500 spectator seats, the multi-purpose facility will have no fixed seating.
- *Single-Acre Intensity:* The most highly concentrated occupancies within Zone B2 are the soccer/rugby field bleachers. A 1-acre area encompasses the soccer/rugby bleachers and a portion of the playing field, thus giving a maximum capacity of nearly 600 people. The 500-seat soccer/rugby bleachers by themselves would exceed the 160-persons-per-acre intensity limit for Zone B2 even if half of the seats are on each side of the field. Most of the soccer/rugby field is in this zone and therefore its 500-seat bleachers would exceed the single-acre intensity limit even if half were to be on each side of the field. However, under typical low-capacity usage, the proposed plan likely would come close to meeting the intensity limit. Also, as shown in Attachment 6 and discussed below with regard to the football/track/lacrosse stadium in Zone B3, an important safety benefit is that the bleachers are designed to follow the slope of the ground, thus enabling egress from both the front and back edges.

Compatibility Zone B3

- *Average-Acre Intensity:* The preponderance of the Sports Bowl project site, some 47.5 acres, falls within Zone B3. The most intensive uses of the proposed Sports Bowl are also within this zone. For All of the major sports facilities except the soccer/rugby field are in Zone B3, thus creating a maximum occupancy of 2,750. Even using the 2,750-people number and adding some for people who might remain in parking areas which total 710 spaces, the average-acre intensity would be only about 60 people per acre, well below the limit of 120 people per acre.
- *Single-Acre Intensity:* The most highly concentrated usage within Zone B3 is in the football/track/lacrosse stadium spectator stands and field house facilities. Also, the baseball and softball field bleachers, each with 250 seats, are situated nearby although neither are quite within the same 1-acre area as each other or the stadium stands. In any case, simultaneous use of these three facilities would be rare and certainly not all at their capacities. Considered separately, the baseball and softball bleachers together with these venues' participants each will typically meet the ALUCP's 300-people-per-single-acre criterion. Thus, the single-acre intensity issue with Compatibility Zone B3 is realistically just with the football/track/lacrosse stadium.

As noted earlier the difference between the primary plan (Attachment 1) and the alternate configuration (Attachment 2) involves the stadium field house arrangement. The primary plan has

three separate structures while the alternate configuration has one combined building. The stadium seating is the same with both options.

The alternate field house configuration would result in a higher potential number of people in a single acre than is the case for the primary configuration. However, heavy usage of the larger field house in the alternate configuration and nearby spectator stands for multiple sports simultaneously is unlikely and, for the purpose of this analysis, is assumed not to occur. Thus, considering just the football/track/lacrosse stadium, its anticipated maximum occupancy as provided by CMC is 2,050 people including participants and spectators. No more than half of the stadium fits within a single acre. Nevertheless, half of the total occupancy means that over 1,000 people could be in a 1-acre area and this number could theoretically be somewhat higher if there were to be moderate use of the three proximate spectator stands at the same time. As noted above, the ALUCP's single-acre limit for Zone B3 is 300 people, therefore the facility is inconsistent with that criterion. Also, as noted earlier, Table 3A of the ALUCP deems Outdoor Major Assembly Facilities (capacity >1,000 people) as incompatible within Zone B3.

The ALUCP, however, acknowledges that the specified intensity limits may not be the only way to evaluate compatibility of a proposed use and that other factors can be considered where appropriate. The intensity limits are intended to address the issue of whether high concentrations of people in a small area are able to quickly get out of harm's way if an aircraft were to crash into that area. This is particularly an issue with respect to most sports bleachers in that they typically are built on flat ground with egress only from the front edge as the upper rows would be too far above ground for people to exit unless stairs are provided. However, the proposed design of the football/track stadium at the CMC Sports Bowl is different. Because it is literally to be built in a bowl, the seating would be on the ground as the terrain rises, thus enabling egress not only from the front but also the back and ends of the seating area as depicted in Attachment 6. Another drawing provided to Mead & Hunt by CMC shows that each set of seats would have no more than 20 rows (Attachment 7). The length of these stands is not indicated, but for 900 seats could be about 200 feet. If several aisles are provided in the middle of the rows plus at the ends, emergency egress would be significantly enhanced over that of a typical set of bleachers.

Another relevant factor is that the project proposes a layout that orients the football stadium east/west. This orientation is perpendicular to the north/south direction of aircraft overflights of this area with virtually all being departures. Thus, if an aircraft were to strike one of the bleachers it is more likely to do so in the narrow direction rather than along its length. This factor also likely reduces the number of people who would be in harm's way. We note that the east/west orientation of the football stadium is a change, and improvement, from the project approved in 2016, which oriented the football stadium north/south.

A third consideration is that, unlike most facilities on the main CMC campus, the football/track/lacrosse stadium will not be in use on a daily basis. Moreover, even on days it is used, it likely will be at or near capacity on only a few days per year. The ALUCP compatibility criteria generally use seating capacity as the basis for intensity calculations for facilities with fixed seating. For most other uses, retail stores for example, the criteria focus on "the total number of occupants during normal busiest periods" (see Policy 3.3.2(e)). Thus, if this methodology is applied and,

say, only two-thirds of the stadium is occupied during most games, the single-acre intensity would drop to about 700, but would still exceed the 300-persons-per-acre limit.

One more point to consider comes from the 2011 Caltrans *Airport Land Use Planning Handbook*, the document that provides statewide guidance in preparation of ALUCPs. The Handbook suggests that for Safety Zone 4, a zone with similar runway proximity as Cable Airport's Compatibility Zone B3, a single-acre intensity limit of three times the average-acre limit be used. Applying this multiplier to the Cable ALUCP's average-acre limit of 120 people per acre, the single-acre limit would increase from 300 to 360. While this still does not bring the proposed project within the specified intensity criteria, it would bring it a little closer.

6. CONCLUSIONS AND RECOMMENDATIONS

Based upon the preceding analysis, Mead & Hunt concludes that the Claremont McKenna College Sport Bowl project meets the compatibility criteria established in the *Cable Airport Land Use Compatibility Plan* with the exception of the single-acre intensity limits as applied to the occupant capacities of the football/track/lacrosse stadium and soccer/rugby field spectator stands. Nevertheless, the project could be found consistent with the ALUCP policies if the City of Upland were to determine that the project meets the criteria for a consistency finding based on ALUCP Policy 3.1.6. In essence, Policy 3.1.6 enables a normally "Incompatible" use to "be considered compatible because of terrain, specific location, or other extraordinary factors or circumstances related to the site."

To utilize this provision, the decision-making body must make specific findings tied to the state statutes governing airport land use compatibility planning (Public Utilities Code Section 21670). These findings must be aeronautically based, demonstrating that the proposed land use "will neither create a safety hazard to people on the ground or aircraft in flight nor result in excessive noise exposure for the proposed use." Statements presenting other factors such as the importance of a project to the community are not relevant to the objectives of airport land use compatibility and therefore are not suitable as findings. In accordance with ALUCP Policy 3.1.6(e), approval of a special conditions exception requires a two-thirds vote of the local agency's decision-making body for the project voting on the matter.

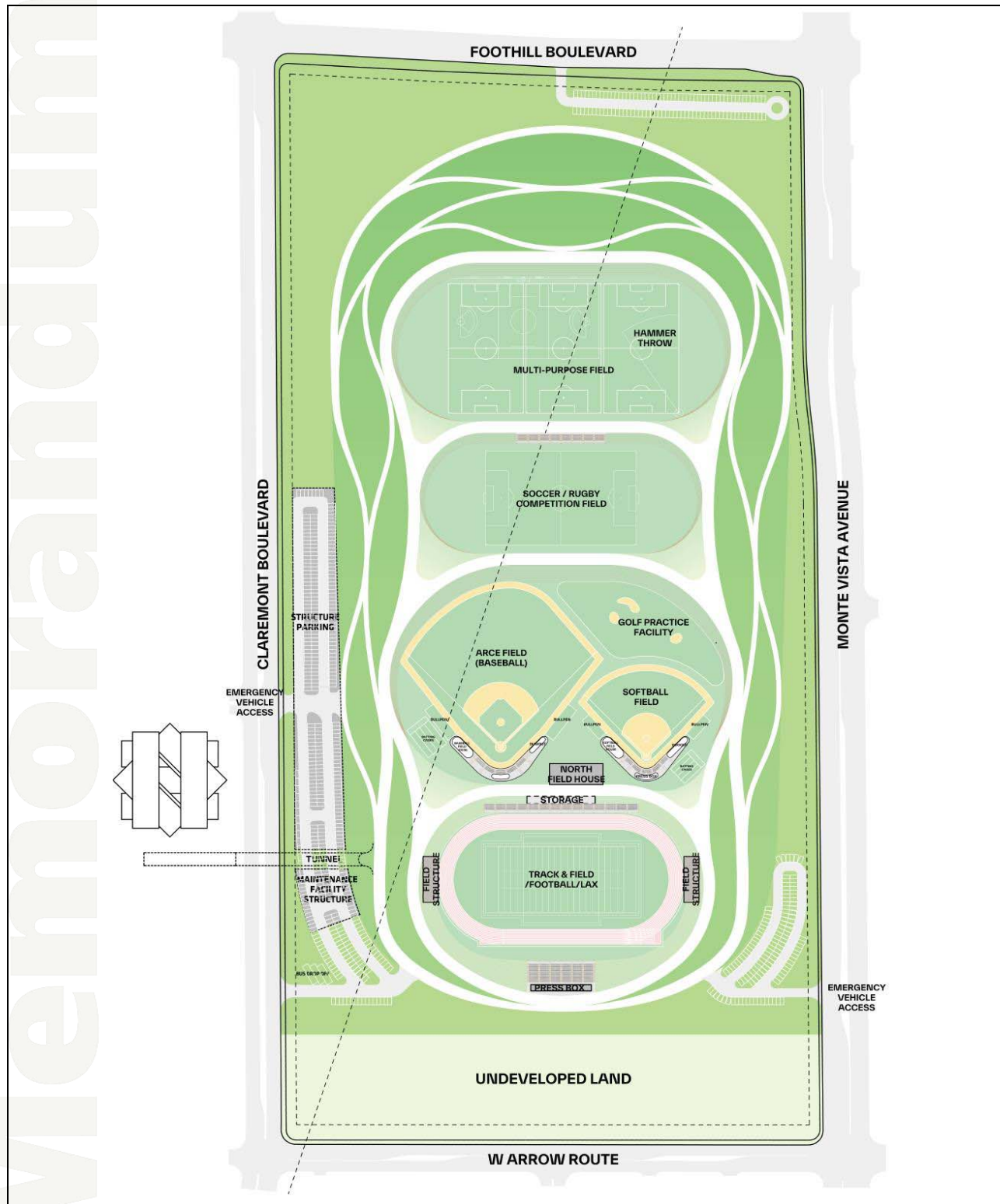
The factors noted in the above analysis are aeronautically based and would support the required findings for a compatibility determination based on Policy 3.1.6. Policy 3.1.6 was utilized by the City of Upland in 2016 as the basis for its consistency finding in connection with its approval of the previous version of the Sports Bowl project. As discussed above, the changes to the layout in the proposed project to an east/west orientation for the football field provide an even stronger basis for determining compatibility based on Policy 3.1.6 as compared to the project approved in 2016.

The ALUCP and its Policy 3.1.6 only apply to the City of Upland. The City of Claremont has not formally adopted the ALUCP as its policy, so it can presumably evaluate the project through its normal approval process.

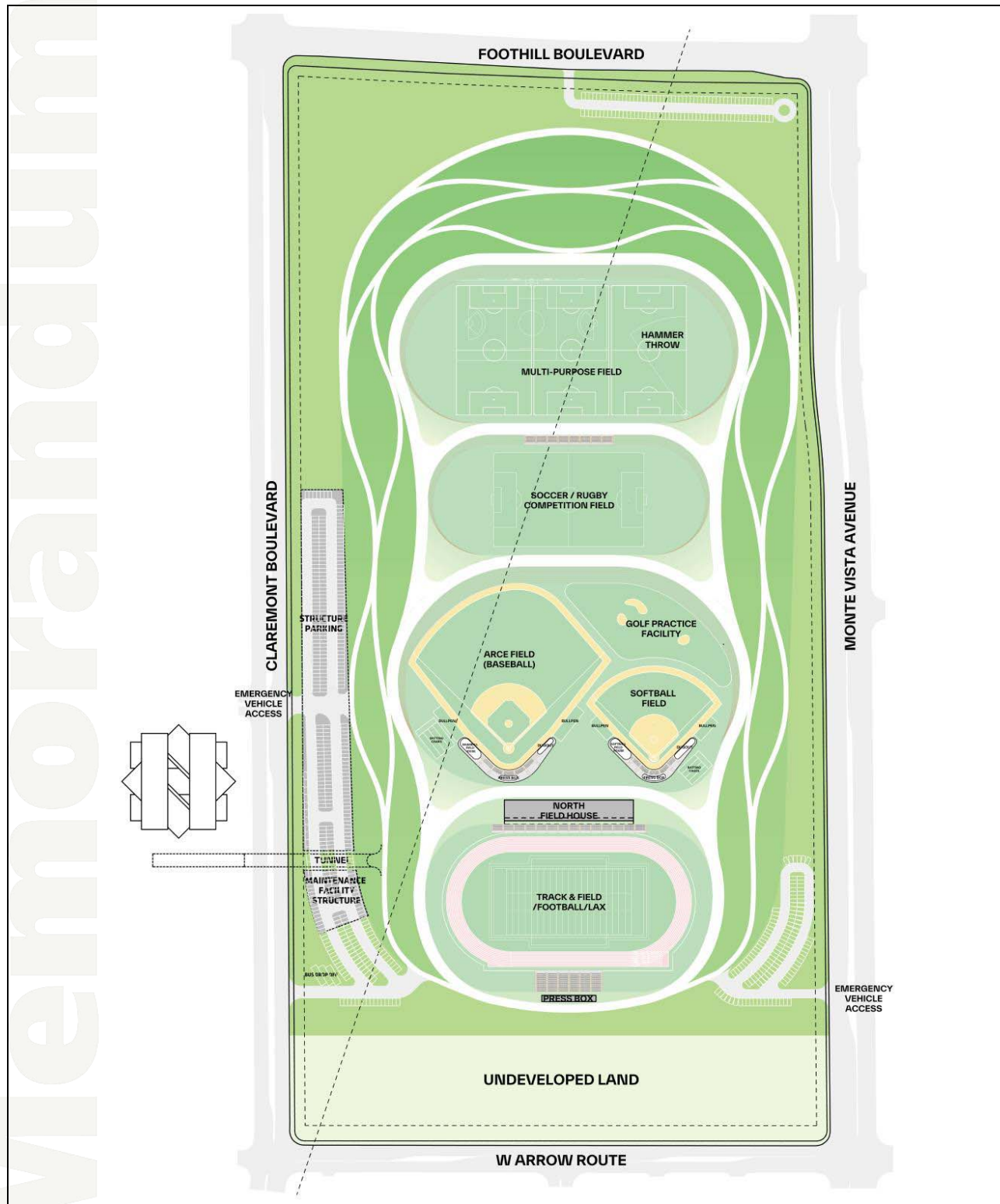
Also, while the project is consistent with the other ALUCP criteria, the following conditions should be required to be met:

- Documentation that the football/track/lacrosse stadium seating is designed in the manner discussed in this review including maximum capacity of 900 seats per side and sufficient aisles to enable rapid egress from both the front and back of the bleachers onto the ground.
- Documentation of Notice of Proposed Construction submitted to the FAA if any structures, objects such as antennas, light standards, construction cranes, or trees would protrude through any of the 14 CFR 77 100:1 notification surfaces. The outcome of the FAA Aeronautical Study needs to be provided as well. Also, agreement to comply with any conditions that the FAA may attach to its findings needs to be stated in the application package.
- Documentation that field lighting will not be directed upward so as to create glare in the eyes of aircraft pilots.
- Once a final landscape plan is prepared, documentation that none of the facilities or proposed landscaping and drainage features will attract an increased number of birds and create a bird strike hazard.
- Agreement, as required by ALUCP Policy 3.6.1, that the project proponent dedicate an avigation easement to Cable Airport to ensure the prevention of airspace obstructions and other hazards to flight and acknowledge the impacts generated by aircraft overflights. Avigation easements were previously dedicated and recorded following approval of the 2016 project and are expected to remain sufficient for purposes of compliance with Policy 3.6.1.
- Lastly, during those limited times when the football stadium is anticipated to attract larger crowds, CMC will comply with EIR Mitigation Measure 4.6.B-2, which requires CMC to issue advance notice to Cable Airport management to issue a "Notice to Airmen" to avoid overflight of the event.

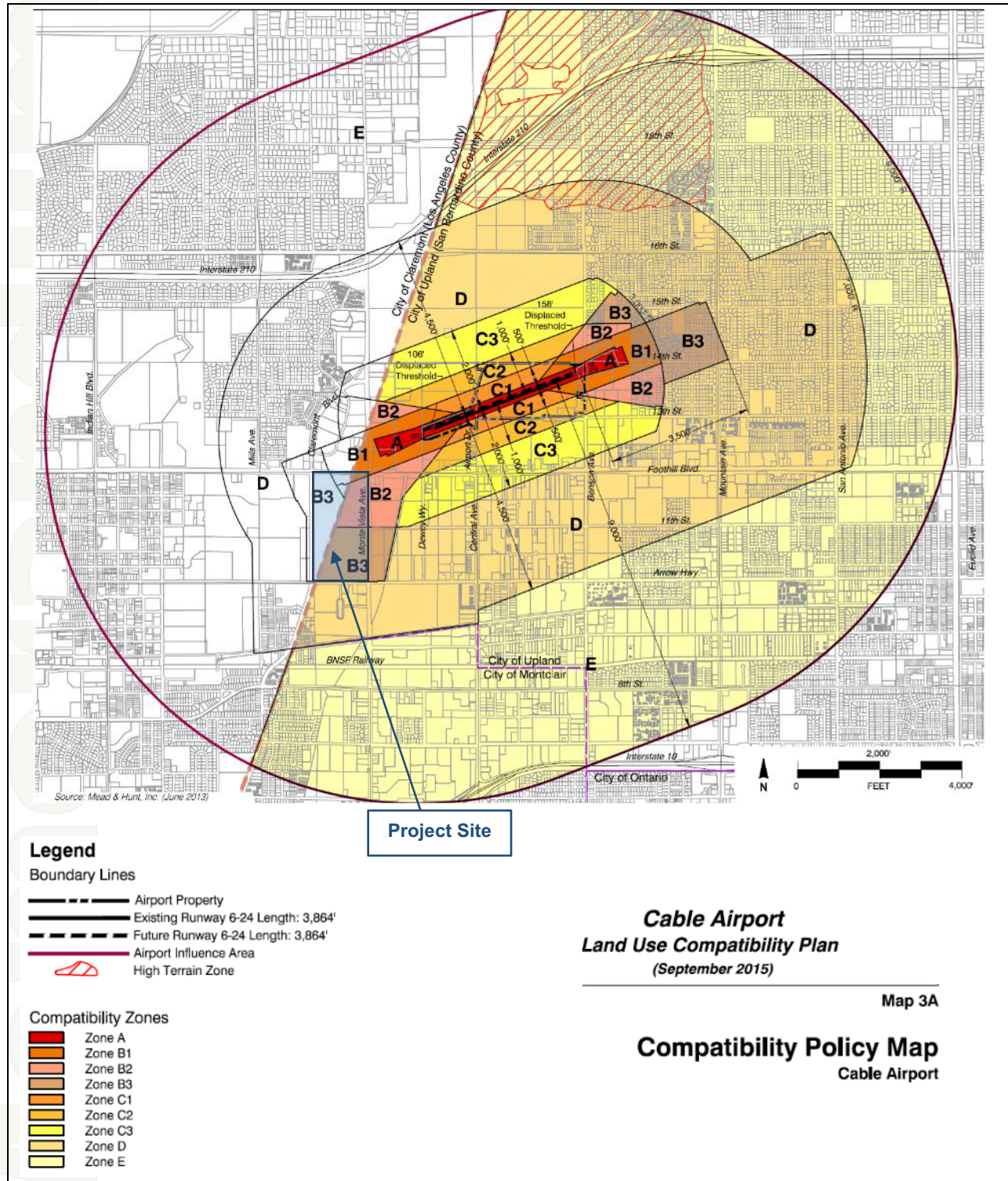
Attachment 1 – PRIMARY PLAN



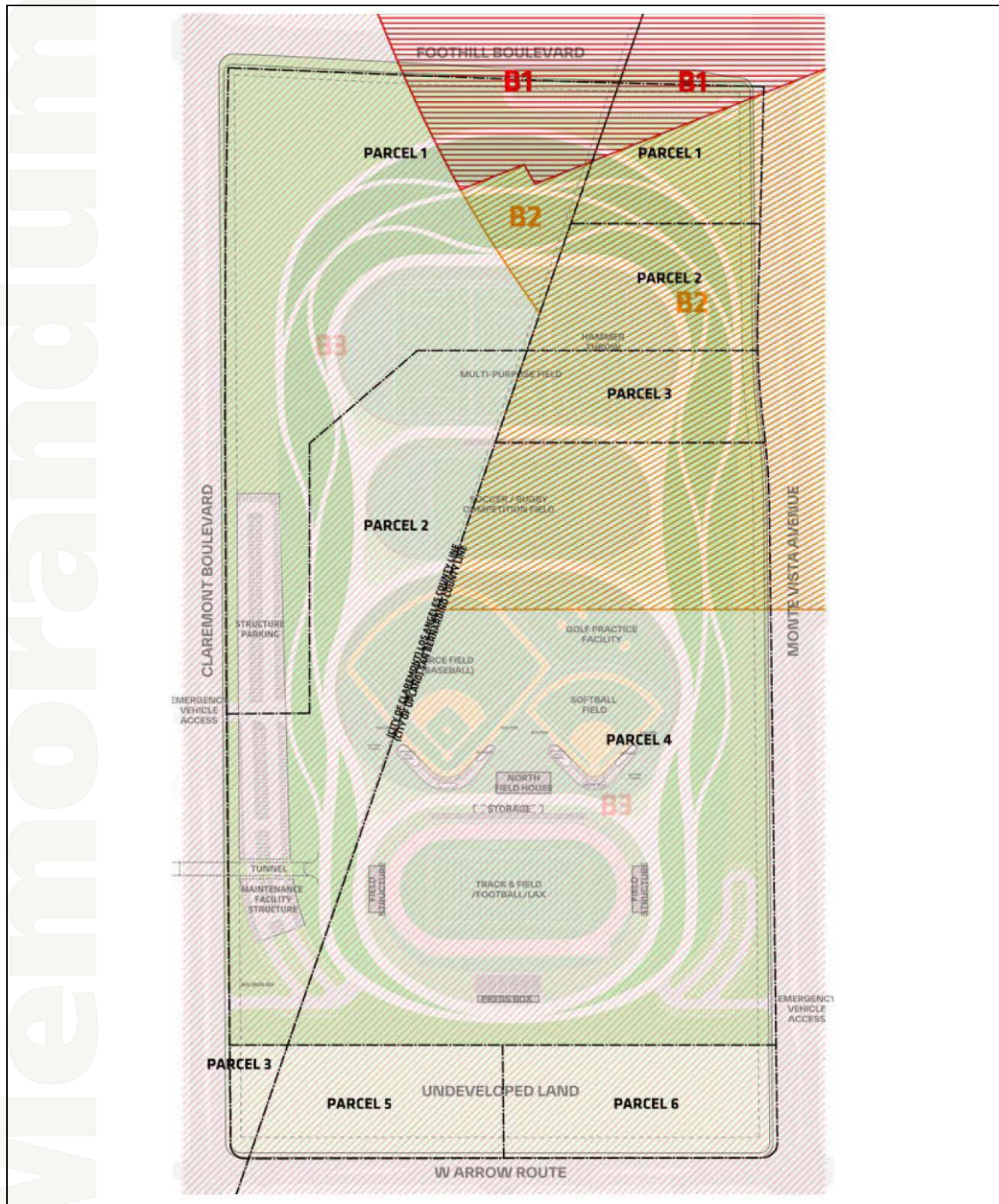
Attachment 2 – ALTERNATE PLAN



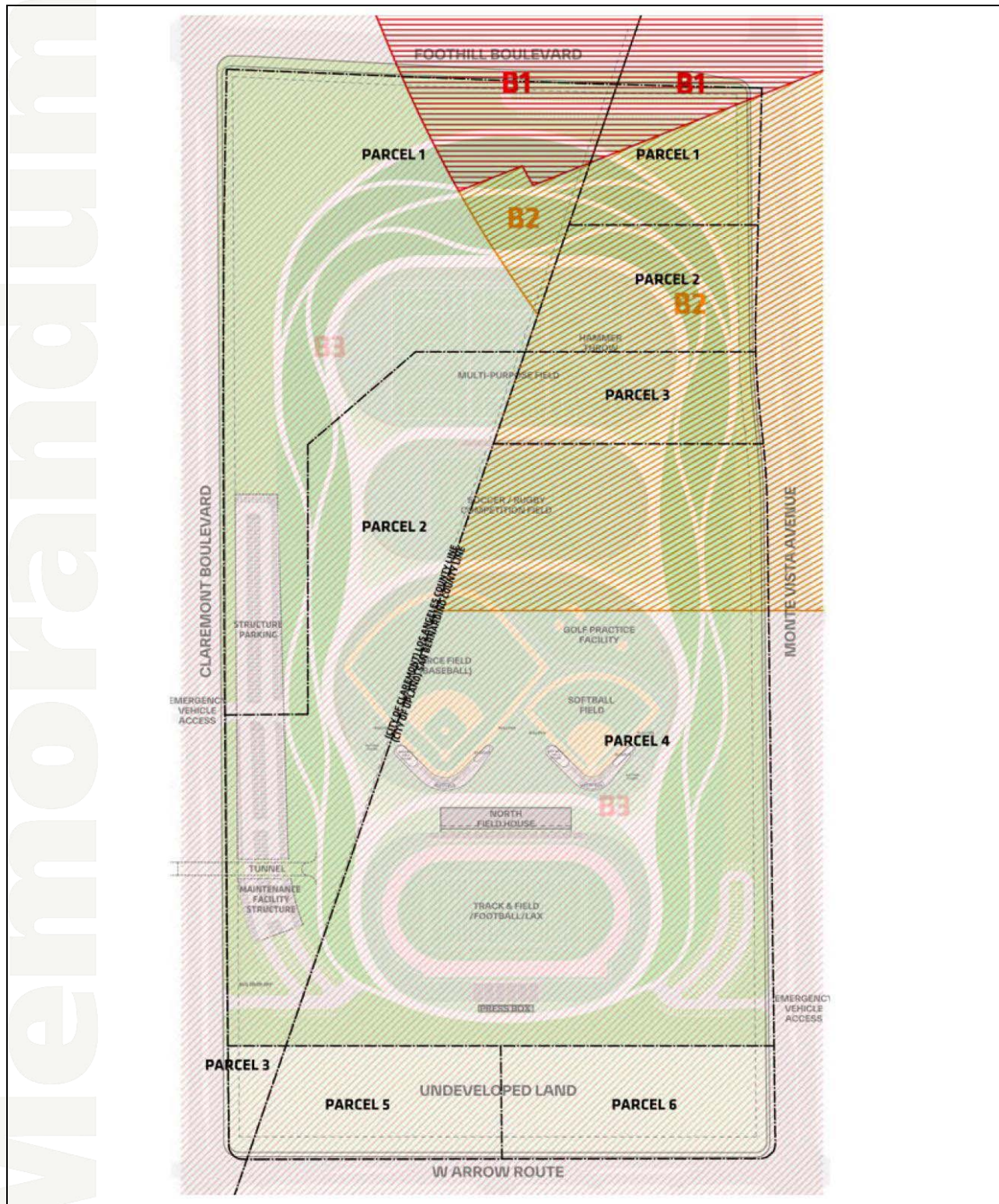
Attachment 3 – CABLE ALUCP COMPATIBILITY ZONES



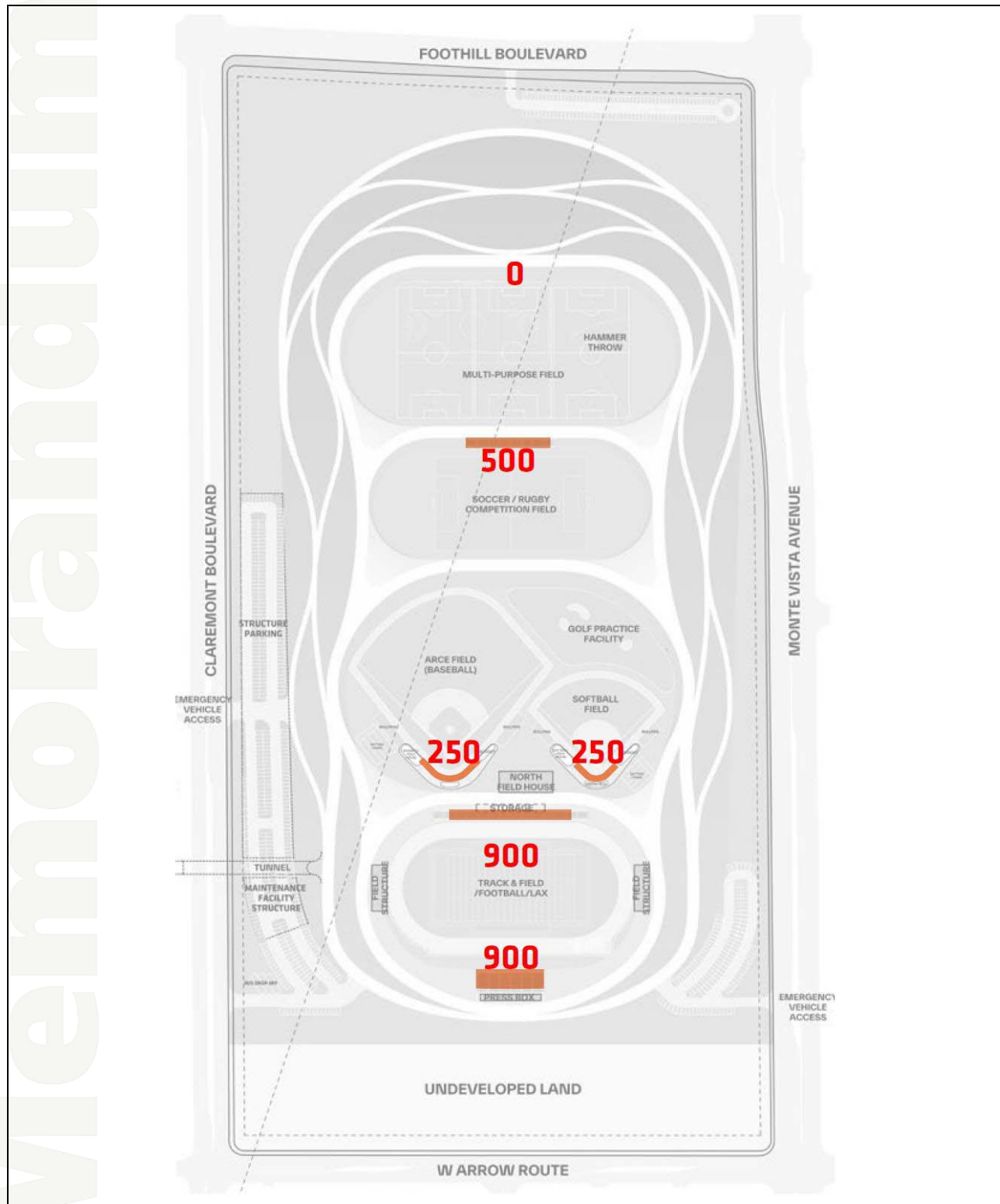
Attachment 4A – ALUCP ZONES OVERLAY OF PRIMARY PLAN



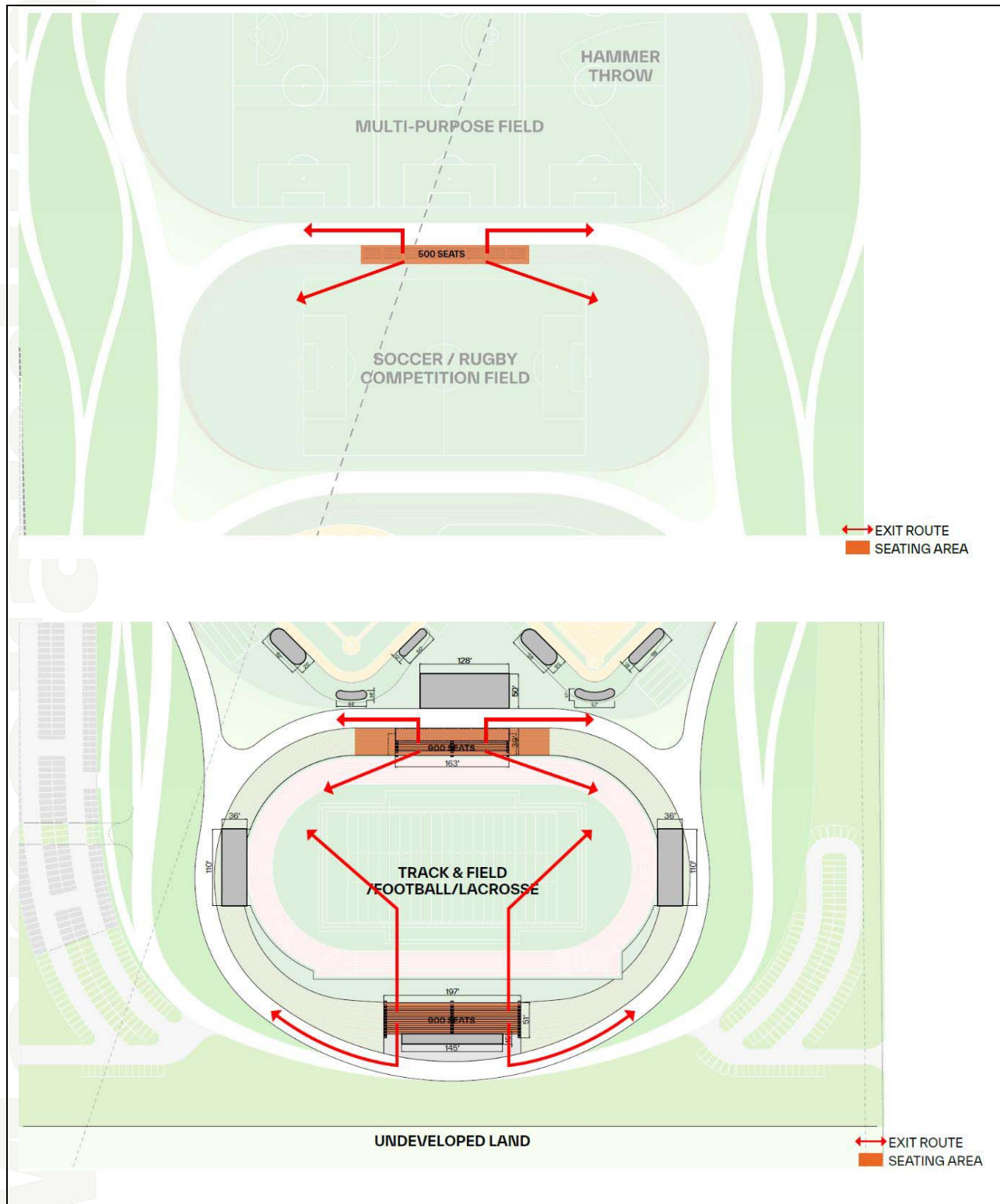
Attachment 4B – ALUCP ZONES OVERLAY OF ALTERNATE CONFIGURATION



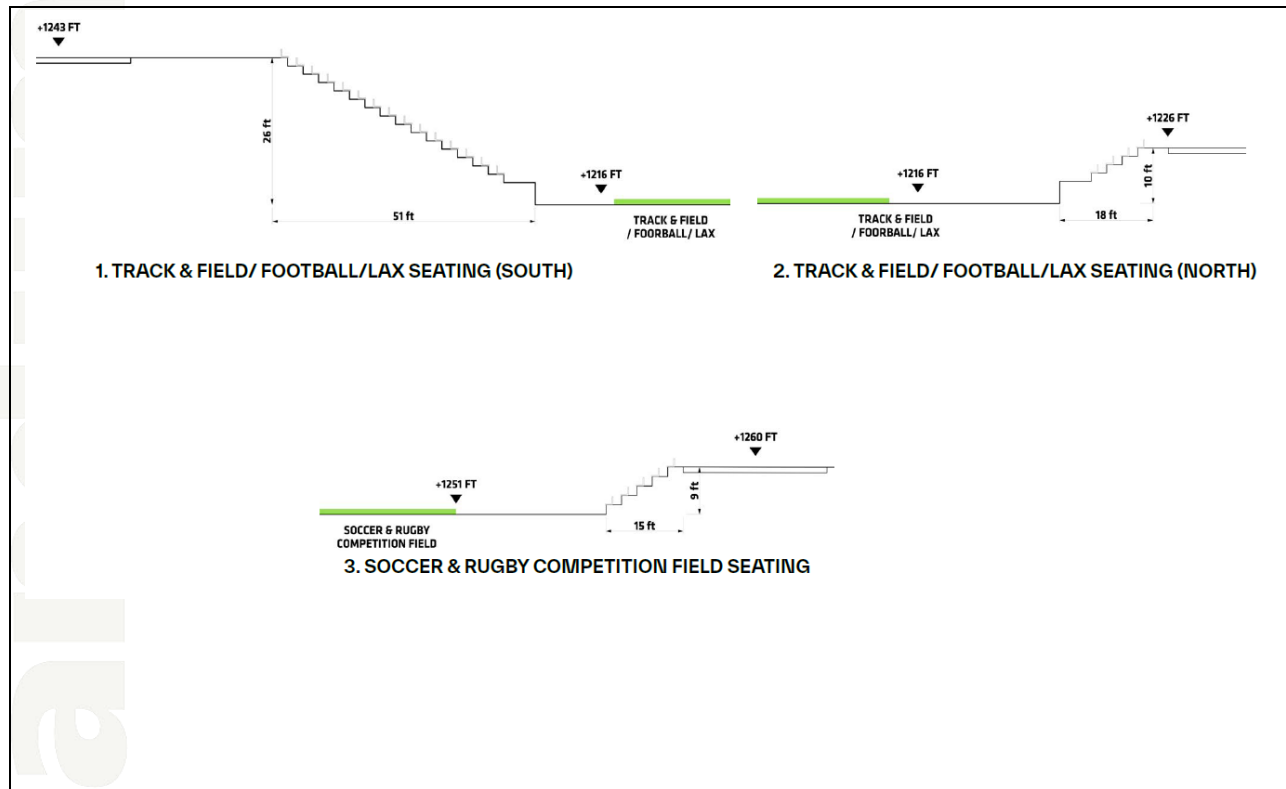
Attachment 5 – SPECTATOR SEATING CAPACITIES



Attachment 6 – EXIT ROUTES FROM SPECTATOR SEATING



Attachment 7 – CROSS-SECTIONS THROUGH SPECTATOR SEATING



Appendix H

Preliminary Hydrology and Hydraulic Report

PRELIMINARY HYDROLOGY AND HYDRAULIC REPORT SCENARIO 2

FOR

Roberts Campus East
Northeast Corner of
Claremont Boulevard and West Arrow Route
Upland and Claremont, California

Owner:

Claremont McKenna College
500 E Ninth Street
Claremont, CA 91711

Prepared by:

Atlas Civil Design
872 Higuera Street
San Luis Obispo, California
(213) 810-8470

Tyler H. Johnson, PE

This Drainage Report was prepared under my supervision:

By: _____

Date: _____

Atlas Job No. 21-055



TABLE OF CONTENTS

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Attachment A - Figures

1	Soils Group Map
2	85th Percentile Storm Rainfall Map
3	50-year Storm Rainfall Map
4	Regional Storm Drainage Outfall Map
5	Pre and Post Development Hydrology Maps

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5	HydroCalc Peak Flow Reports
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Attachment C – Hydraulic Report

6	Hydraulic Report
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Introduction

This Hydrology Study is for the proposed Roberts Campus Sports Bowl Project in the city of Claremont and Upland, CA to satisfy the Los Angeles County Department of Public Works Hydrology requirements. The development project proposes new athletic fields, ancillary facilities and an underground infiltration system within the limits of an existing quarry bounded by Foothill Boulevard to the north, Monte Vista Boulevard to the east, Arrow Route to the south, and Claremont Boulevard to the west.

The Quarry site is divided between the County of Los Angeles and the County of San Bernardino. Within the Los Angeles County portion of the project site, the City of Claremont maintains jurisdiction, while the portion of land located within the County of San Bernardino is in the City of Upland's jurisdiction.

The purpose of this report is to analyze the 24-hour, 50 and 100-year storm events of the pre- and post-developed conditions.

Existing Site Drainage Condition

The total area of the existing undeveloped site is 74.42 acres. The site is a former sand and gravel quarry that has been partially backfilled and graded to control surface runoff.

There are two on-site drainage basins and two off-site basins that drain through culverts onto the property. The two off-site basins flow into DA-3 where the runoff drains south through multiple sub-basins as it infiltrates. The lowest sub-basin is near the south of the site with an elevation of 1184. There is no outlet from basin DA-3 as the runoff infiltrates on-site. Basin DA-4 runs along the west property line in a shallow swale and along the southern property line. From the southwest corner of the site, surface stormwater currently drains onto Claremont Boulevard. Stormwater is then conveyed with surface stormwater in Claremont Boulevard south in the gutter until it is captured by a catch basin at the northeast intersection of Claremont Boulevard and Huntington Drive. Drainage then flows west in a 27" RCP storm drain (LACFCD BI 1122) along East 1st Street until it joins a 66" RCP and then turns south. The storm drain then generally flows southeast until it discharges into San Antonio Creek Channel south of Arrow Highway in San Bernardino County. San Antonio Creek Channel flows south until it merges with Chino Creek and the flow southeast where it joins the Santa Ana River. The Santa Ana River flows southwest until it reaches the Pacific Ocean.

Proposed Site Drainage

There are twenty on-site drainage basins (DA-3 & DA-22) and two off-site basins (DA-1 & DA-2) that drain through box culverts onto the property. The two off-site basins are currently conveyed under Foothill Boulevard within existing culverts and will flow into a 232' x 20' riprap lined swale. There will be two 48-inch inlets that will then connect to a 36-inch storm drainpipe. The 36-inch storm drainpipe will convey stormwater to the proposed underground storage facility on-site. A riprap lined emergency overflow spillway will be provided downstream of the swale at the top of the steep slope for an overflow condition in the upper parking lot. Under Phase 1, the emergency overflow would be connected to the sediment pond in phase 1.

Stormwater within the proposed onsite basins will be directed to an adjoining sediment basin in the north half of the project in the undeveloped condition. Overflow runoff will be conveyed to a storm drain and captured within a series of dry wells, eventually being conveyed to the underground storage facility.

Runoff within the remaining onsite basins will be captured in a series of dry wells as the runoff flows south to the underground storage facility. Incoming water from the surface grated inlets or connecting pipes is received

in the Primary Settling Chamber of the dry well, where silt and other heavy particles settle to the bottom. A PureFlo Debris Shield ensures containment by trapping floating debris and pavement oil. The pre-treated flow is then regulated to a design rate of up to 0.25cfs and directed to a Secondary Settling Chamber. The settling and Containment process is repeated, thereby effectively achieving controlled, Uniform treatment. The system is drained as water rises under the PureFlo Debris Shield and spills into the top of the overflow pipe. The drainage assembly returns the cleaned water into the surrounding soil through the FloFast® Drainage Screen thus reducing the overall volume of project runoff. Excess runoff that cannot be infiltrated will then drain through an overflow outlet to storm pipes that will be directed to the underground storage facility.

Bio-swales will be utilized to capture runoff from the steep slopes of the project for pre-treatment. Stormwater will then be captured in catch basins and directed to the underground storage facility. These areas will not retain water beyond 48-hours after a storm event.

Under Phase 1, a temporary sediment pond will capture surface stormwater from the northern half of the site via temporary interceptor swales. There will be two 48" drop inlets with beehive type grates that will serve as outlets from the pond where stormwater will be conveyed to the underground storage facility via 18" storm pipes. The proposed capacity of the sediment pond is 141,686 cf, with 117,571 cf of stormwater being contributed from the north basin.

The total volume of the sediment pond is equal to the amount of import soil needed to construct the south half of the project.

Surface water will not be retained beyond 48-hours after a storm event due to the natural infiltration of the pond soils. The field percolation test performed in the area of the pond was 5.37 in/hr. Under Phase 1, no stormwater will be conveyed off of the site but will be directed to the underground storage facility.

The 100-year storm event will be captured and infiltrated onsite through an underground storage facility and then into adjacent dry wells. The underground storage facility has dimensions of 434' long by 247' wide and 7.75' in height. In the proposed condition the site will generate 480,632 cubic feet.

The volume capacity of the underground storage facility is 481,992.8 cubic feet per manufacturer. The capacity is adequate to accommodate a 100-year storm event without causing overflow onto the track and field/football field.

Infiltration rates based on Geotechnical Engineer's infiltration testing)

Unit Of Measurement, Inches Per Hour.

Table 1 – Field Percolation Test Results (LA County)

Field Percolation Test #	Depth (Feet)	Ground Surface Elevation (Feet, NAVD88)	Soil Type	Measured Field Percolation Rate
FP-1	12	1,235	SM	1.08

Table 2 – Field Percolation Test Results (SB County)

Field Percolation Test #	Depth (Feet)	Ground Surface Elevation (Feet, NAVD88)	Soil Type	Measured Field Percolation Rate

Unit Of Measurement, Inches Per Hour.

FP-2	10	1,215	SP-SM	3.79
FP-3	10	1,229	SP-SM	3.18
FP-4	19	1,195	SP-SM	1.14
FP-5	70	1,247	SP-SM	5.37
FP-6	40	1,185	SP-SM	9.69

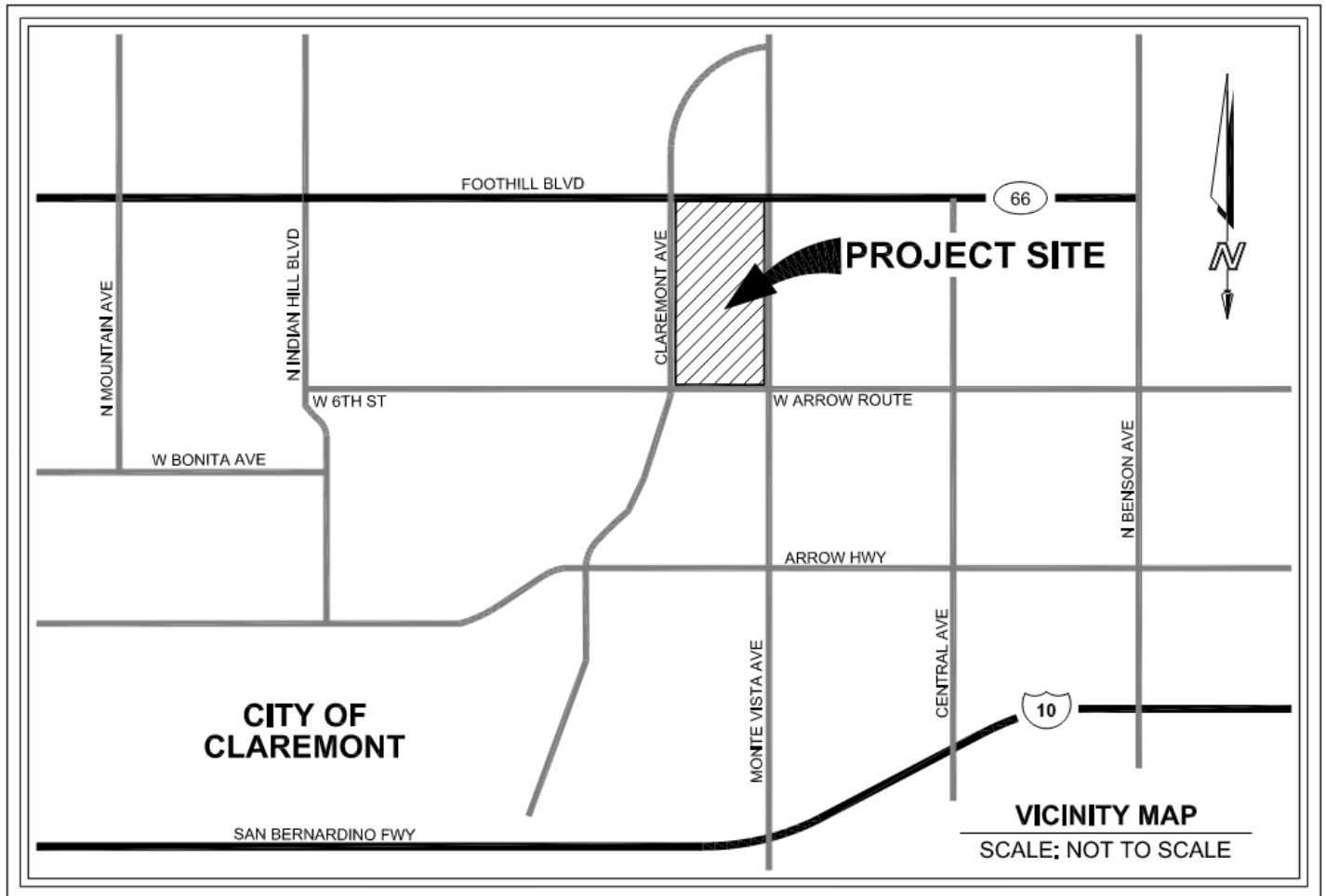
The results of the field percolation testing are presented in Appendix A.

Please note the above test results do not include factors of safety that may be required by each respective county.

In the existing condition, basin DA-4 flows offsite and into Claremont Boulevard. In the proposed condition this area will now be captured onsite and directed to the underground storage facility. No stormwater will be conveyed off-site.

In the interim phase 1 condition the south half of the site will be constructed to a final build out while the north half of the site will be rough graded with erosion control measures in place. the rough graded northerly area is expected to be approximately 8 acres.

Vicinity Map



HYDROLOGY ANALYSIS / METHODOLOGY

The requirements and recommendations found in the Los Angeles County Hydrology Manual (January 2006) provided by the Los Angeles County Department of Public Works was used as the basis for the methodology and calculations found in this Study. On-site and Off-site calculations were performed for the 50-year and 100-year, 24-hour storm using HydroCalc software (Kinematic Wave Method) provided by the County, per County requirements for the Los Angeles River watershed.

DESIGN PARAMETERS

1. The onsite drainage area was analyzed using the HydroCalc software from Los Angeles County.
2. The drainage area is located in Soil Type 015.
3. The rainfall intensity for all of the storm events varies.
4. All flows are based on the complete future development of land and roads.
5. The Hydrology Maps attached to the back of this study are made a part of the study.
6. There is pre-existing off-tract flow that is being directed toward the proposed storm drain.

RUNOFF FLOWS

Table 1:

Pre-Development Condition

Tributary Area	DA-1
Acreage (acres)	12.82
Time of Concentration; Tc (min)	19
50 yr Runoff; Q ₅₀ (cfs)	8.03
100 yr Runoff; Q ₁₀₀ (cfs)	11.48

Tributary Area	DA-2
Acreage (acres)	5.76
Time of Concentration; Tc (min)	18
50 yr Runoff; Q ₅₀ (cfs)	4.297
100 yr Runoff; Q ₁₀₀ (cfs)	5.843

Tributary Area	DA-3
Acreage (acres)	62.56
Time of Concentration; Tc (min)	21
50 yr Runoff; Q ₅₀ (cfs)	33.72
100 yr Runoff; Q ₁₀₀ (cfs)	48.51

Tributary Area	DA-4
Acreage (acres)	11.86
Time of Concentration; Tc (min)	27
50 yr Runoff; Q ₅₀ (cfs)	7.94
100 yr Runoff; Q ₁₀₀ (cfs)	11.48

Total Runoff Flow	
50 yr Runoff; Q ₅₀ (cfs)	53.99
100 yr Runoff; Q ₁₀₀ (cfs)	77.31

Post-Development Condition

Tributary Area	DA-1
Acreage (acres)	12.82
Time of Concentration; T _c (min)	19
50 yr Runoff; Q ₅₀ (cfs)	8.03
100 yr Runoff; Q ₁₀₀ (cfs)	11.48

Tributary Area	DA-2
Acreage (acres)	5.76
Time of Concentration; T _c (min)	18
50 yr Runoff; Q ₅₀ (cfs)	4.297
100 yr Runoff; Q ₁₀₀ (cfs)	5.843

Tributary Area	DA-3
Acreage (acres)	0.517
Time of Concentration; T _c (min)	7.0
50 yr Runoff; Q ₅₀ (cfs)	1.0
100 yr Runoff; Q ₁₀₀ (cfs)	1.27

Tributary Area	DA-4
Acreage (acres)	0.89
Time of Concentration; T _c (min)	6.0
50 yr Runoff; Q ₅₀ (cfs)	2.98
100 yr Runoff; Q ₁₀₀ (cfs)	3.37

Tributary Area	DA-5
Acreage (acres)	4.47
Time of Concentration; T _c (min)	6.8
50 yr Runoff; Q ₅₀ (cfs)	10.60
100 yr Runoff; Q ₁₀₀ (cfs)	12.52

Tributary Area	DA-6
Acreage (acres)	1.61
Time of Concentration; Tc (min)	5.0
50 yr Runoff; Q ₅₀ (cfs)	4.11
100 yr Runoff; Q ₁₀₀ (cfs)	4.80

Tributary Area	DA-7
Acreage (acres)	4.2
Time of Concentration; Tc (min)	8.0
50 yr Runoff; Q ₅₀ (cfs)	6.65
100 yr Runoff; Q ₁₀₀ (cfs)	8.82

Tributary Area	DA-8
Acreage (acres)	4.49
Time of Concentration; Tc (min)	6.0
50 yr Runoff; Q ₅₀ (cfs)	9.11
100 yr Runoff; Q ₁₀₀ (cfs)	12.32

Tributary Area	DA-9
Acreage (acres)	2.36
Time of Concentration; Tc (min)	5.0
50 yr Runoff; Q ₅₀ (cfs)	5.52
100 yr Runoff; Q ₁₀₀ (cfs)	6.53

Tributary Area	DA-10
Acreage (acres)	8.25
Time of Concentration; Tc (min)	8.0
50 yr Runoff; Q ₅₀ (cfs)	13.87
100 yr Runoff; Q ₁₀₀ (cfs)	18.17

Tributary Area	DA-11
Acreage (acres)	6.32
Time of Concentration; T _c (min)	10.0
50 yr Runoff; Q ₅₀ (cfs)	10.02
100 yr Runoff; Q ₁₀₀ (cfs)	12.63

Tributary Area	DA-12
Acreage (acres)	2.84
Time of Concentration; T _c (min)	5.0
50 yr Runoff; Q ₅₀ (cfs)	6.94
100 yr Runoff; Q ₁₀₀ (cfs)	8.16

Tributary Area	DA-13
Acreage (acres)	5.36
Time of Concentration; T _c (min)	8.0
50 yr Runoff; Q ₅₀ (cfs)	8.49
100 yr Runoff; Q ₁₀₀ (cfs)	11.26

Tributary Area	DA-14
Acreage (acres)	3.24
Time of Concentration; T _c (min)	9.0
50 yr Runoff; Q ₅₀ (cfs)	4.79
100 yr Runoff; Q ₁₀₀ (cfs)	6.25

Tributary Area	DA-15
Acreage (acres)	4.83
Time of Concentration; T _c (min)	8.0
50 yr Runoff; Q ₅₀ (cfs)	7.62
100 yr Runoff; Q ₁₀₀ (cfs)	10.1

Tributary Area	DA-16
Acreage (acres)	4.20
Time of Concentration; T _c (min)	7.0
50 yr Runoff; Q ₅₀ (cfs)	7.67
100 yr Runoff; Q ₁₀₀ (cfs)	10.20

Tributary Area	DA-17
Acreage (acres)	1.58
Time of Concentration; T _c (min)	6.0
50 yr Runoff; Q ₅₀ (cfs)	2.84
100 yr Runoff; Q ₁₀₀ (cfs)	3.46

Tributary Area	DA-18
Acreage (acres)	7.68
Time of Concentration; T _c (min)	11.0
50 yr Runoff; Q ₅₀ (cfs)	10.5
100 yr Runoff; Q ₁₀₀ (cfs)	13.36

Tributary Area	DA-19
Acreage (acres)	1.27
Time of Concentration; T _c (min)	7.0
50 yr Runoff; Q ₅₀ (cfs)	4.64
100 yr Runoff; Q ₁₀₀ (cfs)	5.75

Tributary Area	DA-20
Acreage (acres)	2.75
Time of Concentration; T _c (min)	5.0
50 yr Runoff; Q ₅₀ (cfs)	8.95
100 yr Runoff; Q ₁₀₀ (cfs)	10.16

Tributary Area	DA-21
Acreage (acres)	5.35
Time of Concentration; T _c (min)	13.0
50 yr Runoff; Q ₅₀ (cfs)	5.20
100 yr Runoff; Q ₁₀₀ (cfs)	7.34

Tributary Area	DA-22
Acreage (acres)	2.84
Time of Concentration; T _c (min)	5.0
50 yr Runoff; Q ₅₀ (cfs)	6.92
100 yr Runoff; Q ₁₀₀ (cfs)	8.15

Total Runoff Flow	
50 yr Runoff; Q ₅₀ (cfs)	149.19
100 yr Runoff; Q ₁₀₀ (cfs)	190.62

RUNOFF VOLUMES

Table 2: Estimated Storm Runoff Volumes

Pre-Development Condition

Tributary Area	DA-1
Acreage (acre)	12.82
CN (Weighted)	0.3682
50-year Volume V ₅₀ (cu-ft)	48,444
100-year Volume V ₁₀₀ (cu-ft)	56,146

Tributary Area	DA-2
Acreage (acre)	5.76
CN (Weighted)	0.4069
50-year Volume V ₅₀ (cu-ft)	28,152
100-year Volume V ₁₀₀ (cu-ft)	32,302

Tributary Area	DA-3
Acreage (acre)	62.56
CN (Weighted)	0.3344
50-year Volume V ₅₀ (cu-ft)	244,489
100-year Volume V ₁₀₀ (cu-ft)	223,839

Tributary Area	DA-4
Acreage (acre)	11.86
CN (Weighted)	0.3247
50-year Volume V ₅₀ (cu-ft)	43,832
100-year Volume V ₁₀₀ (cu-ft)	50,793

Total Runoff Volume	
50-year Volume V ₅₀ (cu-ft)	311,801
100-year Volume V ₁₀₀ (cu-ft)	363,080

Post-Development Condition

Tributary Area	DA-1
Acreage (acre)	12.82
CN (Weighted)	0.3682
50-year Volume V ₅₀ (cu-ft)	48,444
100-year Volume V ₁₀₀ (cu-ft)	56,146

Tributary Area	DA-2
Acreage (acre)	5.76
CN (Weighted)	0.4069
50-year Volume V ₅₀ (cu-ft)	28,152
100-year Volume V ₁₀₀ (cu-ft)	32,302

Tributary Area	DA-3
Acreage (acre)	0.517
CN (Weighted)	0.63
50-year Volume V ₅₀ (cu-ft)	4,922
100-year Volume V ₁₀₀ (cu-ft)	5,569

Tributary Area	DA-4
Acreage (acre)	0.89
CN (Weighted)	0.83
50-year Volume V ₅₀ (cu-ft)	16,384
100-year Volume V ₁₀₀ (cu-ft)	18,403

Tributary Area	DA-5
Acreage (acre)	4.47
CN (Weighted)	0.584
50-year Volume V ₅₀ (cu-ft)	29,801
100-year Volume V ₁₀₀ (cu-ft)	33,867

Tributary Area	DA-6
Acreage (acre)	1.61
CN (Weighted)	0.63
50-year Volume V ₅₀ (cu-ft)	14,215
100-year Volume V ₁₀₀ (cu-ft)	16,083

Tributary Area	DA-7
Acreage (acre)	4.20
CN (Weighted)	0.486
50-year Volume V ₅₀ (cu-ft)	21,542
100-year Volume V ₁₀₀ (cu-ft)	24,671

Tributary Area	DA-8
Acreage (acre)	4.49
CN (Weighted)	0.54
50-year Volume V ₅₀ (cu-ft)	26,803
100-year Volume V ₁₀₀ (cu-ft)	30,597

Tributary Area	DA-9
Acreage (acre)	2.36
CN (Weighted)	0.60
50-year Volume V ₅₀ (cu-ft)	14,838
100-year Volume V ₁₀₀ (cu-ft)	16,882

Tributary Area	DA-10
Acreage (acre)	8.25
CN (Weighted)	0.52
50-year Volume V ₅₀ (cu-ft)	52,510
100-year Volume V ₁₀₀ (cu-ft)	59,830

Tributary Area	DA-11
Acreage (acre)	6.32
CN (Weighted)	0.54
50-year Volume V ₅₀ (cu-ft)	52,612
100-year Volume V ₁₀₀ (cu-ft)	59,629

Tributary Area	DA-12
Acreage (acre)	2.84
CN (Weighted)	0.60
50-year Volume V ₅₀ (cu-ft)	21,412
100-year Volume V ₁₀₀ (cu-ft)	24,282

Tributary Area	DA-13
Acreage (acre)	5.36
CN (Weighted)	0.49
50-year Volume V ₅₀ (cu-ft)	27,593
100-year Volume V ₁₀₀ (cu-ft)	31,599

Tributary Area	DA-14
Acreage (acre)	3.24
CN (Weighted)	0.48
50-year Volume V ₅₀ (cu-ft)	17,755
100-year Volume V ₁₀₀ (cu-ft)	20,292

Tributary Area	DA-15
Acreage (acre)	4.83
CN (Weighted)	0.56
50-year Volume V ₅₀ (cu-ft)	24,498
100-year Volume V ₁₀₀ (cu-ft)	28,065

Tributary Area	DA-16
Acreage (acre)	4.20
CN (Weighted)	0.53
50-year Volume V ₅₀ (cu-ft)	25,659
100-year Volume V ₁₀₀ (cu-ft)	29,272

Tributary Area	DA-17
Acreage (acre)	1.23
CN (Weighted)	0.62
50-year Volume V ₅₀ (cu-ft)	12,582
100-year Volume V ₁₀₀ (cu-ft)	14,278

Tributary Area	DA-18
Acreage (acre)	7.68
CN (Weighted)	0.49
50-year Volume V ₅₀ (cu-ft)	51,871
100-year Volume V ₁₀₀ (cu-ft)	59,013

Tributary Area	DA-19
Acreage (acre)	1.81
CN (Weighted)	0.81
50-year Volume V ₅₀ (cu-ft)	27,981
100-year Volume V ₁₀₀ (cu-ft)	36,916

Tributary Area	DA-20
Acreage (acre)	39.32
CN (Weighted)	0.80
50-year Volume V ₅₀ (cu-ft)	47,494
100-year Volume V ₁₀₀ (cu-ft)	53,371

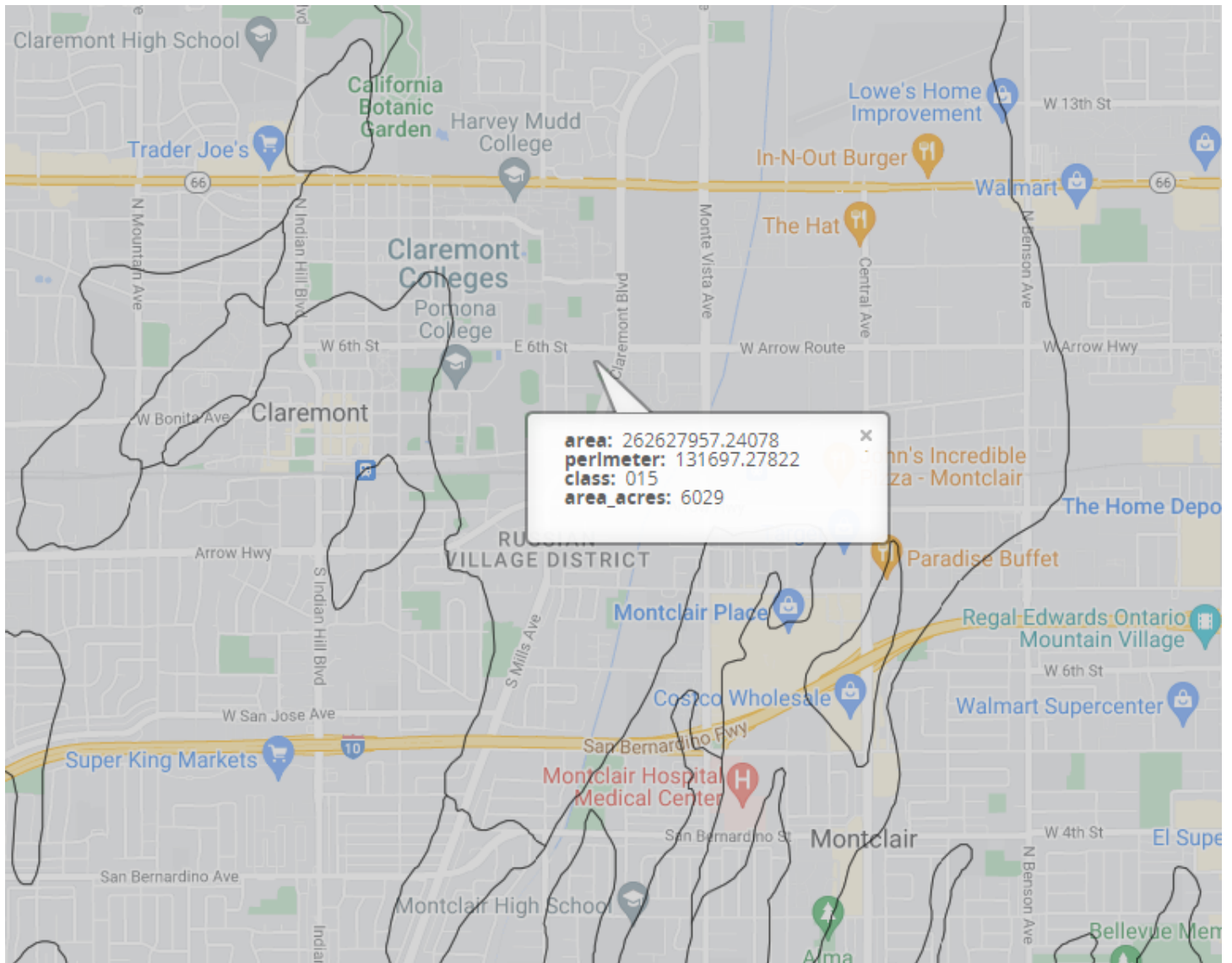
Tributary Area	DA-21
Acreage (acre)	5.35
CN (Weighted)	0.38
50-year Volume V ₅₀ (cu-ft)	18,496
100-year Volume V ₁₀₀ (cu-ft)	21,500

Tributary Area	DA-22
Acreage (acre)	2.84
CN (Weighted)	0.60
50-year Volume V ₅₀ (cu-ft)	21,196
100-year Volume V ₁₀₀ (cu-ft)	24,042

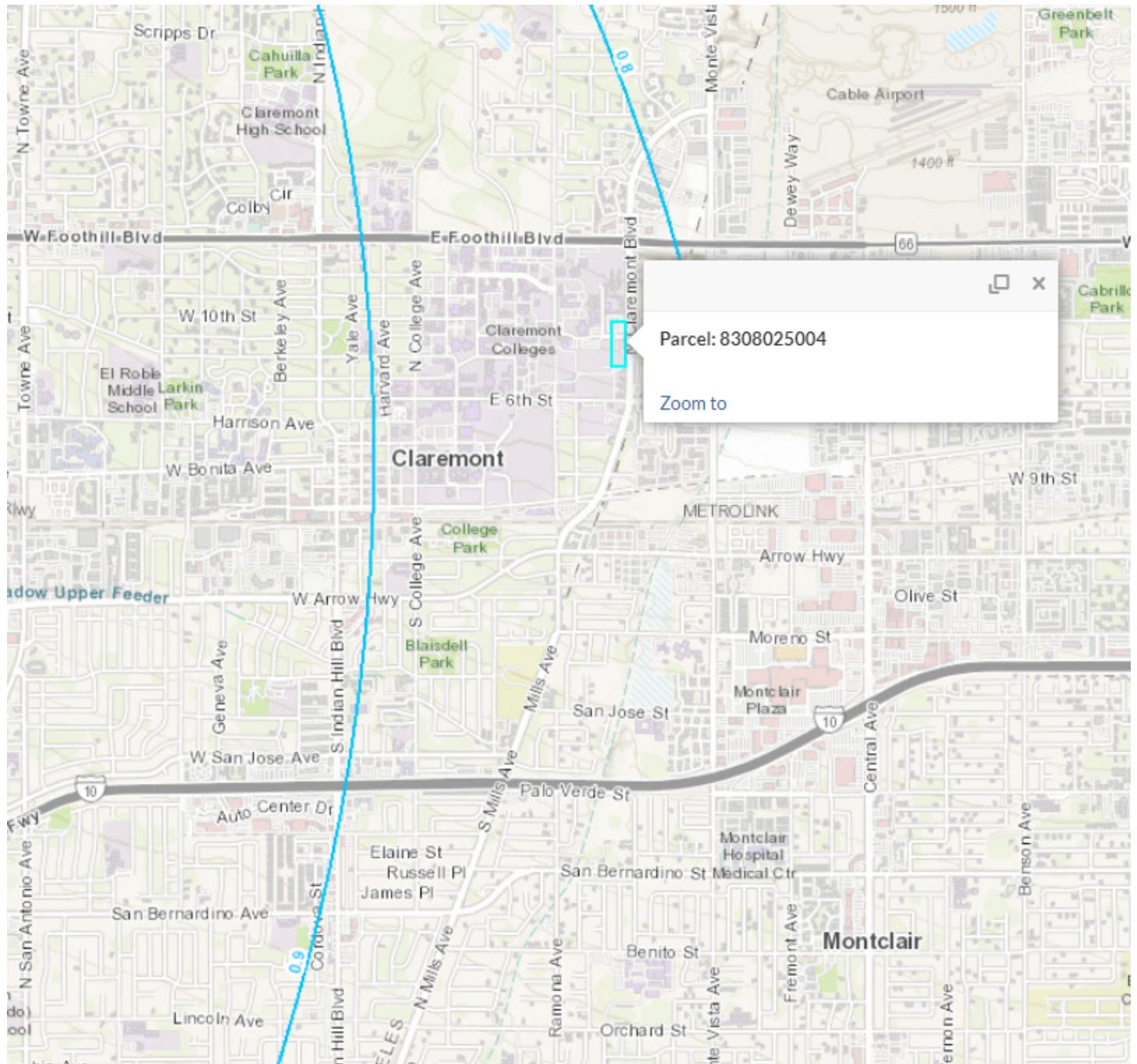
Attachment A

Figures

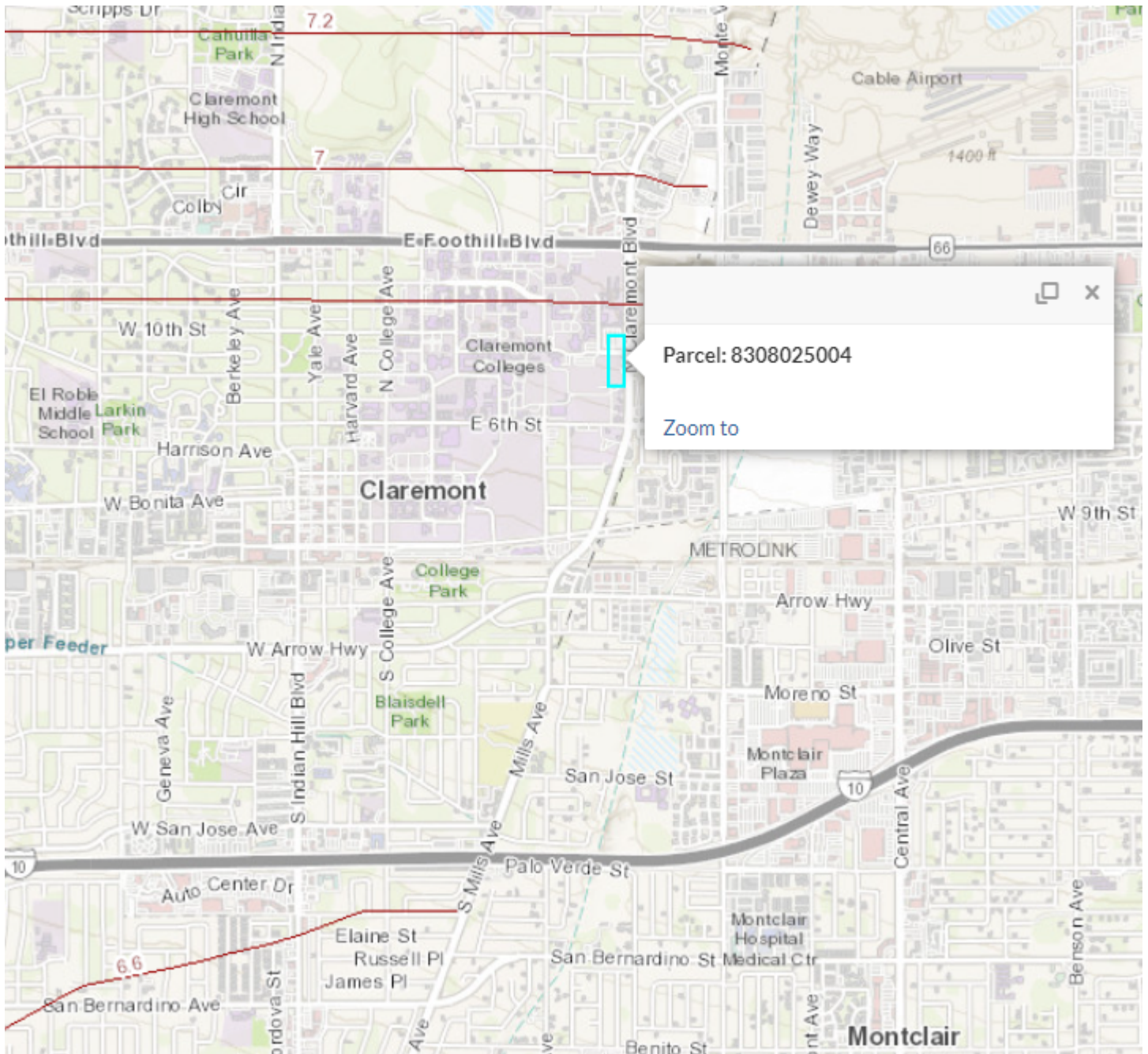
Soils Group Map



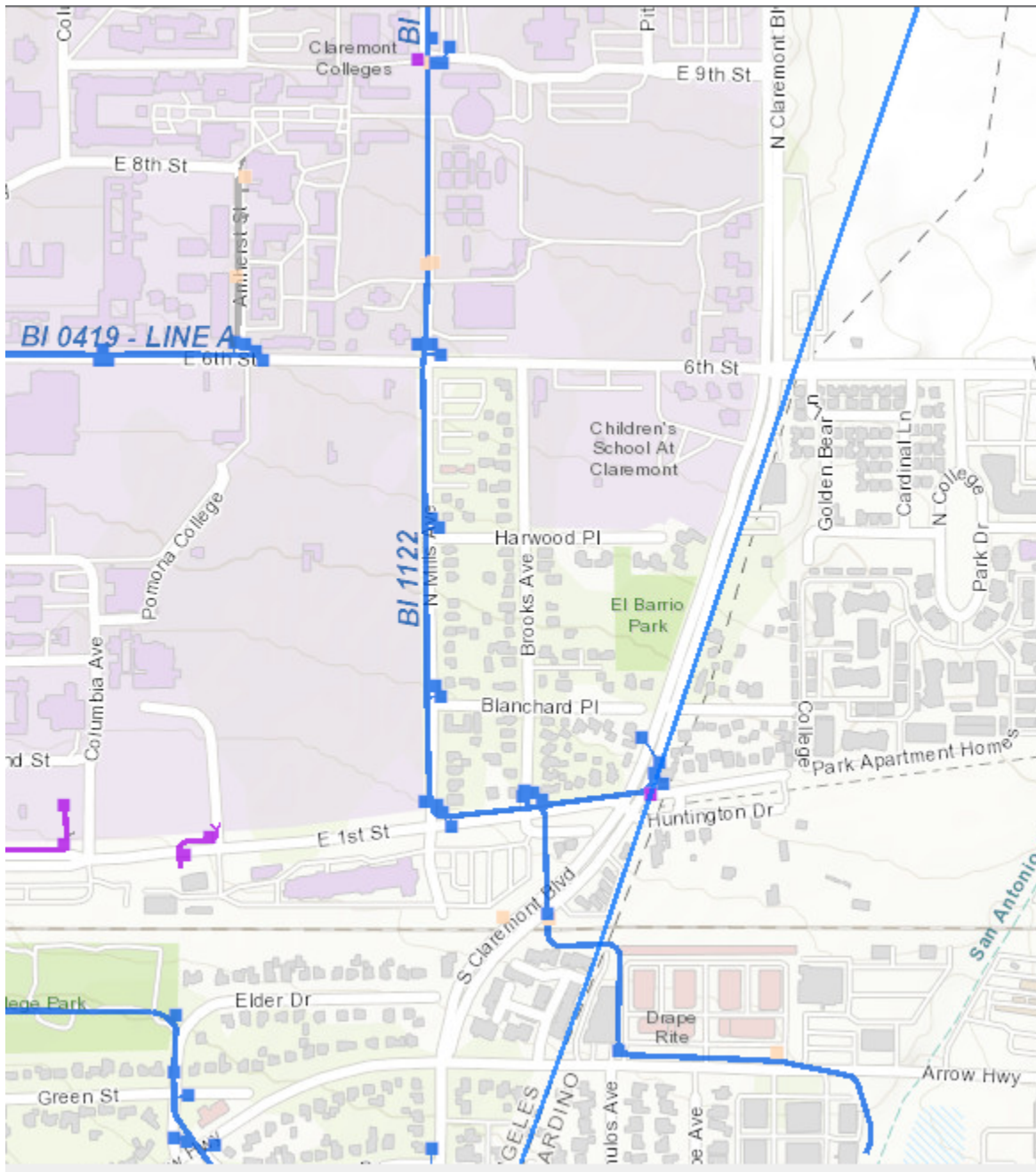
85th Percentile Storm Rainfall Map

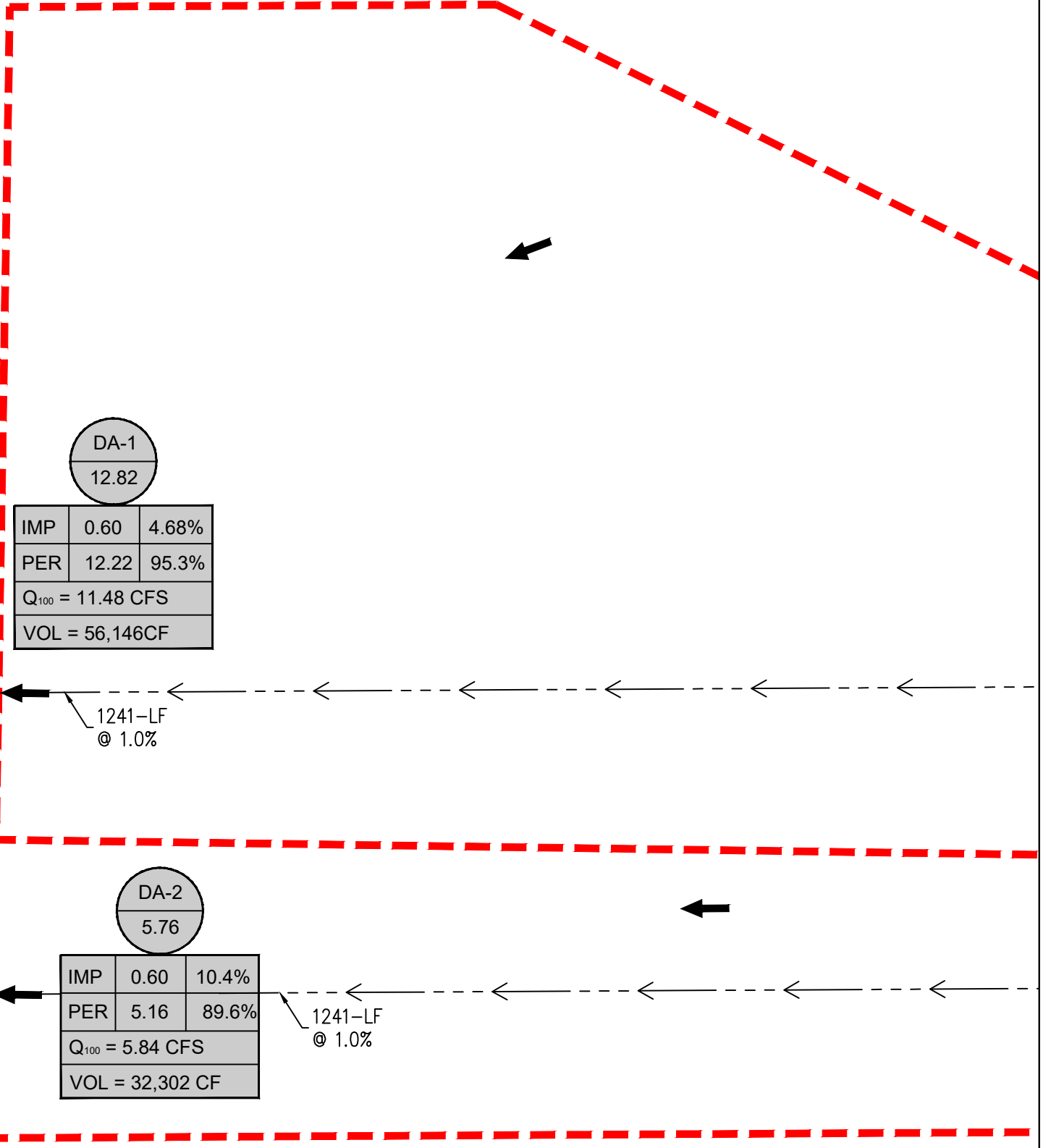
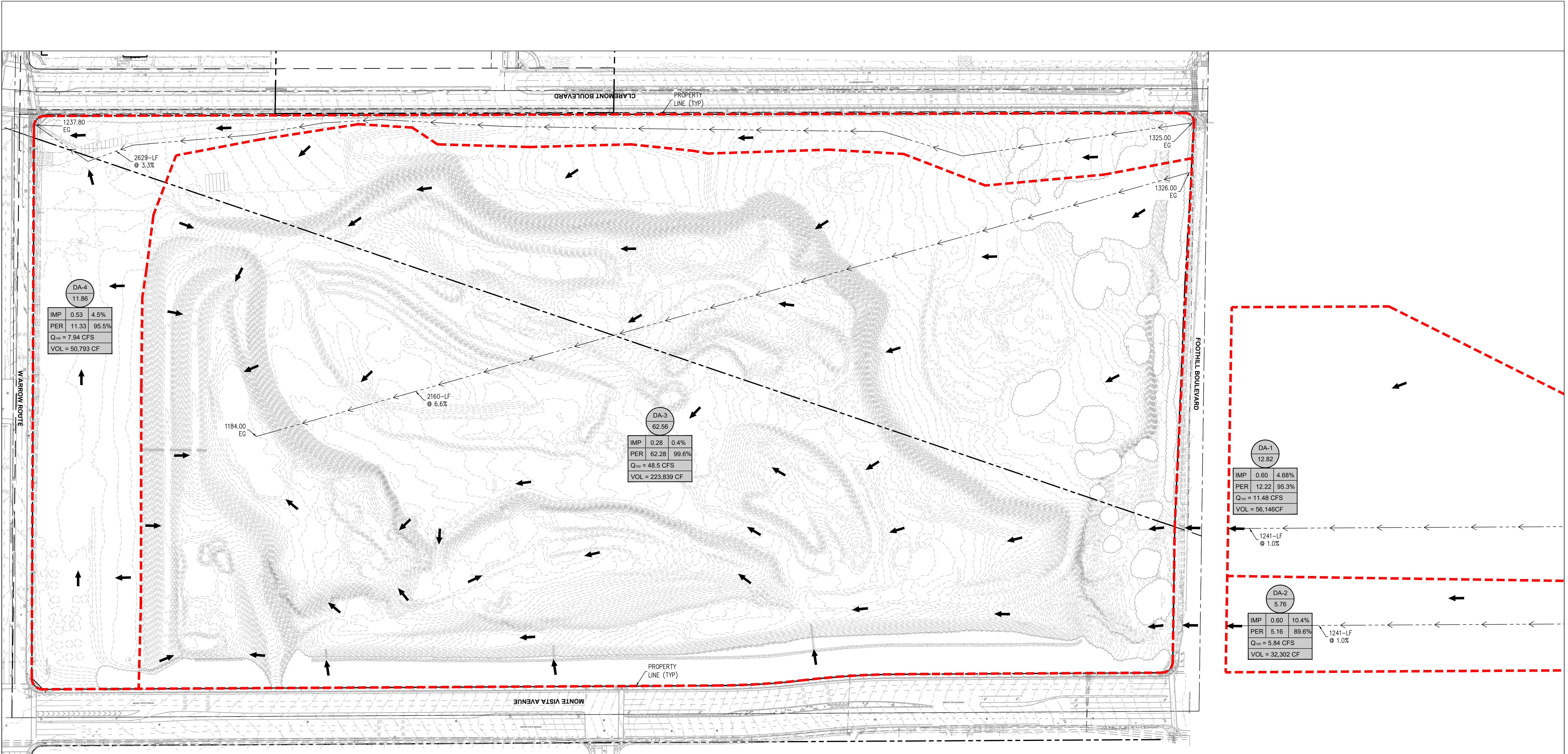


50-year Storm Rainfall Map



Regional Storm Drainage Outfall Map





LEGEND

- PROPERTY BOUNDARY LINE
- CENTERLINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- STORM DRAIN

DMA# 0.52

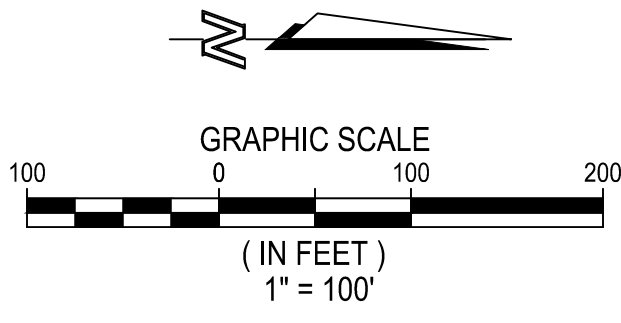
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PER	0.00	0%
Q TREAT	0.13 CFS	
SWQDV	1,444 CF	

- IMPERVIOUS AREA
- PERVIOUS AREA
- Q TREATMENT
- VOLUME TREATMENT

--- FLOW PATH

--- FLOW DIRECTION

--- DRAINAGE BASIN BOUNDARY



PLAN PREPARED BY: _____

DATE: _____

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DATE	REVISION

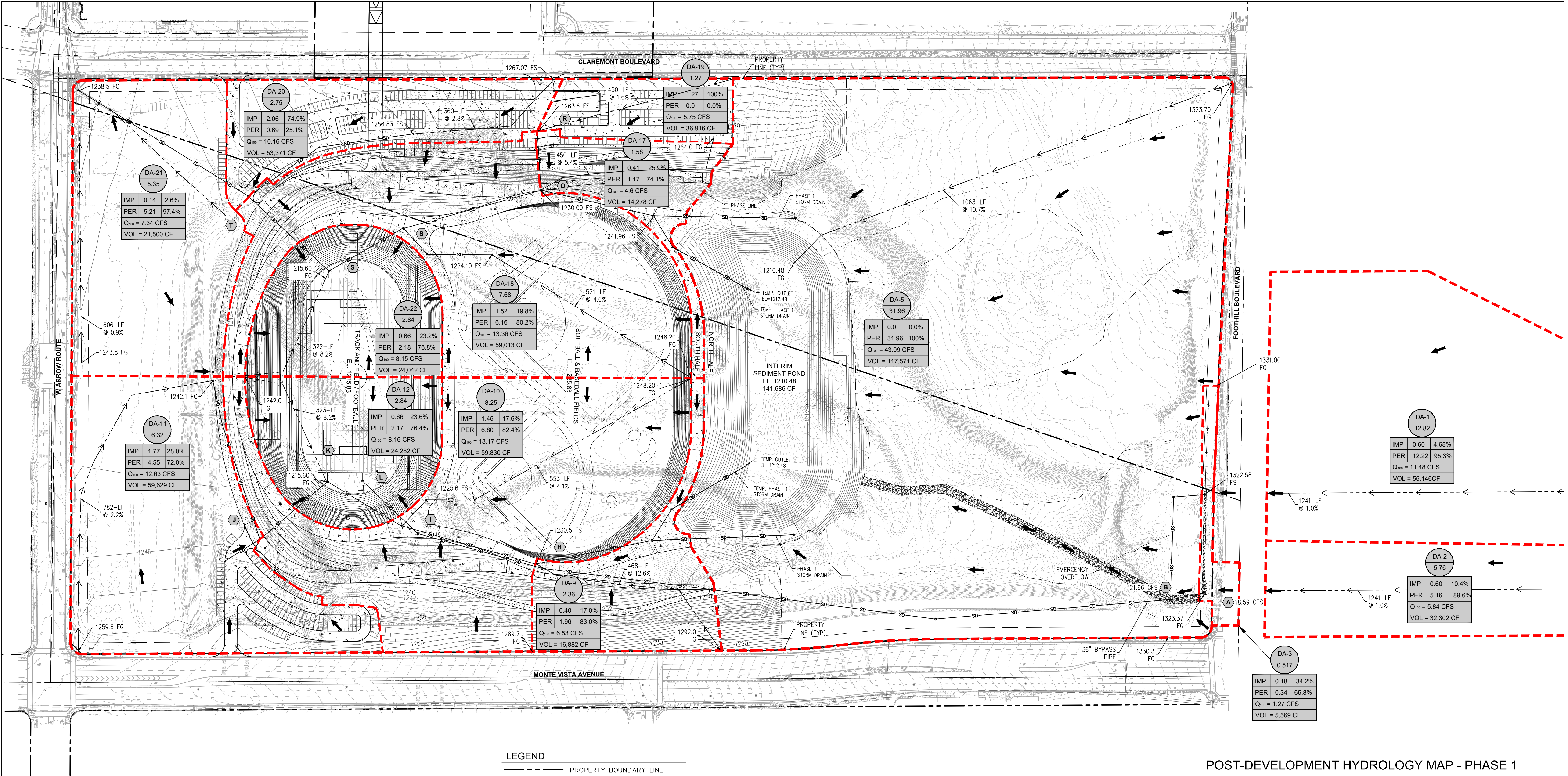
PRE-DEVELOPMENT HYDROLOGY MAP

CITY OF CLAREMONT

CLAREMONT MCKENNA COLLEGE
EAST CAMPUS EXPANSION

SCALE: AS NOTED	DRAWN BY: GMH	DRAWING NO. G02-XXXX
DATE: -	CHECKED BY: THJ	
F.B. NO.	RECOMMENDED BY: THJ	
APPROVED:		SHEET PG 1 OF PG 3
CITY ENGINEER	R.C.E	

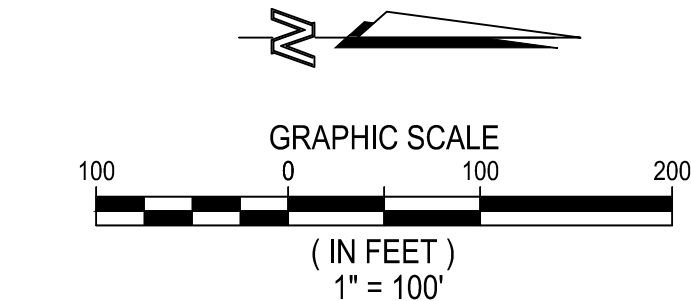
DATE: _____



LEGEND

--- PROPERTY BOUNDARY LINE
--- CENTERLINE
--- EXISTING CONTOURS
--- PROPOSED CONTOURS
--- STORM DRAIN
--- DRY WELL
--- STORM DRAIN MANHOLE
--- DRAINAGE MANAGEMENT AREA
--- AREA IN ACRE
--- IMPERVIOUS AREA
--- PERVIOUS AREA
--- Q TREATMENT
--- VOLUME TREATMENT
--- FLOW PATH
--- FLOW DIRECTION
--- DRAINAGE BASIN BOUNDARY
--- NODE (DRY WELL)

DRY WELL DATA:
24 HR INFILTRATION:
0.09 CFS / 7,776 CF
0.21 CFS / 18,144



PLAN PREPARED BY: _____ DATE: _____

ATLAS Civil Engineering • Site Optimization
www.AtlasCivilDesign.com
Tel: 1-213-410-0470
San Diego • Orange County • Los Angeles • San Luis Obispo • Monterey



DATE	REVISION

POST-DEVELOPMENT HYDROLOGY MAP - PHASE 1

CITY OF CLAREMONT

CLAREMONT MCKENNA COLLEGE
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SCALE: AS NOTED	DRAWN BY: GMH	DRAWING NO. G02-XXXX
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APPROVED:	CITY ENGINEER R.C.E DATE:	

SHEET
PG 3 OF PG 3

User Inputs

Chamber Model:	MC-7200
Outlet Control Structure:	Yes
Project Name:	21-055
Engineer:	GREG HOWELL
Project Location:	California
Measurement Type:	Imperial
Required Storage Volume:	480632 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	9 in.
Stone Above Chambers:	12 in.
Average Cover Over Chambers:	24 in.
Design Constraint Dimensions:	(300 ft. x 450 ft.)

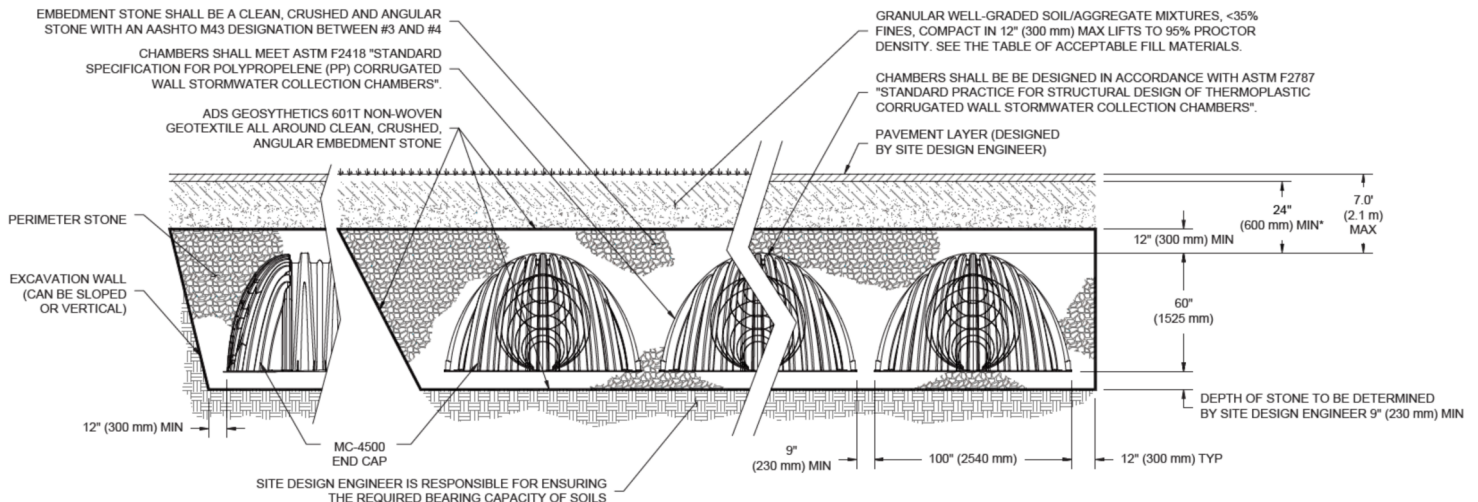
Results

System Volume and Bed Size

Installed Storage Volume:	481992.84 cubic ft.
Storage Volume Per Chamber:	175.90 cubic ft.
Number Of Chambers Required:	1767
Number Of End Caps Required:	56
Chamber Rows:	28
Maximum Length:	433.82 ft.
Maximum Width:	256.18 ft.
Approx. Bed Size Required:	108954.24 square ft.

System Components

Amount Of Stone Required:	15645 cubic yards
Volume Of Excavation (Not Including Fill):	27239 cubic yards
Total Non-woven Geotextile Required:	30304 square yards
Woven Geotextile Required (excluding Isolator Row):	192 square yards
Woven Geotextile Required (Isolator Row):	998 square yards
Total Woven Geotextile Required:	1189 square yards
Impervious Liner Required:	0 square yards



*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 30" (750 mm).

48" DRYWELL MANHOLE

FRAME AND COVER

3" = 275 lbs.
7" = 350 lbs.

GRADE RING

2" = 80 lbs.
3" = 125 lbs.
4" = 165 lbs.
6" = 245 lbs.
12" = 490 lbs.

ECCENTRIC CONE

2,480 lbs.

Lift Pin or Hole
(2 Places Typ.)

DRYWELL RISER

Height	Weight
5'-0"	4,060 lbs.

Perforated Section
w/2 $\frac{3}{8}$ " $\varnothing$ Holes
14 Columns 8 Rows

DRYWELL BASE

Height	Weight
5'-0"	5,390 lbs.

Perforated Section
w/2 $\frac{3}{8}$ " $\varnothing$ Holes
14 Columns 8 Rows

3" (Suburban) or 7" (Standard)

Lift Loop
(3 Places)

FLAT TOP

(Other Hole Sizes and Configurations
Available)
1,650 lbs.

CONCENTRIC CONE

2,080 lbs.

JOINT DETAIL

Notes:

- Manholes per Specification: ASTM C478
- Rubber Gasket: ASTM C443
- Holes: Cored as Required.
- Frame & Cover: Gray Cast Iron ASTM A48 Class 30, Watertight/Tamperproof Cover Available.
- Optional Extended Base Available.



Oldcastle Precast®

PO Box 323, Wilsonville, Oregon 97070-0323
Tel: (503) 682-2844 Fax: (503) 682-2657

48" DRYWELL MANHOLE

File Name: 020-48MH-D

Issue Date: 2018

oldcastleprecast.com/wilsonville

48" DRYWELL MANHOLE

INDUSTRY SERVICES

Site Drainage Systems

Stormwater Drywells
French Drains
Piping
Drainage Appurtenances
Pump Systems

Technical Analysis

Design Review
Percolation Testing
Geologic Database
ADEQ Drywell Registration

Recharge Systems

Municipal/Private Recharge Wells
Injection Wells & Galleries

Environmental Applications

Pattern Drilling/Soil Remediation
Drainage Rehabilitation
Drywell Abandonments
OSHA HAZMAT-Certified

Drainage Renovation

Problem Assessment
Site Redesign/Modification
System Retrofit

Drainage Maintenance

Preventive Maintenance
Service Contracts
Drywell Cleaning

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street
Phoenix Arizona 85040-1391
phone 602-268-0785
fax 602-268-0820

Nevada
702-366-1234

AZ Lic. ROC070465 A,
ROC047067 B-4; ADWR 363

CA Lic. 528080 A, C-42, HAZ

NV Lic. 0035350 A

NM Lic. 90504 GF04

TORRENT RESOURCES (CA) INCORPORATED

phone 661-947-9836

CA Lic. 886759 A, C-42

www.TorrentResources.com

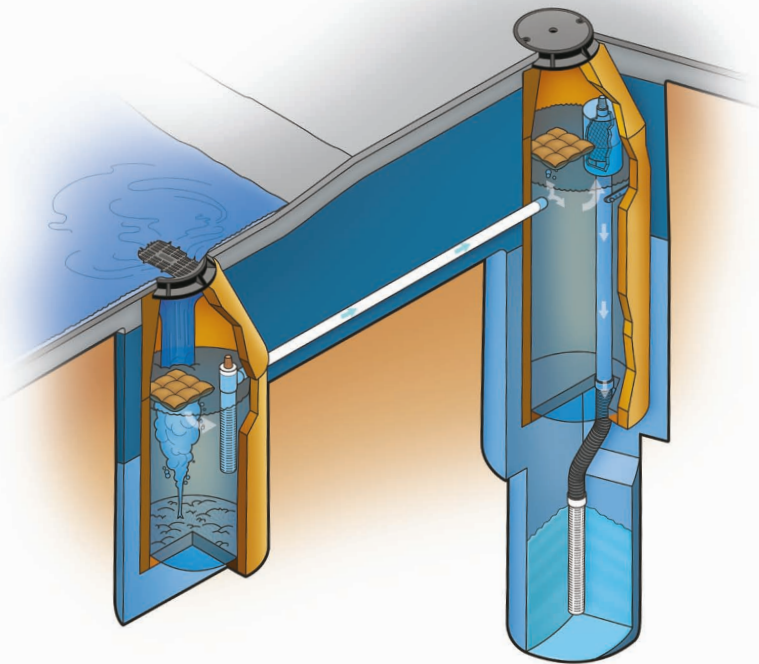
An evolution of McGuckin Drilling

MaxWell® Plus

DRAINAGE SYSTEM

Product Information and Design Features

The **MaxWell® Plus**, as manufactured and installed exclusively by Torrent Resources Incorporated, is the industry standard for draining large paved surfaces, nuisance water and other demanding applications. This patented system incorporates state-of-the-art pre-treatment technology.



THE ULTIMATE IN DESIGN

Since 1974, nearly 65,000 MaxWell® Systems have proven their value as a cost-effective solution in a wide variety of drainage applications. They are accepted by state and municipal agencies and are a standard detail in numerous drainage manuals. Many municipalities have recognized the inherent benefits of the MaxWell Plus and now require it for drainage of all paved surfaces.

SUPERIOR PRE-TREATMENT

Industry research, together with Torrent Resources' own experience, have shown that initial storm drainage flows have the greatest impact on system performance. This "first flush" occurs during the first few minutes of runoff, and carries the majority of sediment and debris. Larger paved surfaces or connecting pipes from catch basins, underground storage, etc. can also generate high peak flows which may strain system function. In addition, nuisance water flows require controlled processing separate from normal storm runoff demands.

In the **MaxWell® Plus**, preliminary treatment is provided through collection and separation in deep large-volume settling chambers. The standard MaxWell Plus System has over 2,500 gallons of capacity to contain sediment and debris carried by incoming water. Floating trash, paper, pavement oil, etc. are effectively stopped by the **PureFlo®** Debris Shields in each chamber. These shield-ing devices are equipped with an effective screen to filter suspended material and are vented to prevent siphoning of floating surface debris as the system drains.

EFFECTIVE PROCESSING

Incoming water from the surface grated inlets or connecting pipes is received in the Primary Settling Chamber where silt and other heavy particles settle to the bottom. A PureFlo Debris Shield ensures containment by trapping floating debris and pavement oil. The pre-treated flow is then regulated to a design rate of up to 0.25cfs and directed to a Secondary Settling Chamber. The settling and containment process is repeated, thereby effectively achieving controlled, uniform treatment. The system is drained as water rises under the PureFlo Debris Shield and spills into the top of the overflow pipe. The drainage assembly returns the cleaned water into the surrounding soil through the **FloFast®** Drainage Screen.

ABSORBENT TECHNOLOGY

Both MaxWell Plus settling chambers are equipped with absorbent sponges to provide prompt removal of pavement oils. These floating pillow-like devices are 100% water repellent and literally wick petrochemical compounds from the water. Each sponge has a capacity of up to 128 ounces to accommodate effective, long-term treatment. The absorbent is completely inert and will safely remove runoff constituents down to rainbow sheens that are typically no more than one molecule thick.

SECURITY FEATURES

MaxWell Plus Systems include bolted, theft-deterrent, cast iron gratings and covers as standard security features. Special inset castings which are resistant to loosening from accidental impact are available for use in landscaped applica-tions. Machined mating surfaces and "Storm Water Only" wording are standard.

THE MAXWELL FIVE-YEAR WARRANTY

Innovative engineering, quality materials and exacting construction are standard with every MaxWell System designed, manufactured and installed by Torrent Resources Incorporated. The MaxWell Drainage Systems Warranty is the best in the industry and guarantees against failures due to workmanship or materials for a period of five years from date of completion.

Manufactured and Installed Exclusively by Torrent Resources Incorporated
Please see reverse side for additional information
U.S. Patent No. 4,923,330

MAXWELL® PLUS DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

CALCULATING MAXWELL PLUS REQUIREMENTS:

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of MaxWell Systems. For general applications draining retained stormwater, use one standard **MaxWell® Plus** per the instructions below for up to 5 acres of landscaped contributory area, and up to 2 acres of paved surface. To drain nuisance water flows in storm runoff systems, add a remote inlet to the system. For smaller drainage needs, refer to our **MaxWell® IV**. For industrial drainage, our **Envibro® System** may be recommended. For additional considerations, please refer to “**Design Suggestions For Retention And Drainage Systems**” or consult our Design Staff.

COMPLETING THE MAXWELL PLUS DRAWING

To apply the MaxWell Plus drawing to your specific project, simply fill in the blue boxes per the following instructions. For assistance, please consult our Design Staff.

PRIMARY SETTLING CHAMBER DEPTH

The overall depth of the Primary Settling Chamber is determined by the amount of surface area being drained. Use a standard depth of **15 feet** for the initial acre of contributory drainage area, **plus 2 feet** for each additional acre, up to the design limits of the property type noted in “Calculating MaxWell Plus Requirements” noted above. Other conditions that would require increased chamber depths are property usage, maintenance scheduling, and severe or unusual service conditions. Connecting pipe depth may dictate deeper chambers so as to maintain the effectiveness of the settling process. Maximum chamber depth is 25 feet. A pump and lift station is recommended for systems with deeper requirements.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate total system depth required to achieve 10 continuous feet of penetration into permeable soils, based upon known soil information. Torrent utilizes specialized “**crowd**” equipped rigs to get through the difficult cemented soil and to reach clean drainage soils at depths up to **180 feet**. An extensive drilling log database is available to use as a reference.

SETTLING CHAMBER DEPTH

On MaxWell Plus Systems of over 30 feet overall depth and up to 0.25cfs design rate, the standard Settling Chamber Depth is **18 feet**. Maximum chamber depth is 25 feet.

OVERFLOW HEIGHT

The Overflow Height and Secondary Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. An overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**.

DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shields, the **FloFast®** Drainage Screen, and fittings. The size is based upon system design rates, multiple primary settling chambers, soil conditions, and need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to our company's “**Design Suggestions for Retention and Drainage Systems**” for recommendations on which size best matches your application.

BOLTED RING & GRATE/COVER

Standard models are quality cast iron and available to fit 24" Ø or 30" Ø manhole openings. All units are bolted in two locations with wording “Storm Water Only” in raised letters. For other surface treatments, please refer to “Design Suggestions for Retention and Drainage Systems.”

INLET PIPE INVERT

Pipes up to 12" in diameter from catch basins, underground storage, etc. may be connected into the primary settling chamber. Larger pipe diameters dictate the use of manhole material for the primary setting chamber with 48” grates on the cone. Inverts deeper than 5 feet will require additional depth in both system settling chambers to maintain respective effective settling capacities.

INTAKE INLET HEIGHT

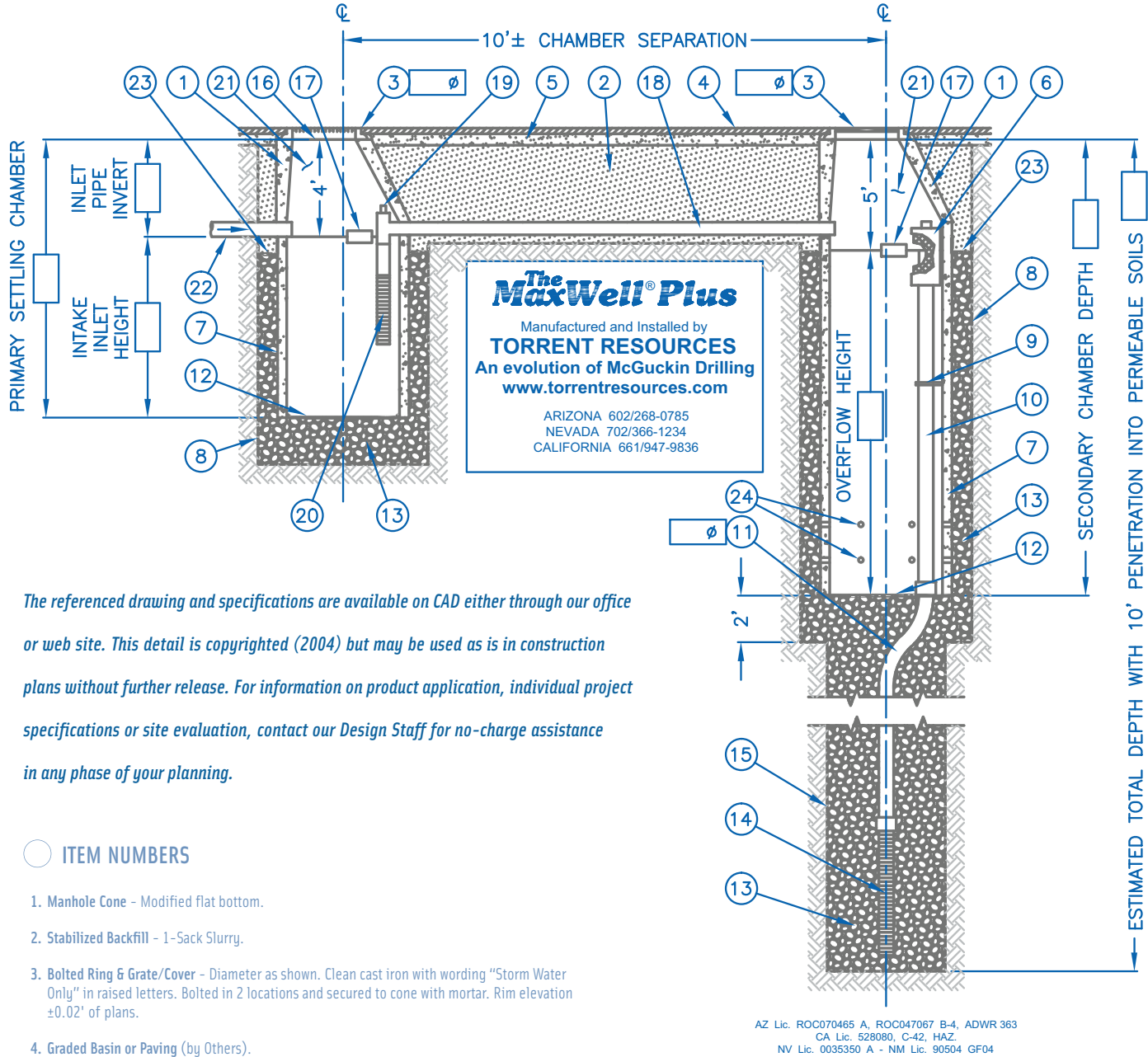
The Intake Inlet Height determines the effectiveness of the settling process in the Primary Settling Chamber. A minimum inlet height of **11 feet** is used with the standard primary settling chamber depth of 15 feet. Greater inlet heights would be required with increased system demands as noted in Primary Settling Chamber Depth. Freeboard Depth Varies with inlet pipe elevation. Increase primary/secondary settling chamber depths as needed to maintain all inlet pipe elevations above connector pipe overflow.

CHAMBER SEPARATION

The standard separation between chambers is **10 feet** from center to center.

Soil conditions and deeper inverts may dictate required variations in chamber separation.

The MaxWell® Plus Drainage System Detail And Specifications



The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

ITEM NUMBERS

1. Manhole Cone - Modified flat bottom.
2. Stabilized Backfill - 1-Sack Slurry.
3. Bolted Ring & Grate/Cover - Diameter as shown. Clean cast iron with wording “Storm Water Only” in raised letters. Bolted in 2 locations and secured to cone with mortar. Rim elevation ±0.02' of plans.
4. Graded Basin or Paving (by Others).
5. Compacted Base Material (by Others).
6. PureFlo® Debris Shield - Rolled 16 Ga. steel X 24" length with vented anti-siphon and internal .265" Max. SWO flattened expanded steel screen X 12" length. Fusion bonded epoxy coated.
7. Pre-cast Liner - 4000 PSI concrete 48" ID. X 54" OD. Center in hole and align sections to maximize bearing surface.
8. Min. 6' Ø Drilled Shaft.
9. Support Bracket - Formed 12 Ga. steel. Fusion bonded epoxy coated.
10. Overflow Pipe - Sch. 40 PVC mated to drainage pipe at base seal.
11. Drainage Pipe - ADS highway grade with TRI-A coupler. Suspend pipe during backfill operations to prevent buckling or breakage. Diameter as noted.
12. Base Seal - Geotextile or concrete slurry.
13. Rock - Washed, sized between 3/8" and 1-1/2" to best complement soil conditions.
14. FloFast® Drainage Screen - Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. Min. 4' Ø Shaft - Drilled to maintain permeability of drainage soils.
16. Fabric Seal - U.V. Resistant Geotextile - To be removed by customer at project completion.
17. Absorbent - Hydrophobic Petrochemical Sponge. Min 128 oz. capacity.
18. Connector Pipe - 4" Ø Sch. 40 PVC.
19. Anti-Siphon Vent with flow regulator.
20. Intake Screen - Sch. 40 PVC 0.120" modified slotted well screen with 32 slots per row/ft. 48" overall length with TRI-C end cap.
21. Freeboard Depth Varies with inlet pipe elevation. Increase primary/secondary settling chamber depths as needed to maintain all inlet pipe elevations above connector pipe overflow.
22. Optional Inlet Pipe (by Others).
23. Moisture Membrane - 6 mil. Plastic. Place securely against eccentric cone and hole sidewall. Used in lieu of slurry in landscaped areas.
24. Eight - (8) perforations per foot, 2 row minimum.

Attachment B

Peak Flow Hydrologic Analysis

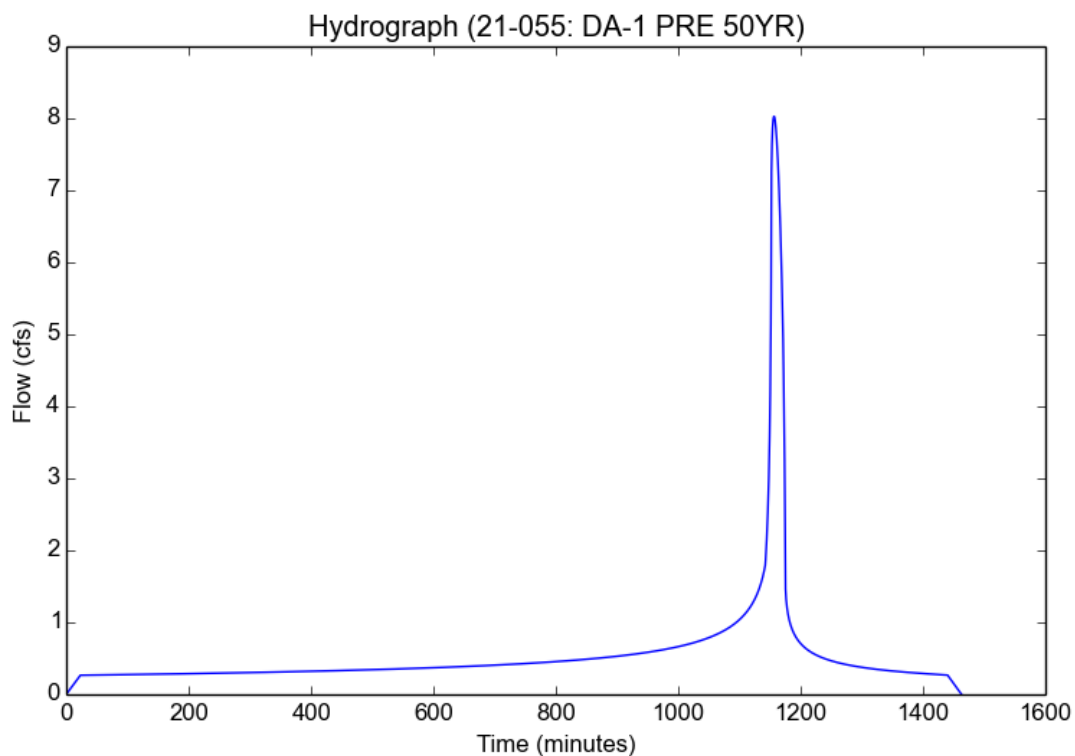
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-1 PRE 50YR
Area (ac)	12.82
Flow Path Length (ft)	1241.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.0468
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	1.9802
Undeveloped Runoff Coefficient (Cu)	0.2876
Developed Runoff Coefficient (Cd)	0.3162
Time of Concentration (min)	23.0
Clear Peak Flow Rate (cfs)	8.0282
Burned Peak Flow Rate (cfs)	8.0282
24-Hr Clear Runoff Volume (ac-ft)	1.1121
24-Hr Clear Runoff Volume (cu-ft)	48443.9215



Peak Flow Hydrologic Analysis

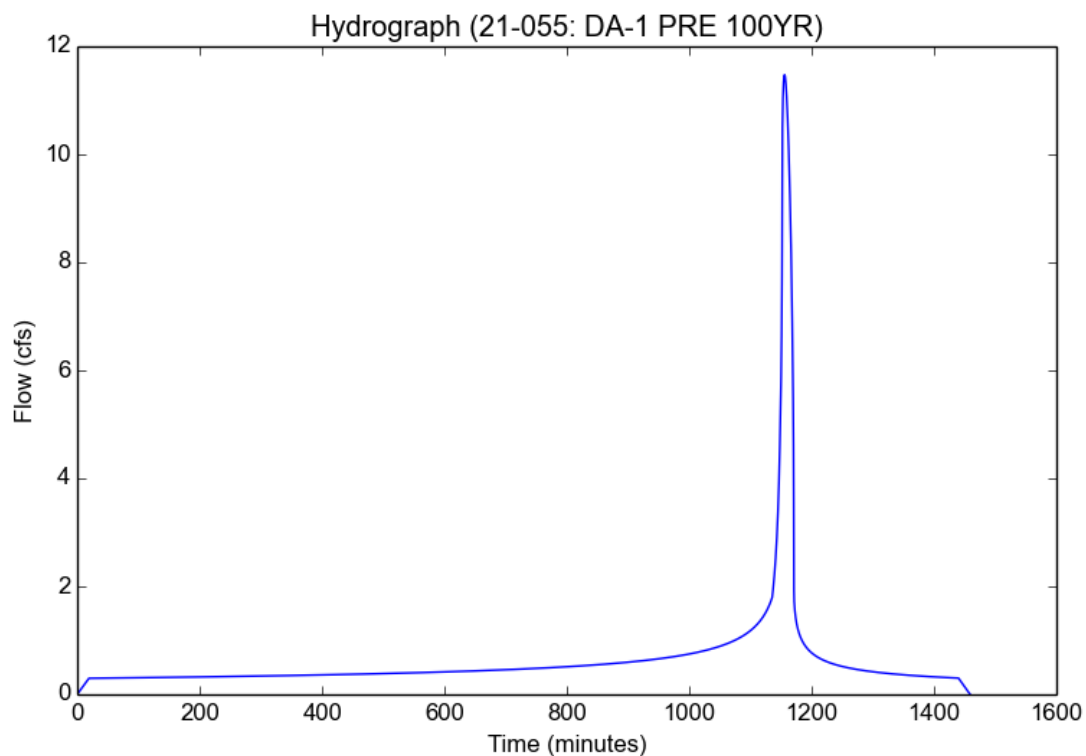
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Input Parameters

Project Name	21-055
Subarea ID	DA-1 PRE 100YR
Area (ac)	12.82
Flow Path Length (ft)	1241.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.0468
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	2.4306
Undeveloped Runoff Coefficient (Cu)	0.3421
Developed Runoff Coefficient (Cd)	0.3682
Time of Concentration (min)	19.0
Clear Peak Flow Rate (cfs)	11.4745
Burned Peak Flow Rate (cfs)	11.4745
24-Hr Clear Runoff Volume (ac-ft)	1.2889
24-Hr Clear Runoff Volume (cu-ft)	56146.0389



Peak Flow Hydrologic Analysis

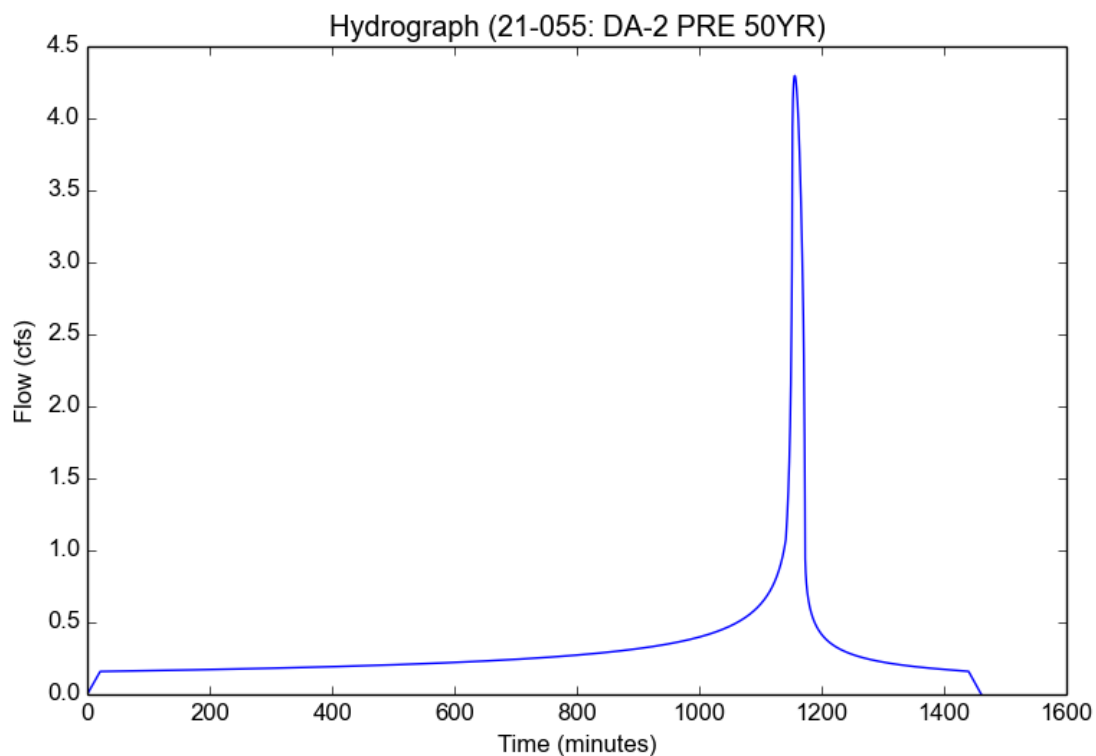
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-2 PRE 50YR
Area (ac)	5.76
Flow Path Length (ft)	1241.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.104
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	2.0667
Undeveloped Runoff Coefficient (Cu)	0.2984
Developed Runoff Coefficient (Cd)	0.361
Time of Concentration (min)	21.0
Clear Peak Flow Rate (cfs)	4.297
Burned Peak Flow Rate (cfs)	4.297
24-Hr Clear Runoff Volume (ac-ft)	0.6463
24-Hr Clear Runoff Volume (cu-ft)	28152.2205



Peak Flow Hydrologic Analysis

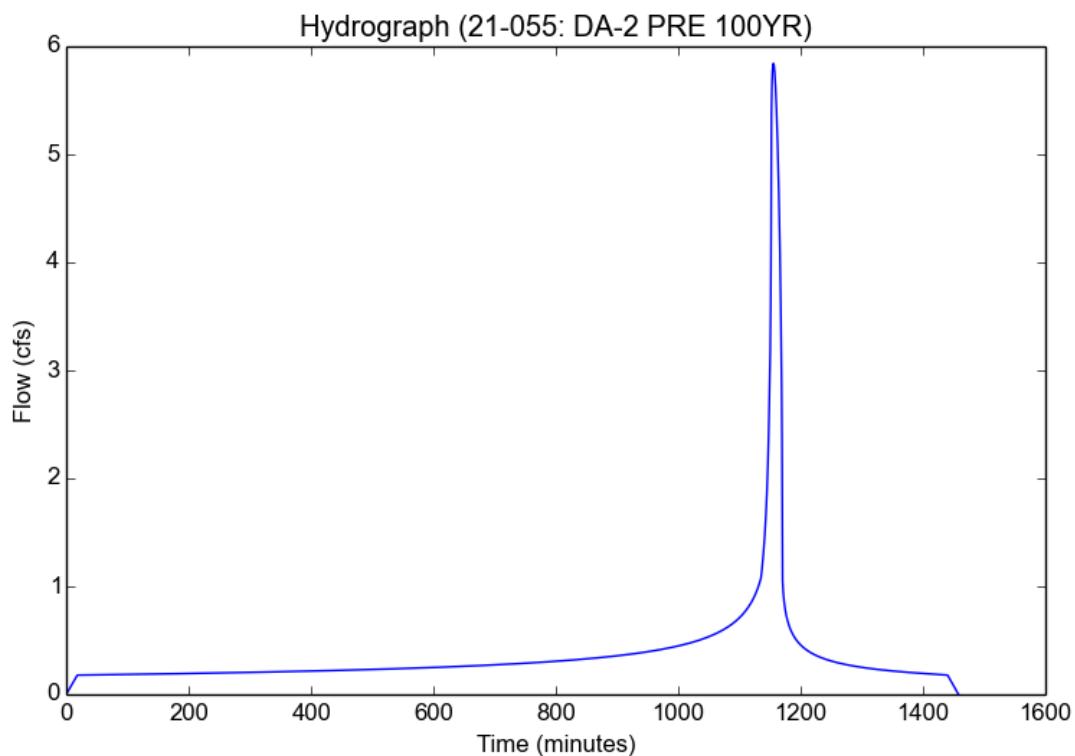
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-2 PRE 100YR
Area (ac)	5.76
Flow Path Length (ft)	1241.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.104
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	2.4931
Undeveloped Runoff Coefficient (Cu)	0.3497
Developed Runoff Coefficient (Cd)	0.4069
Time of Concentration (min)	18.0
Clear Peak Flow Rate (cfs)	5.8432
Burned Peak Flow Rate (cfs)	5.8432
24-Hr Clear Runoff Volume (ac-ft)	0.7416
24-Hr Clear Runoff Volume (cu-ft)	32302.0554



Peak Flow Hydrologic Analysis

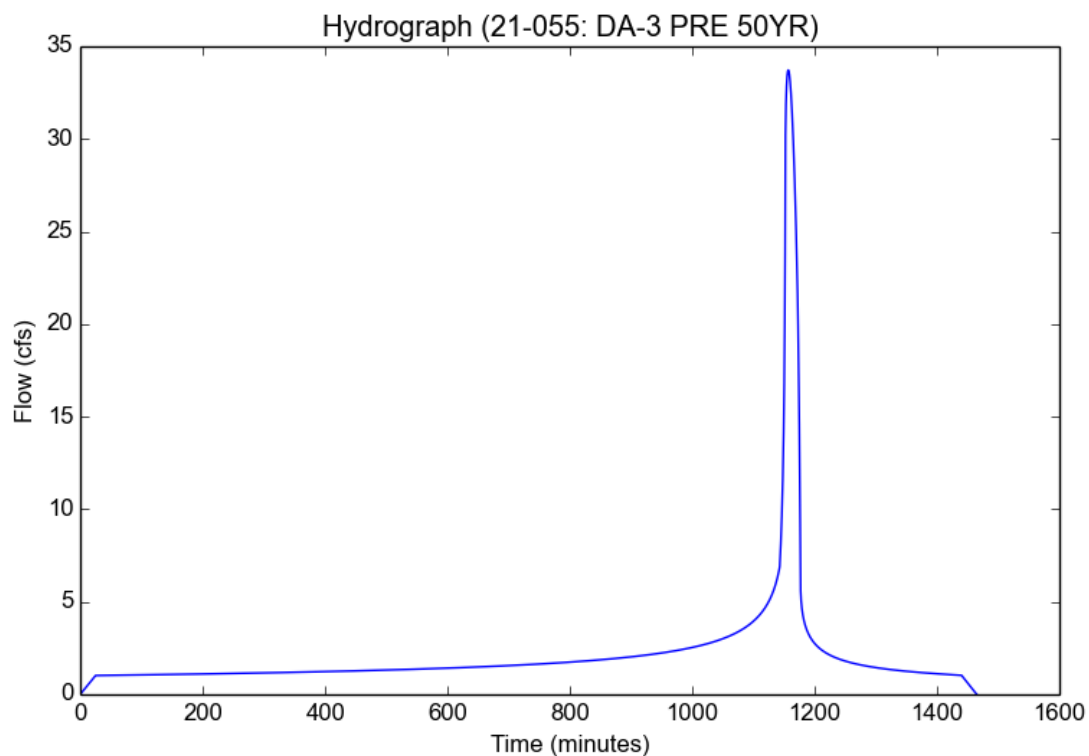
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-3 PRE 50YR
Area (ac)	62.56
Flow Path Length (ft)	2160.0
Flow Path Slope (vft/hft)	0.066
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.01
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	1.9041
Undeveloped Runoff Coefficient (Cu)	0.2769
Developed Runoff Coefficient (Cd)	0.2831
Time of Concentration (min)	25.0
Clear Peak Flow Rate (cfs)	33.7213
Burned Peak Flow Rate (cfs)	33.7213
24-Hr Clear Runoff Volume (ac-ft)	4.3933
24-Hr Clear Runoff Volume (cu-ft)	191373.0956



Peak Flow Hydrologic Analysis

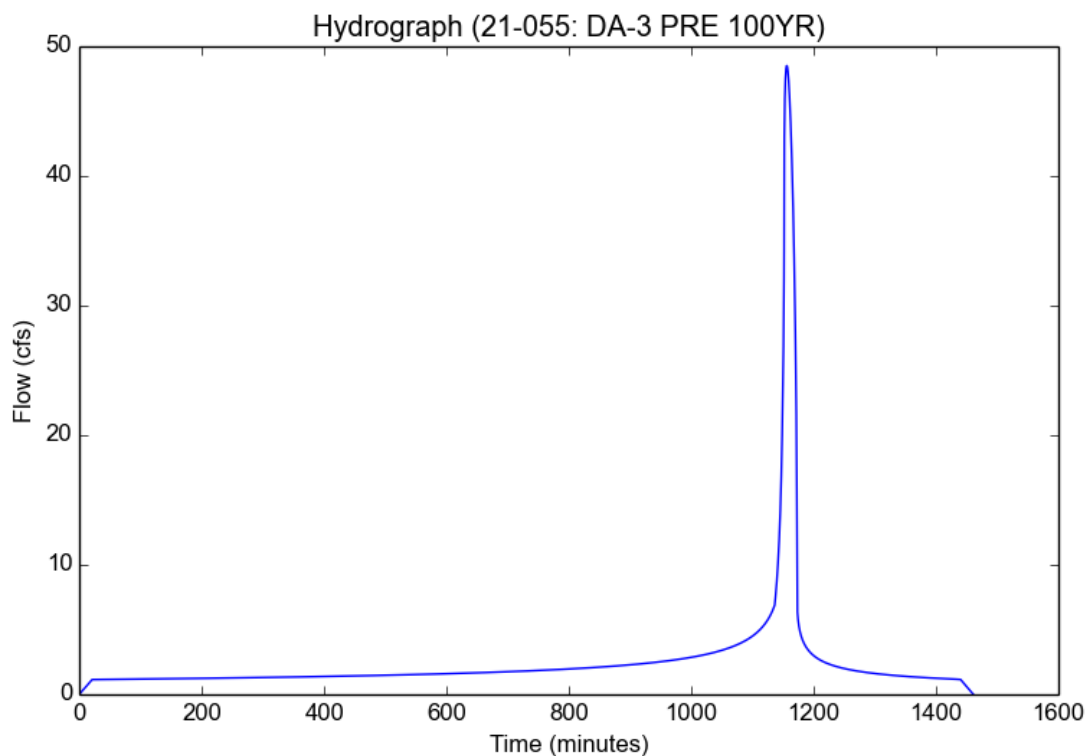
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-3 PRE 100YR
Area (ac)	62.56
Flow Path Length (ft)	2160.0
Flow Path Slope (vft/hft)	0.066
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.01
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	2.3189
Undeveloped Runoff Coefficient (Cu)	0.3287
Developed Runoff Coefficient (Cd)	0.3344
Time of Concentration (min)	21.0
Clear Peak Flow Rate (cfs)	48.5141
Burned Peak Flow Rate (cfs)	48.5141
24-Hr Clear Runoff Volume (ac-ft)	5.1386
24-Hr Clear Runoff Volume (cu-ft)	223838.9512



Peak Flow Hydrologic Analysis

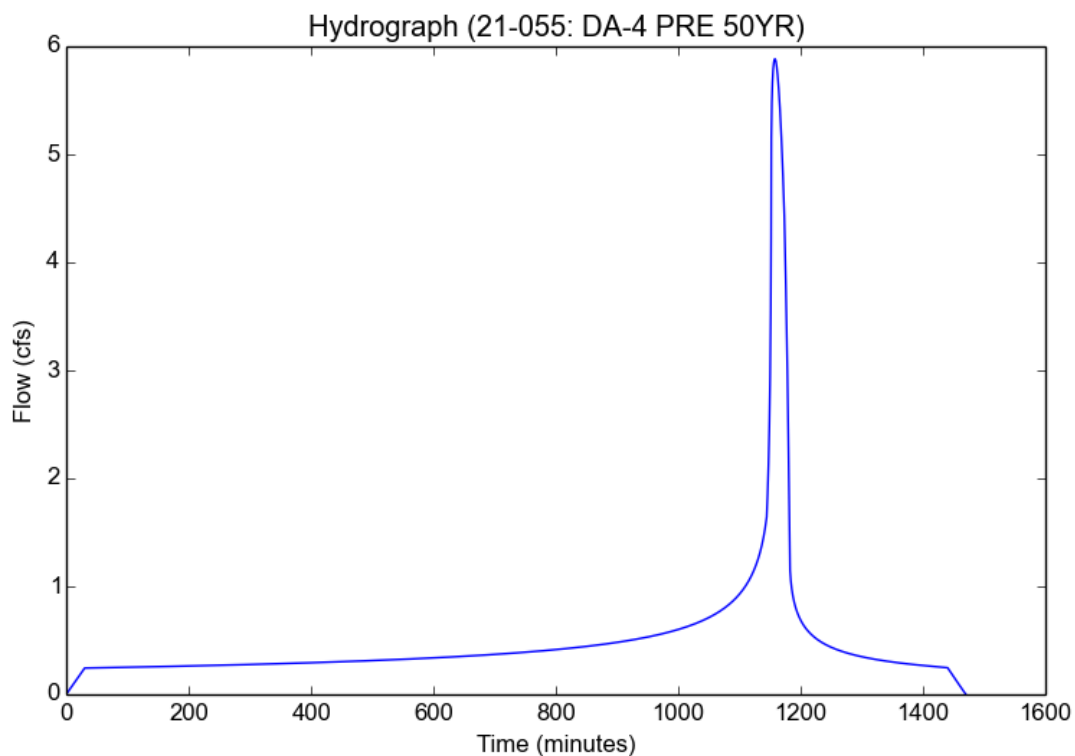
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-4 PRE 50YR
Area (ac)	11.86
Flow Path Length (ft)	2629.0
Flow Path Slope (vft/hft)	0.033
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.045
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	1.7478
Undeveloped Runoff Coefficient (Cu)	0.2548
Developed Runoff Coefficient (Cd)	0.2838
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	5.8836
Burned Peak Flow Rate (cfs)	5.8836
24-Hr Clear Runoff Volume (ac-ft)	1.0062
24-Hr Clear Runoff Volume (cu-ft)	43831.934



Peak Flow Hydrologic Analysis

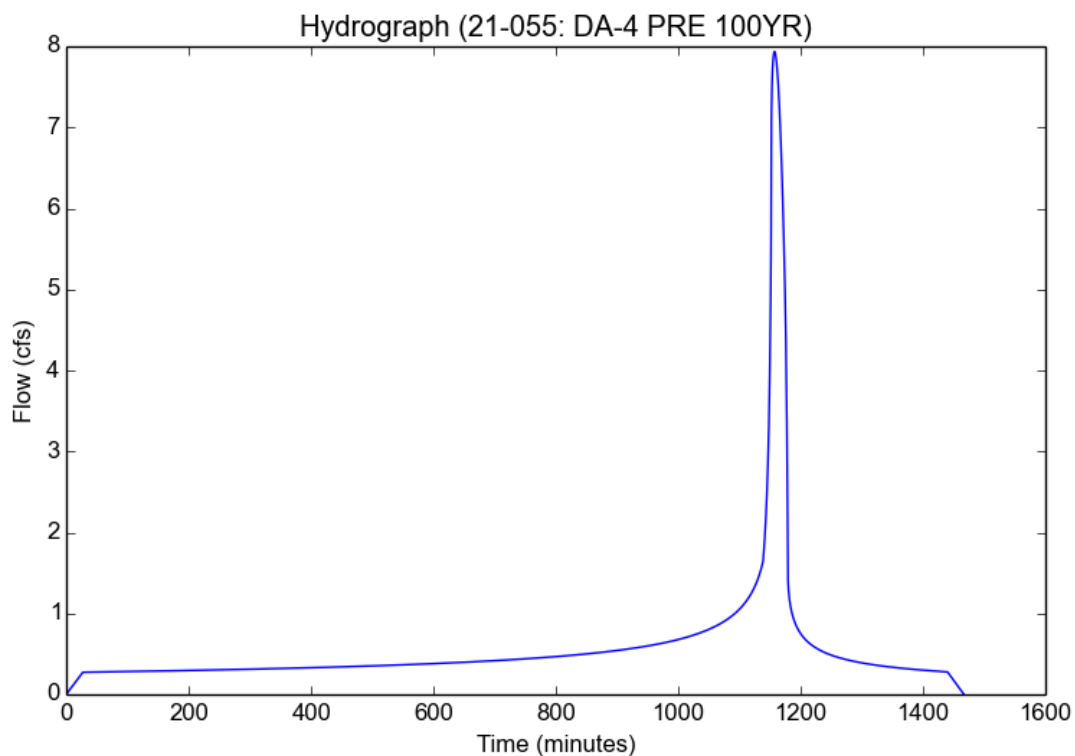
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-4 PRE 100YR
Area (ac)	11.86
Flow Path Length (ft)	2629.0
Flow Path Slope (vft/hft)	0.033
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.045
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	2.0605
Undeveloped Runoff Coefficient (Cu)	0.2976
Developed Runoff Coefficient (Cd)	0.3247
Time of Concentration (min)	27.0
Clear Peak Flow Rate (cfs)	7.9362
Burned Peak Flow Rate (cfs)	7.9362
24-Hr Clear Runoff Volume (ac-ft)	1.166
24-Hr Clear Runoff Volume (cu-ft)	50793.0824



POST DEVELOPEMENT CALCULATIONS

Peak Flow Hydrologic Analysis

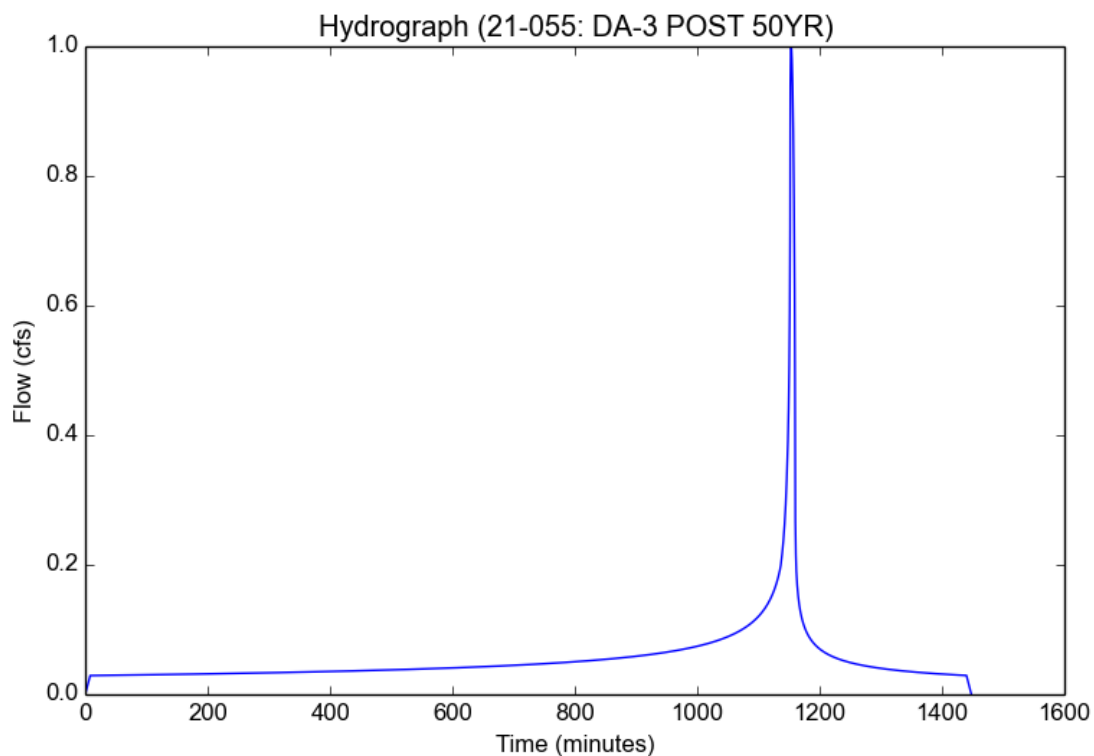
File location: C:/Local Cloud/Shared/2021/21-055 CMC East Campus/Civil/reports/Hydrology/Working/21-055 - DA-3 POST 50 YR.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-3 POST 50YR
Area (ac)	0.517
Flow Path Length (ft)	460.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.342
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.2529
Undeveloped Runoff Coefficient (Cu)	0.4348
Developed Runoff Coefficient (Cd)	0.5939
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.9988
Burned Peak Flow Rate (cfs)	0.9988
24-Hr Clear Runoff Volume (ac-ft)	0.113
24-Hr Clear Runoff Volume (cu-ft)	4922.4216



Peak Flow Hydrologic Analysis

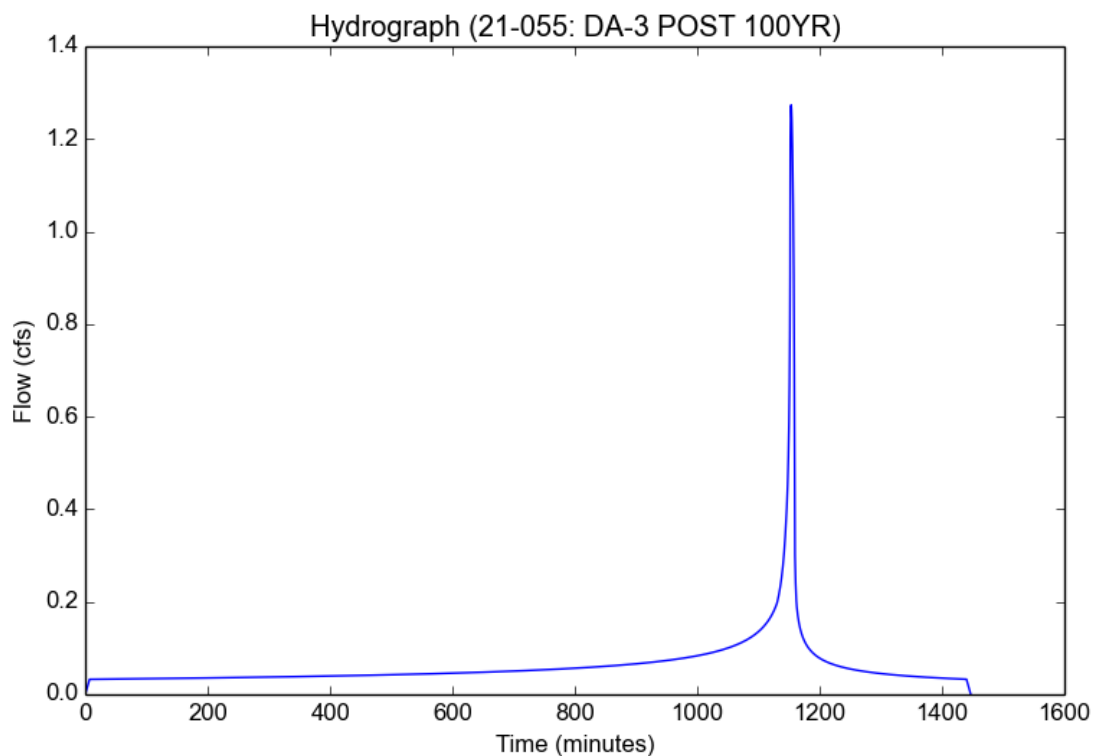
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-3 POST 100YR
Area (ac)	0.517
Flow Path Length (ft)	460.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.342
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.8862
Undeveloped Runoff Coefficient (Cu)	0.4954
Developed Runoff Coefficient (Cd)	0.6338
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	1.2733
Burned Peak Flow Rate (cfs)	1.2733
24-Hr Clear Runoff Volume (ac-ft)	0.1278
24-Hr Clear Runoff Volume (cu-ft)	5568.6477



Peak Flow Hydrologic Analysis

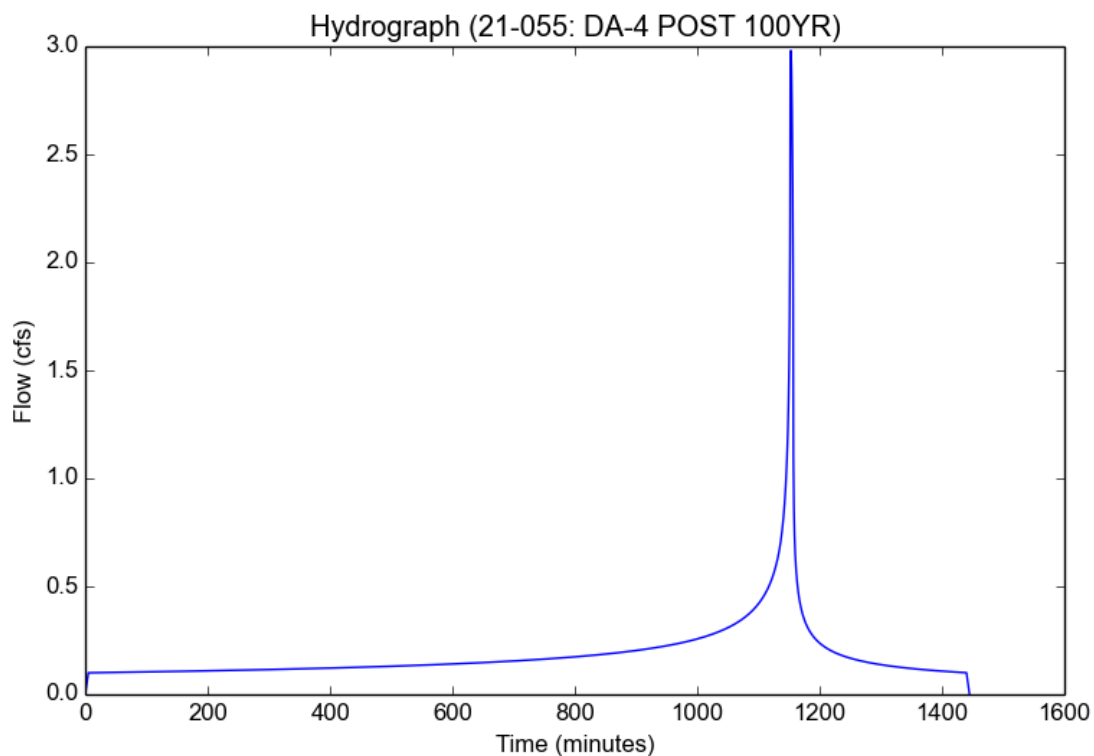
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-4 POST 100YR
Area (ac)	0.89
Flow Path Length (ft)	249.0
Flow Path Slope (vft/hft)	0.007
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.809
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.8256
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.9812
Burned Peak Flow Rate (cfs)	2.9812
24-Hr Clear Runoff Volume (ac-ft)	0.3761
24-Hr Clear Runoff Volume (cu-ft)	16383.8829



Peak Flow Hydrologic Analysis

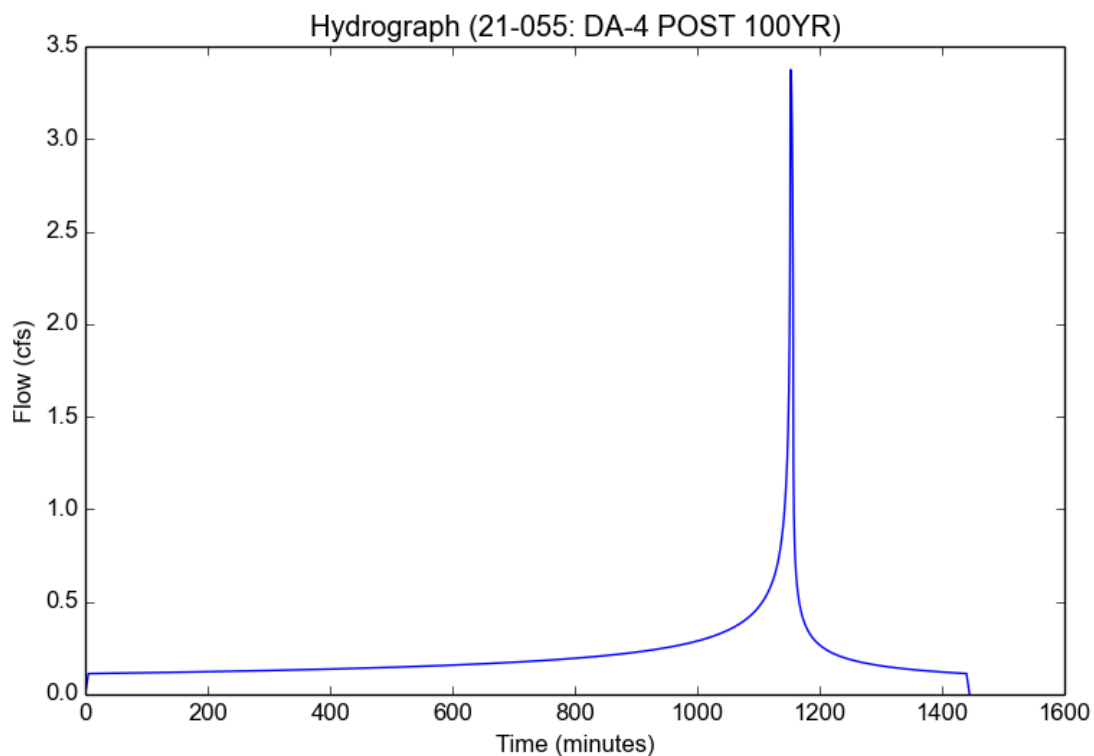
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-4 POST 100YR
Area (ac)	0.89
Flow Path Length (ft)	249.0
Flow Path Slope (vft/hft)	0.007
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.809
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.8329
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.3742
Burned Peak Flow Rate (cfs)	3.3742
24-Hr Clear Runoff Volume (ac-ft)	0.4225
24-Hr Clear Runoff Volume (cu-ft)	18402.925



Peak Flow Hydrologic Analysis

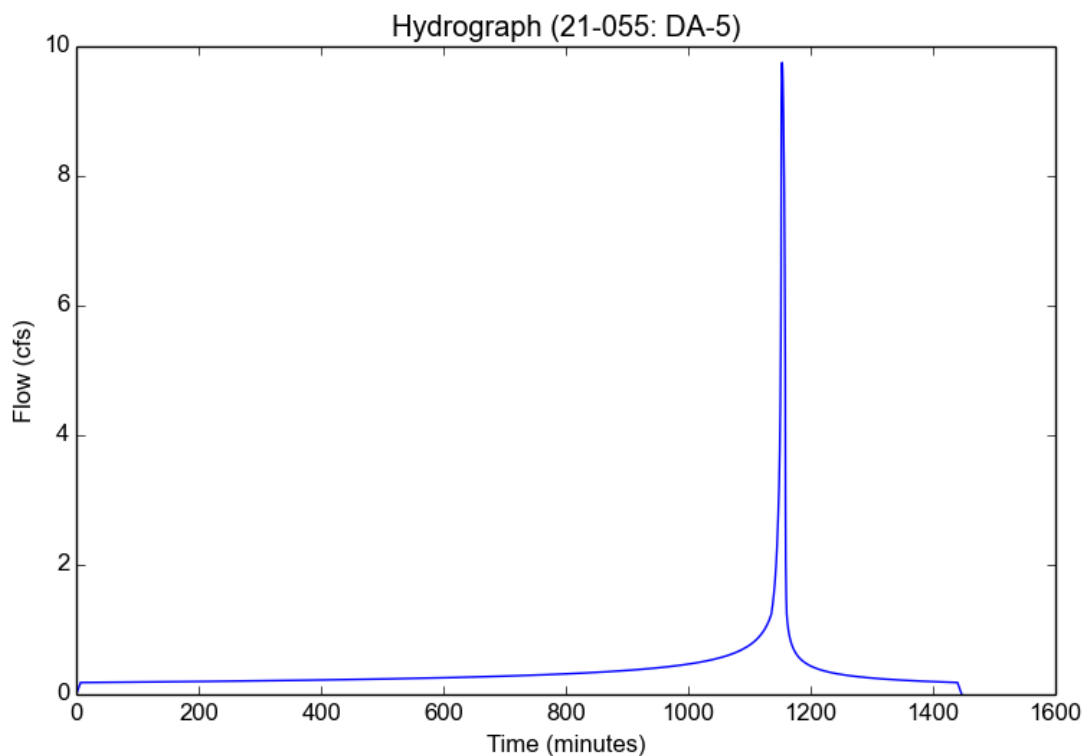
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-5
Area (ac)	5.36
Flow Path Length (ft)	676.0
Flow Path Slope (vft/hft)	0.097
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.158
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.4636
Undeveloped Runoff Coefficient (Cu)	0.455
Developed Runoff Coefficient (Cd)	0.5253
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	9.7518
Burned Peak Flow Rate (cfs)	9.7518
24-Hr Clear Runoff Volume (ac-ft)	0.7424
24-Hr Clear Runoff Volume (cu-ft)	32338.522



Peak Flow Hydrologic Analysis

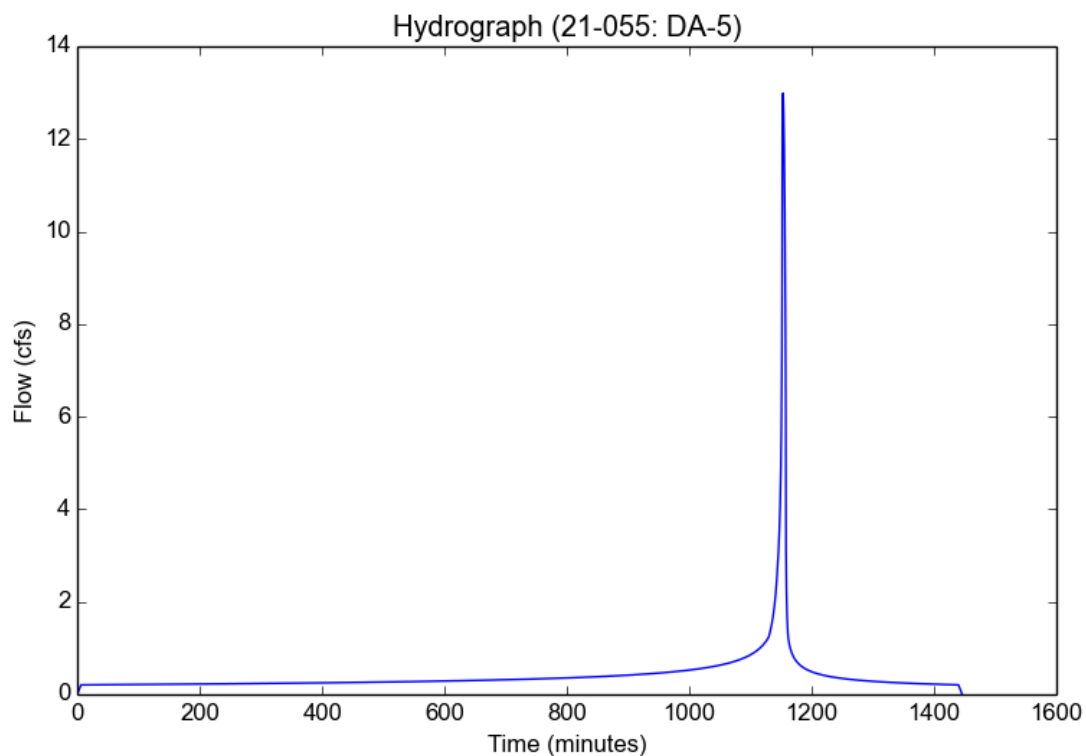
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-5
Area (ac)	5.36
Flow Path Length (ft)	676.0
Flow Path Slope (vft/hft)	0.097
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.158
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.1782
Undeveloped Runoff Coefficient (Cu)	0.5199
Developed Runoff Coefficient (Cd)	0.58
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	12.9885
Burned Peak Flow Rate (cfs)	12.9885
24-Hr Clear Runoff Volume (ac-ft)	0.8472
24-Hr Clear Runoff Volume (cu-ft)	36903.0075



Peak Flow Hydrologic Analysis

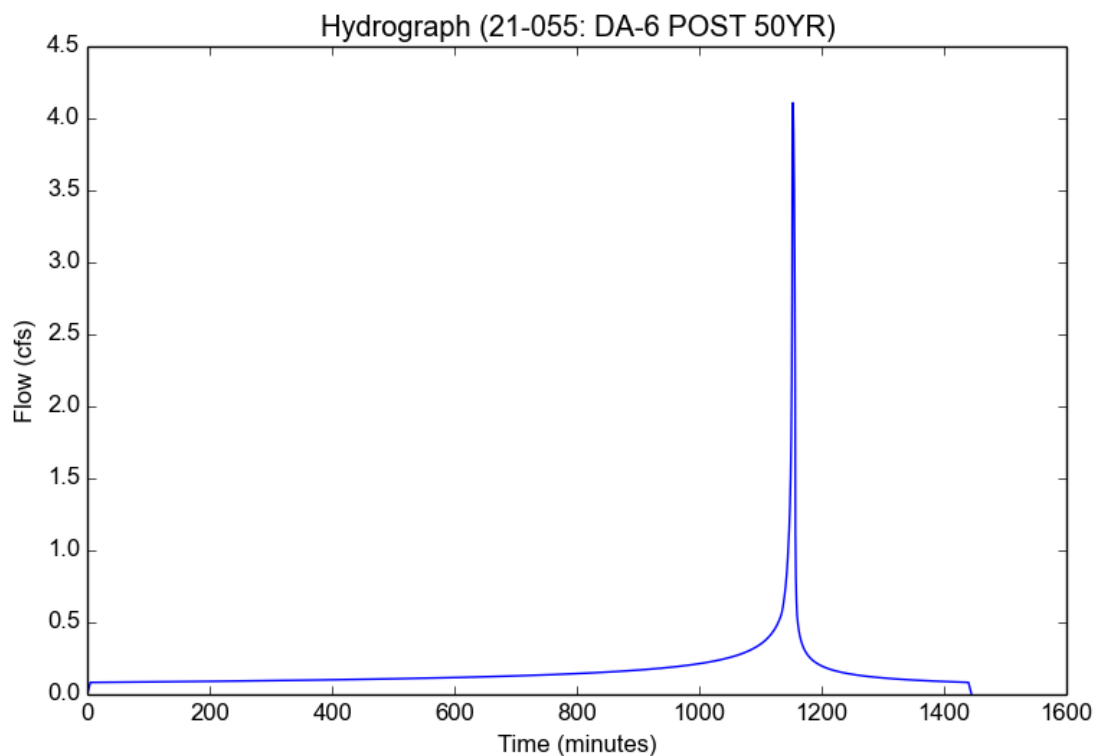
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-6 POST 50YR
Area (ac)	1.61
Flow Path Length (ft)	482.0
Flow Path Slope (vft/hft)	0.129
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.304
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.629
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.1086
Burned Peak Flow Rate (cfs)	4.1086
24-Hr Clear Runoff Volume (ac-ft)	0.3263
24-Hr Clear Runoff Volume (cu-ft)	14215.2137



Peak Flow Hydrologic Analysis

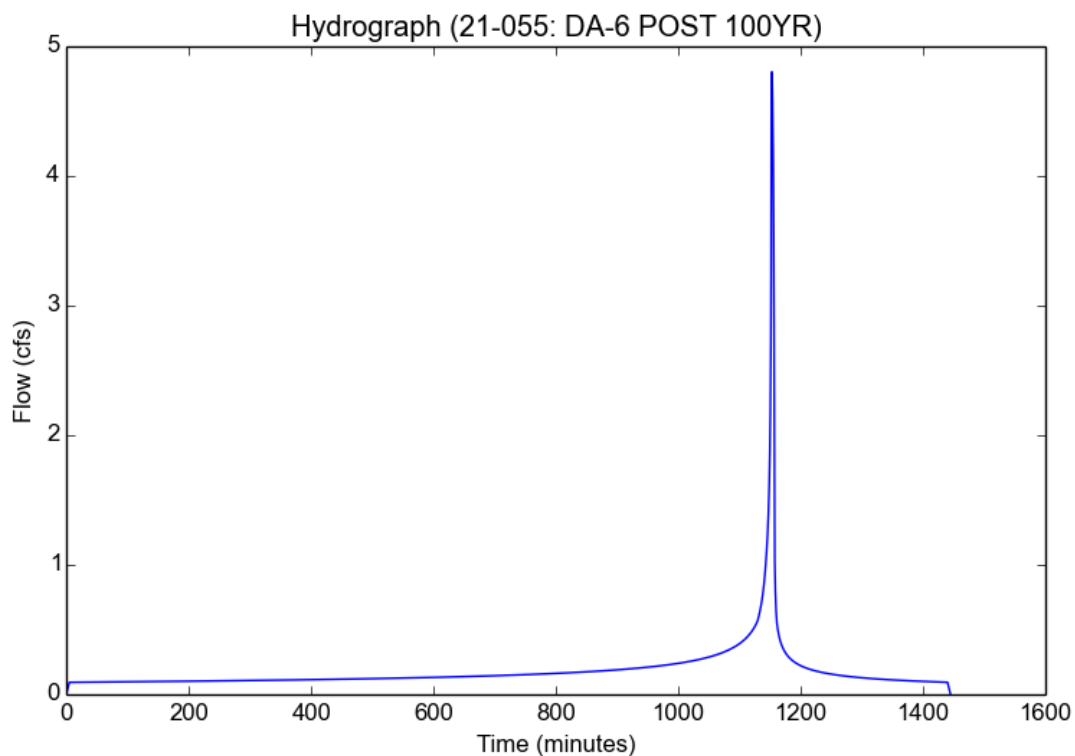
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-6 POST 100YR
Area (ac)	1.61
Flow Path Length (ft)	482.0
Flow Path Slope (vft/hft)	0.129
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.304
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6554
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.8033
Burned Peak Flow Rate (cfs)	4.8033
24-Hr Clear Runoff Volume (ac-ft)	0.3692
24-Hr Clear Runoff Volume (cu-ft)	16082.6818



Peak Flow Hydrologic Analysis

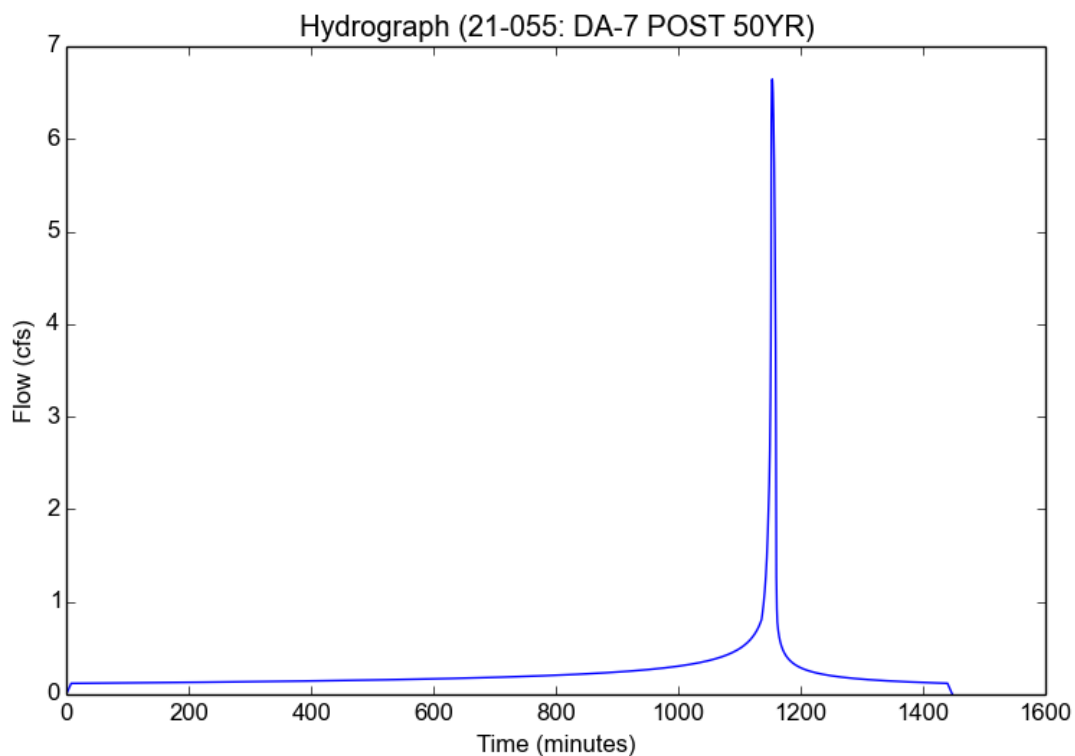
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-7 POST 50YR
Area (ac)	4.2
Flow Path Length (ft)	454.0
Flow Path Slope (vft/hft)	0.024
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.111
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.2529
Undeveloped Runoff Coefficient (Cu)	0.4348
Developed Runoff Coefficient (Cd)	0.4864
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	6.646
Burned Peak Flow Rate (cfs)	6.646
24-Hr Clear Runoff Volume (ac-ft)	0.4945
24-Hr Clear Runoff Volume (cu-ft)	21541.8131



Peak Flow Hydrologic Analysis

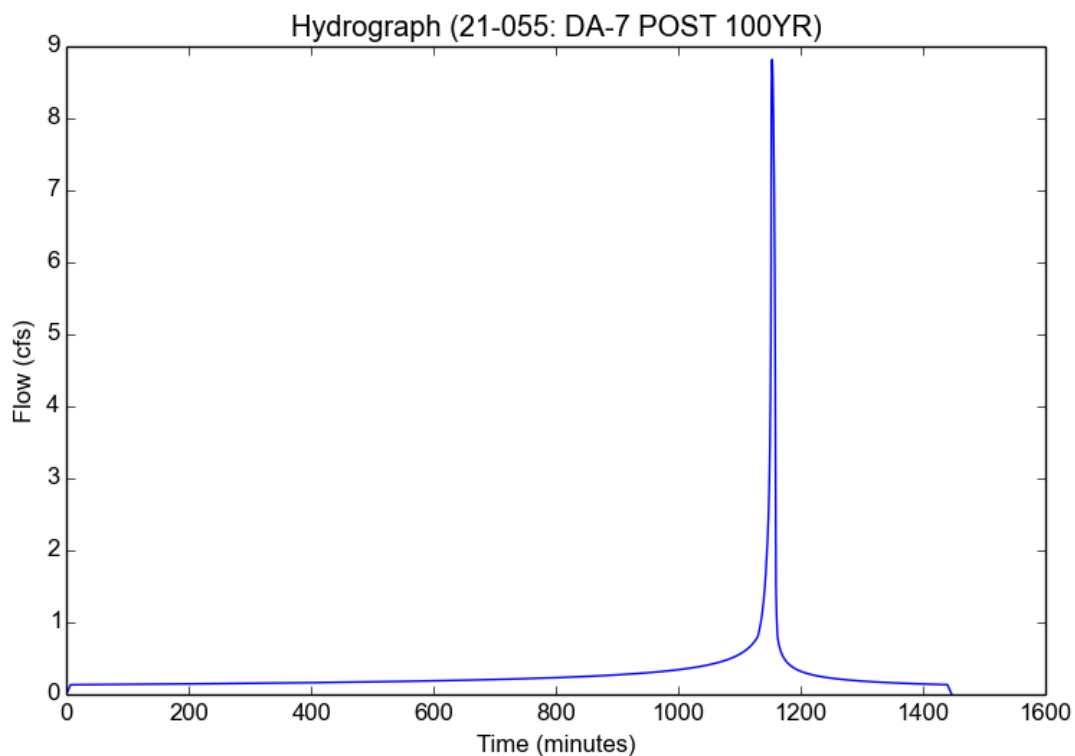
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-7 POST 100YR
Area (ac)	4.2
Flow Path Length (ft)	454.0
Flow Path Slope (vft/hft)	0.024
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.111
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.8862
Undeveloped Runoff Coefficient (Cu)	0.4954
Developed Runoff Coefficient (Cd)	0.5403
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	8.8186
Burned Peak Flow Rate (cfs)	8.8186
24-Hr Clear Runoff Volume (ac-ft)	0.5664
24-Hr Clear Runoff Volume (cu-ft)	24671.4103



Peak Flow Hydrologic Analysis

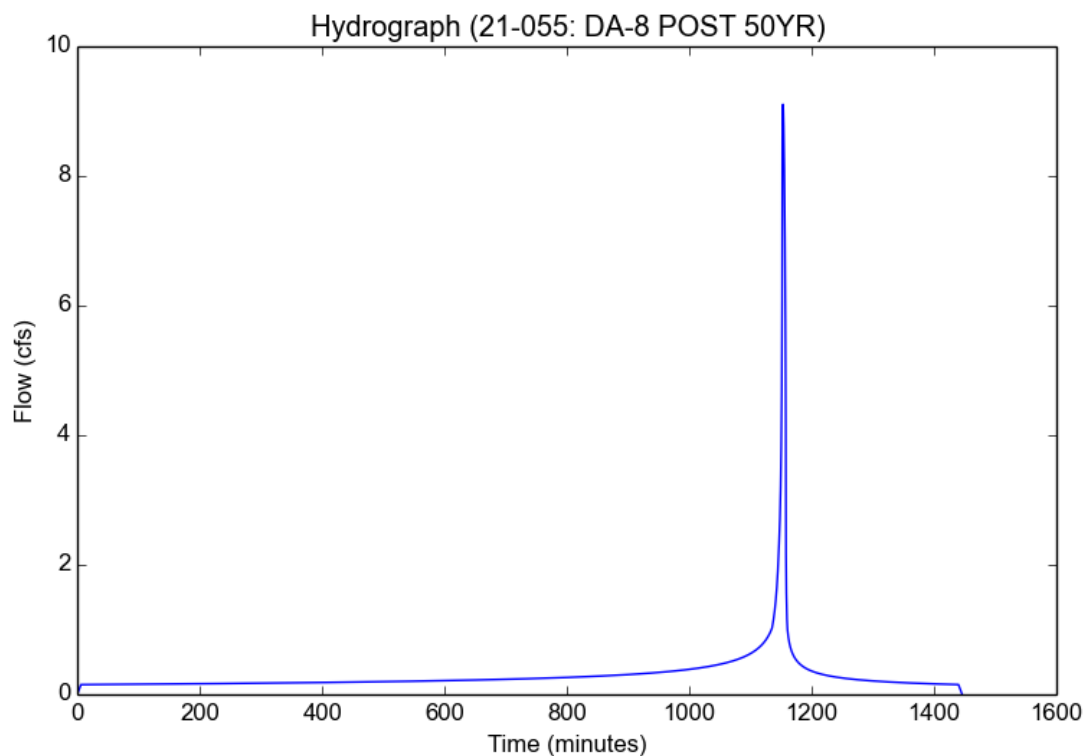
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-8 POST 50YR
Area (ac)	4.49
Flow Path Length (ft)	529.0
Flow Path Slope (vft/hft)	0.115
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.154
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.7239
Undeveloped Runoff Coefficient (Cu)	0.4799
Developed Runoff Coefficient (Cd)	0.5446
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	9.1051
Burned Peak Flow Rate (cfs)	9.1051
24-Hr Clear Runoff Volume (ac-ft)	0.6153
24-Hr Clear Runoff Volume (cu-ft)	26803.3439



Peak Flow Hydrologic Analysis

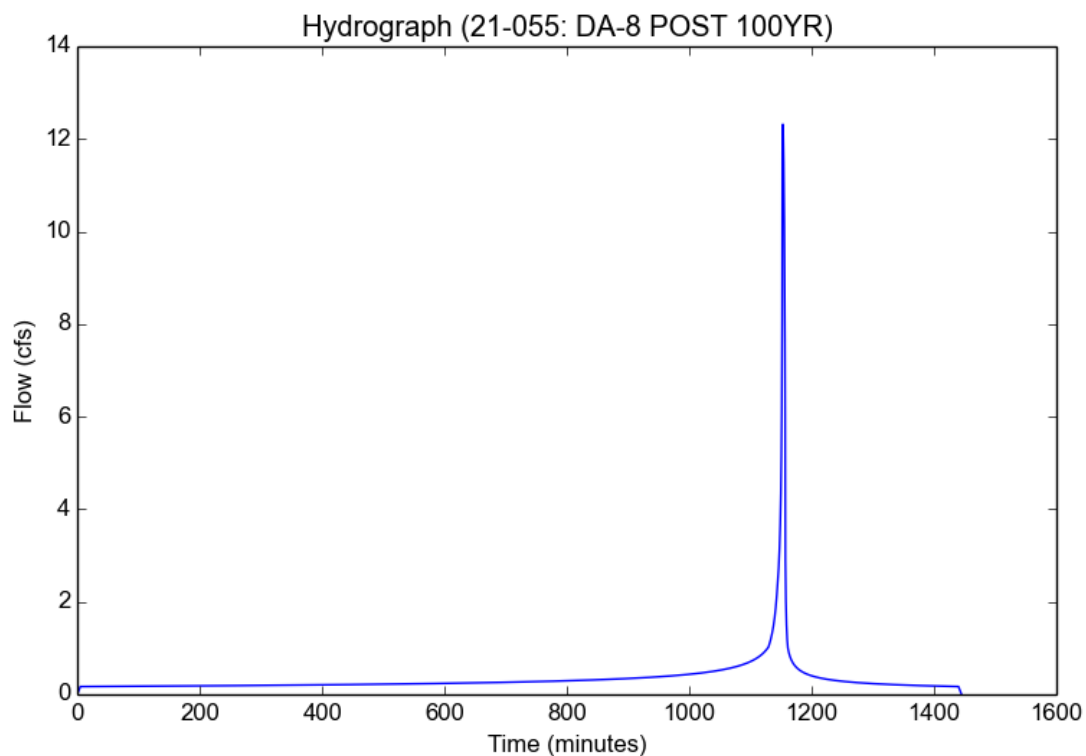
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-8 POST 100YR
Area (ac)	4.49
Flow Path Length (ft)	529.0
Flow Path Slope (vft/hft)	0.115
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.154
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6027
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	12.318
Burned Peak Flow Rate (cfs)	12.318
24-Hr Clear Runoff Volume (ac-ft)	0.7024
24-Hr Clear Runoff Volume (cu-ft)	30597.2411



Peak Flow Hydrologic Analysis

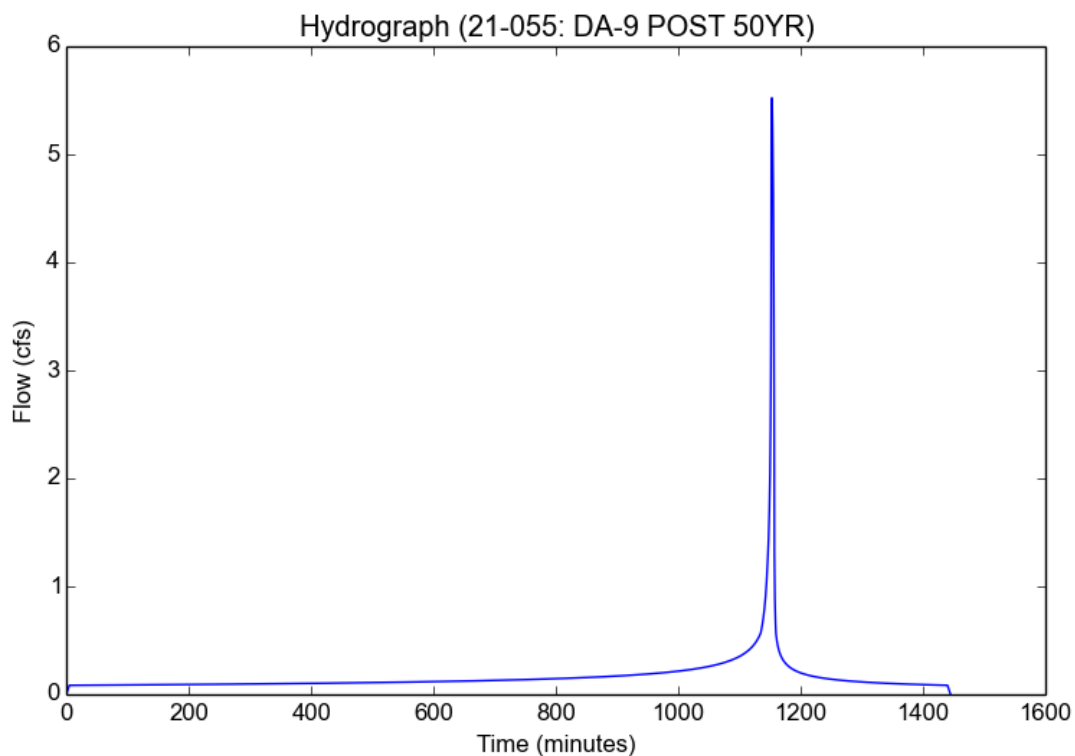
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-9 POST 50YR
Area (ac)	2.36
Flow Path Length (ft)	468.0
Flow Path Slope (vft/hft)	0.126
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.17
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.5768
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.5229
Burned Peak Flow Rate (cfs)	5.5229
24-Hr Clear Runoff Volume (ac-ft)	0.3406
24-Hr Clear Runoff Volume (cu-ft)	14838.3341



Peak Flow Hydrologic Analysis

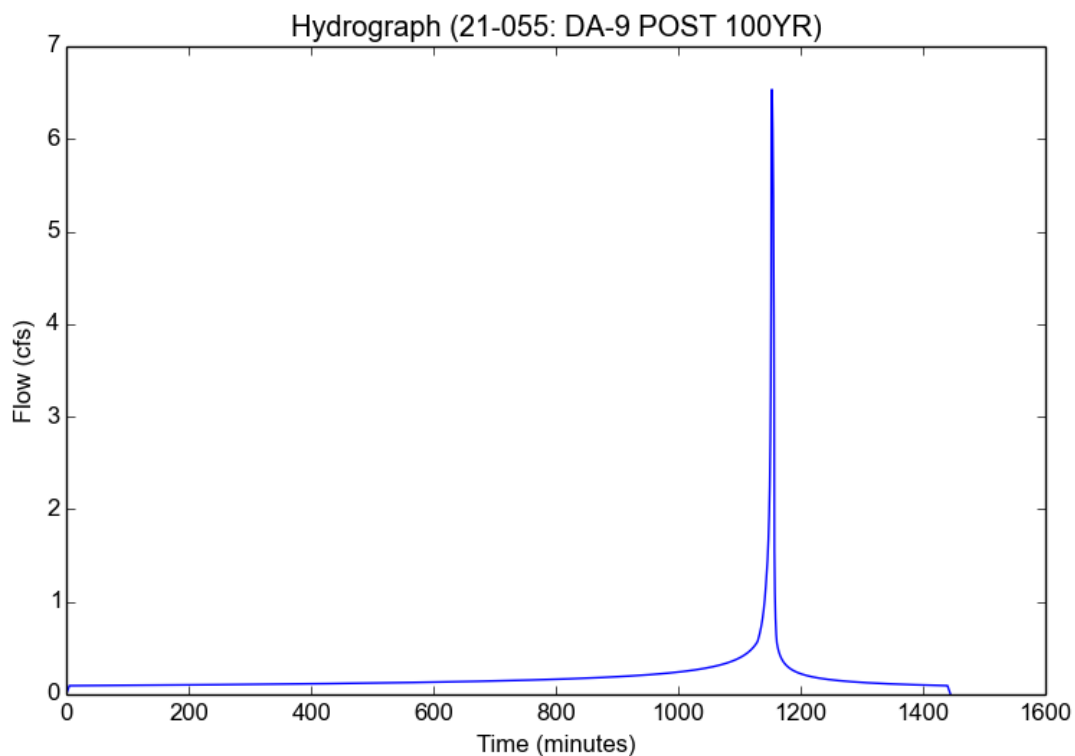
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-9 POST 100YR
Area (ac)	2.36
Flow Path Length (ft)	468.0
Flow Path Slope (vft/hft)	0.126
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.17
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6083
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.5349
Burned Peak Flow Rate (cfs)	6.5349
24-Hr Clear Runoff Volume (ac-ft)	0.3875
24-Hr Clear Runoff Volume (cu-ft)	16881.4726



Peak Flow Hydrologic Analysis

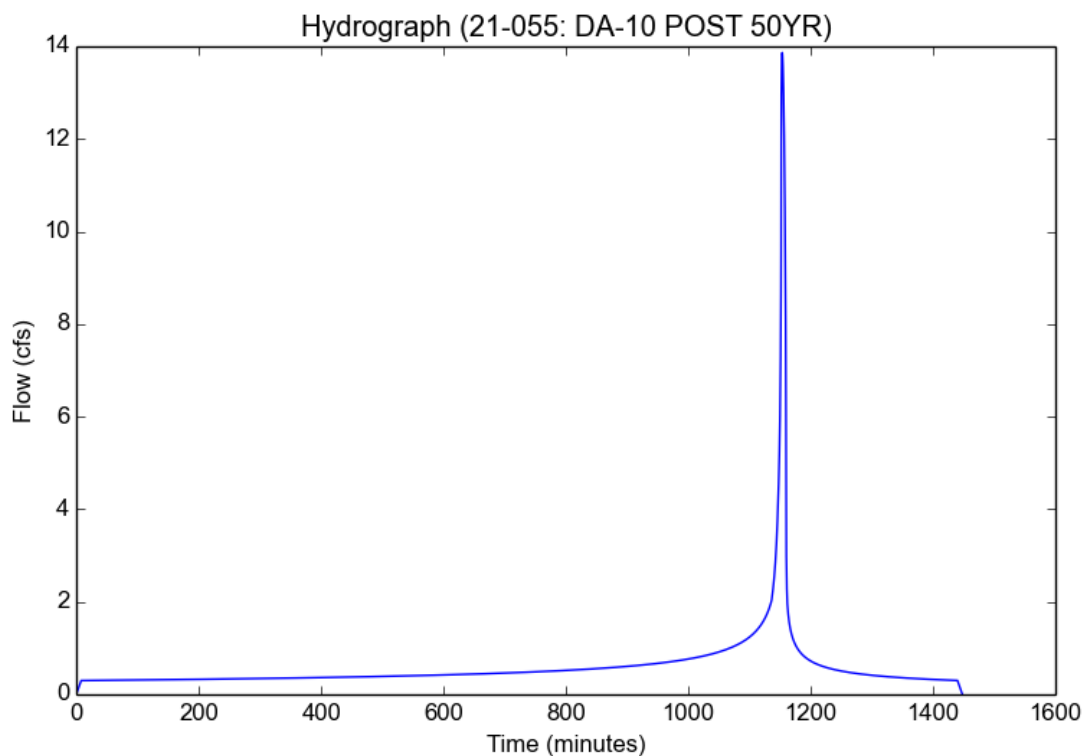
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-10 POST 50YR
Area (ac)	8.25
Flow Path Length (ft)	553.0
Flow Path Slope (vft/hft)	0.041
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.176
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.2529
Undeveloped Runoff Coefficient (Cu)	0.4348
Developed Runoff Coefficient (Cd)	0.5167
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	13.866
Burned Peak Flow Rate (cfs)	13.866
24-Hr Clear Runoff Volume (ac-ft)	1.2055
24-Hr Clear Runoff Volume (cu-ft)	52510.2729



Peak Flow Hydrologic Analysis

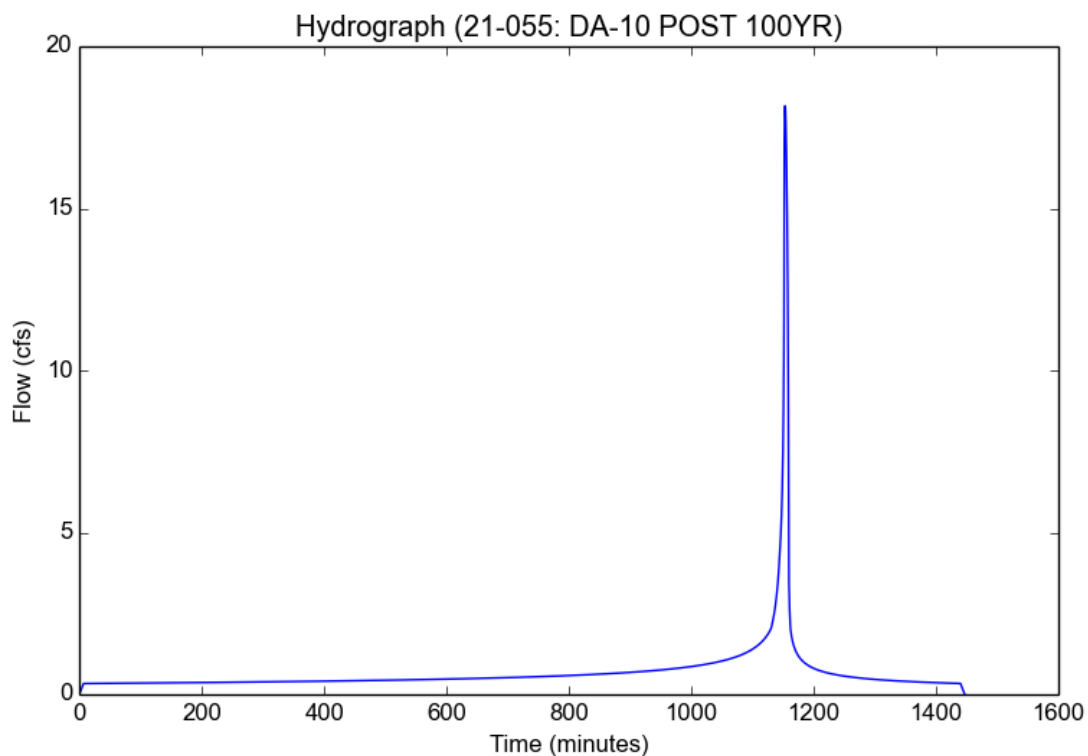
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-10 POST 100YR
Area (ac)	8.25
Flow Path Length (ft)	553.0
Flow Path Slope (vft/hft)	0.041
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.176
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.8862
Undeveloped Runoff Coefficient (Cu)	0.4954
Developed Runoff Coefficient (Cd)	0.5666
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	18.1655
Burned Peak Flow Rate (cfs)	18.1655
24-Hr Clear Runoff Volume (ac-ft)	1.3735
24-Hr Clear Runoff Volume (cu-ft)	59829.5798



Peak Flow Hydrologic Analysis

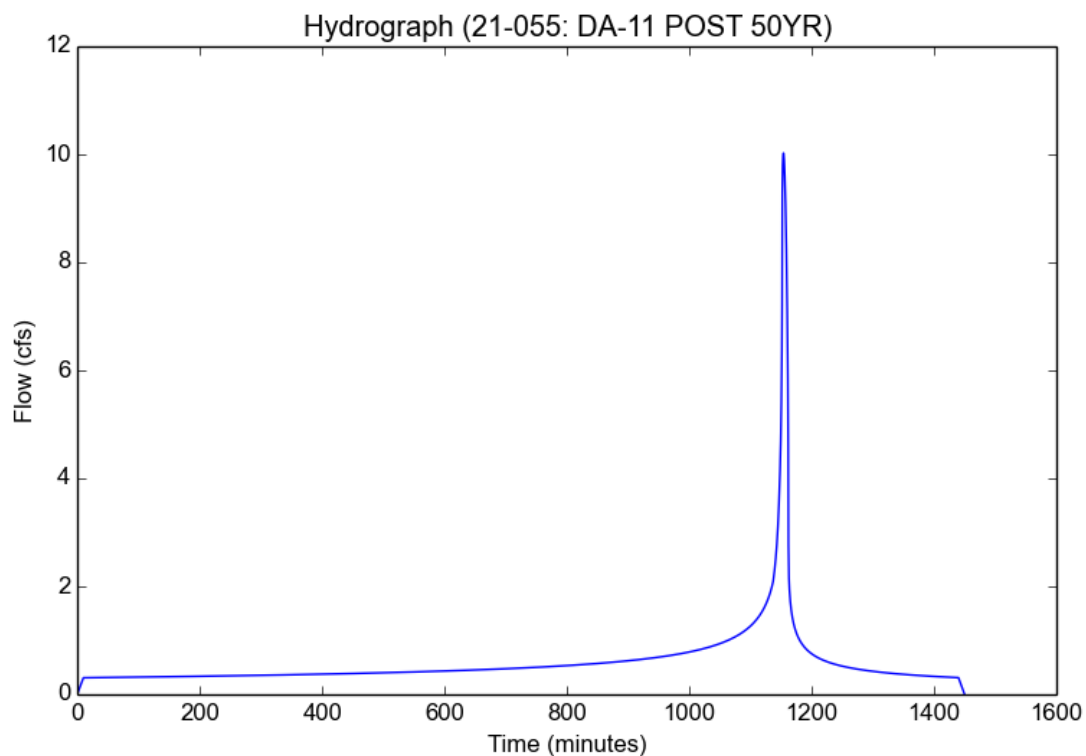
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-11 POST 50YR
Area (ac)	6.32
Flow Path Length (ft)	782.0
Flow Path Slope (vft/hft)	0.022
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.28
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	2.9291
Undeveloped Runoff Coefficient (Cu)	0.4021
Developed Runoff Coefficient (Cd)	0.5415
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	10.0241
Burned Peak Flow Rate (cfs)	10.0241
24-Hr Clear Runoff Volume (ac-ft)	1.2078
24-Hr Clear Runoff Volume (cu-ft)	52612.2833



Peak Flow Hydrologic Analysis

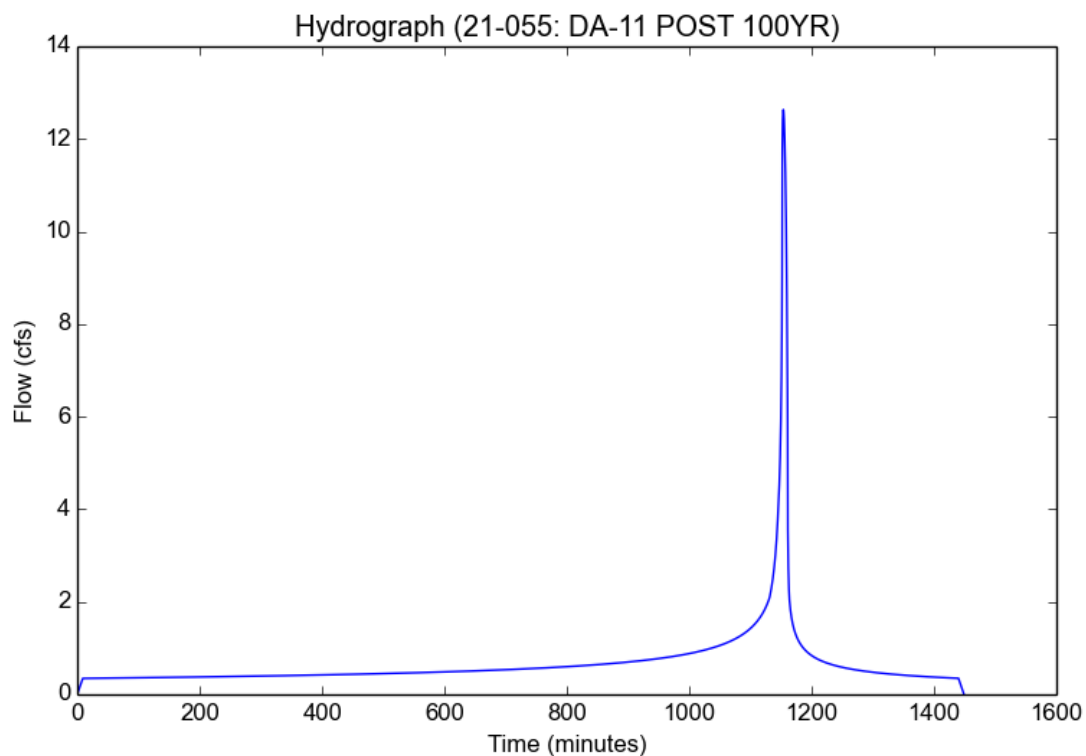
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-11 POST 100YR
Area (ac)	6.32
Flow Path Length (ft)	782.0
Flow Path Slope (vft/hft)	0.022
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.28
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.4532
Undeveloped Runoff Coefficient (Cu)	0.454
Developed Runoff Coefficient (Cd)	0.5789
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	12.6332
Burned Peak Flow Rate (cfs)	12.6332
24-Hr Clear Runoff Volume (ac-ft)	1.3689
24-Hr Clear Runoff Volume (cu-ft)	59629.2852



Peak Flow Hydrologic Analysis

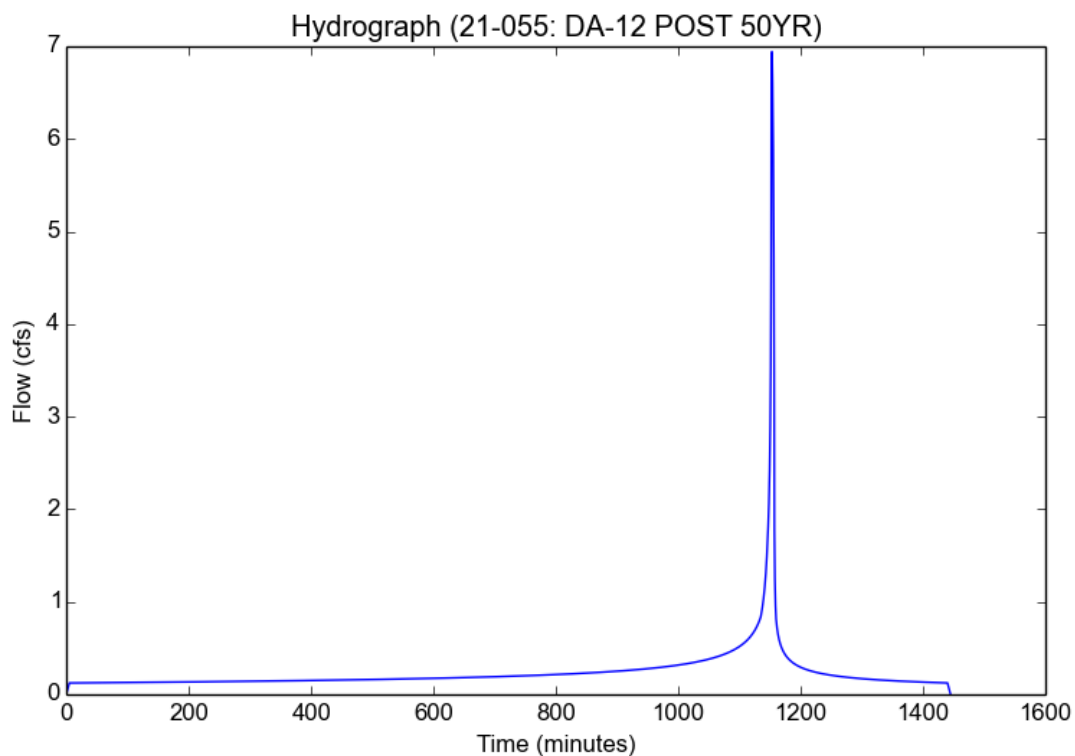
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-12 POST 50YR
Area (ac)	2.84
Flow Path Length (ft)	323.0
Flow Path Slope (vft/hft)	0.082
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.236
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.6025
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.9423
Burned Peak Flow Rate (cfs)	6.9423
24-Hr Clear Runoff Volume (ac-ft)	0.4916
24-Hr Clear Runoff Volume (cu-ft)	21411.9191



Peak Flow Hydrologic Analysis

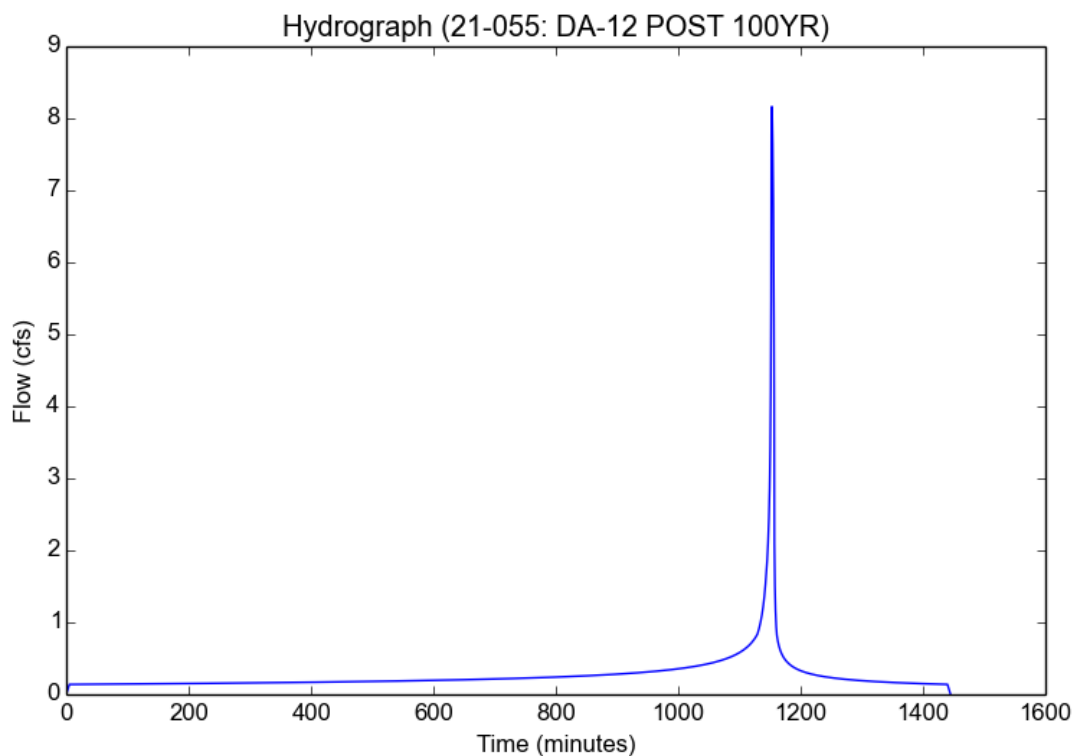
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-12 POST 100YR
Area (ac)	2.84
Flow Path Length (ft)	323.0
Flow Path Slope (vft/hft)	0.082
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.236
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6315
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.1639
Burned Peak Flow Rate (cfs)	8.1639
24-Hr Clear Runoff Volume (ac-ft)	0.5574
24-Hr Clear Runoff Volume (cu-ft)	24282.1139



Peak Flow Hydrologic Analysis

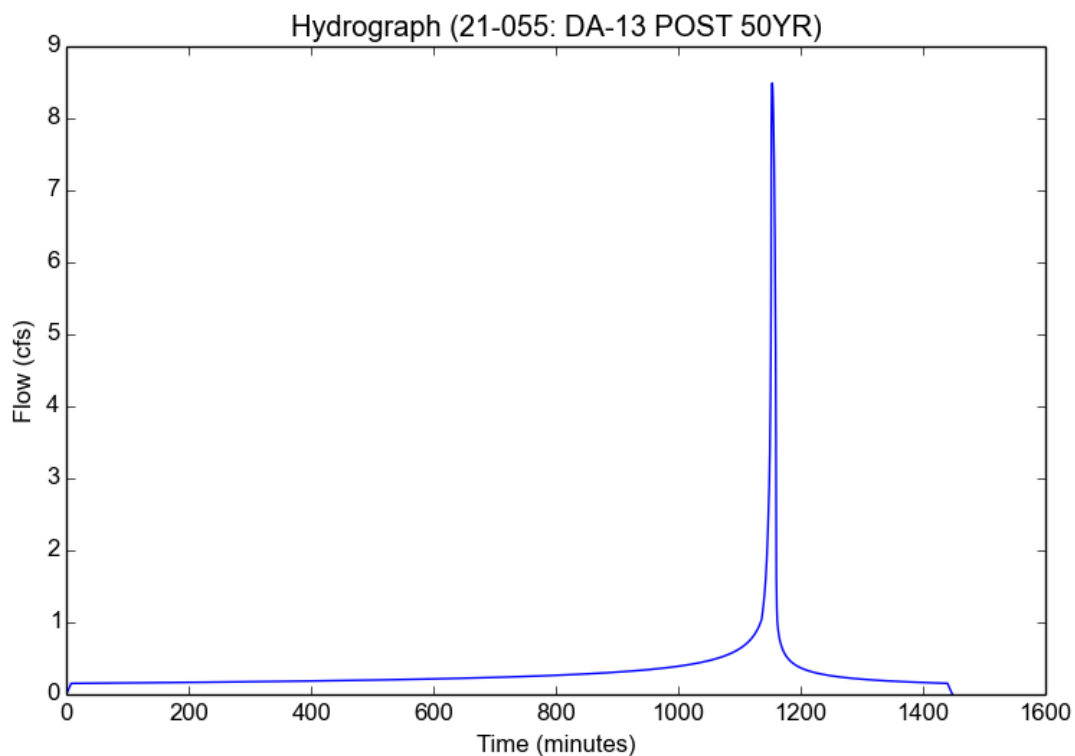
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-13 POST 50YR
Area (ac)	5.36
Flow Path Length (ft)	737.0
Flow Path Slope (vft/hft)	0.089
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.112
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.2529
Undeveloped Runoff Coefficient (Cu)	0.4348
Developed Runoff Coefficient (Cd)	0.4869
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	8.4896
Burned Peak Flow Rate (cfs)	8.4896
24-Hr Clear Runoff Volume (ac-ft)	0.6335
24-Hr Clear Runoff Volume (cu-ft)	27593.3691



Peak Flow Hydrologic Analysis

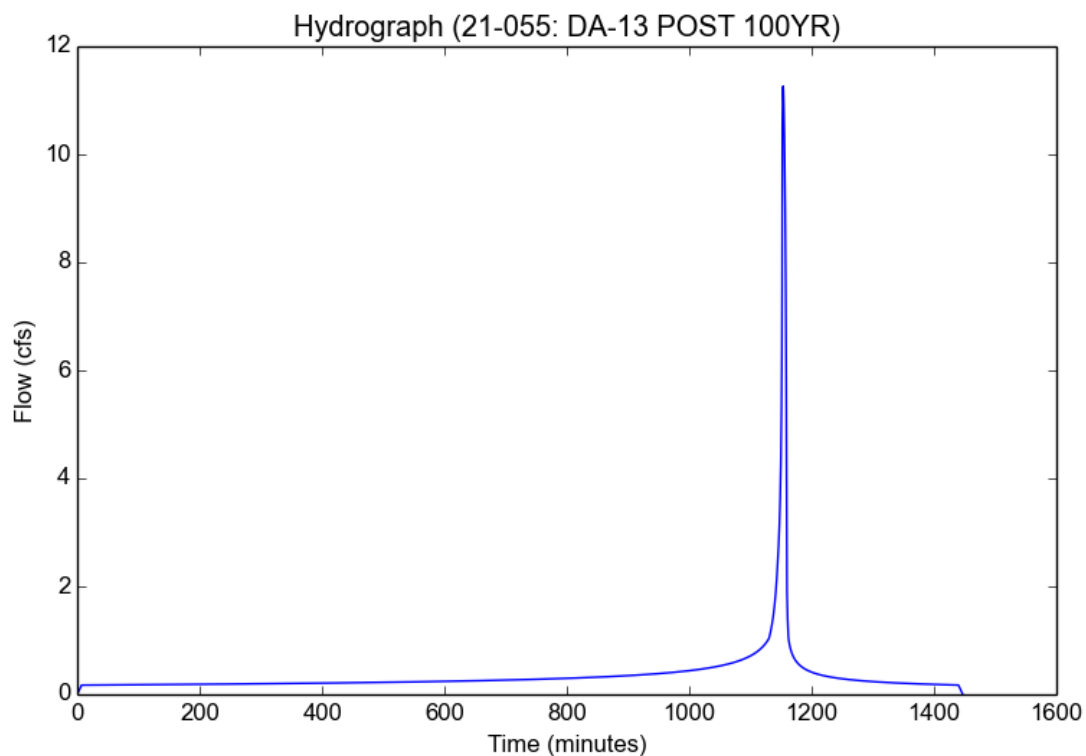
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-13 POST 100YR
Area (ac)	5.36
Flow Path Length (ft)	737.0
Flow Path Slope (vft/hft)	0.089
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.112
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.8862
Undeveloped Runoff Coefficient (Cu)	0.4954
Developed Runoff Coefficient (Cd)	0.5407
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	11.2627
Burned Peak Flow Rate (cfs)	11.2627
24-Hr Clear Runoff Volume (ac-ft)	0.7254
24-Hr Clear Runoff Volume (cu-ft)	31599.0447



Peak Flow Hydrologic Analysis

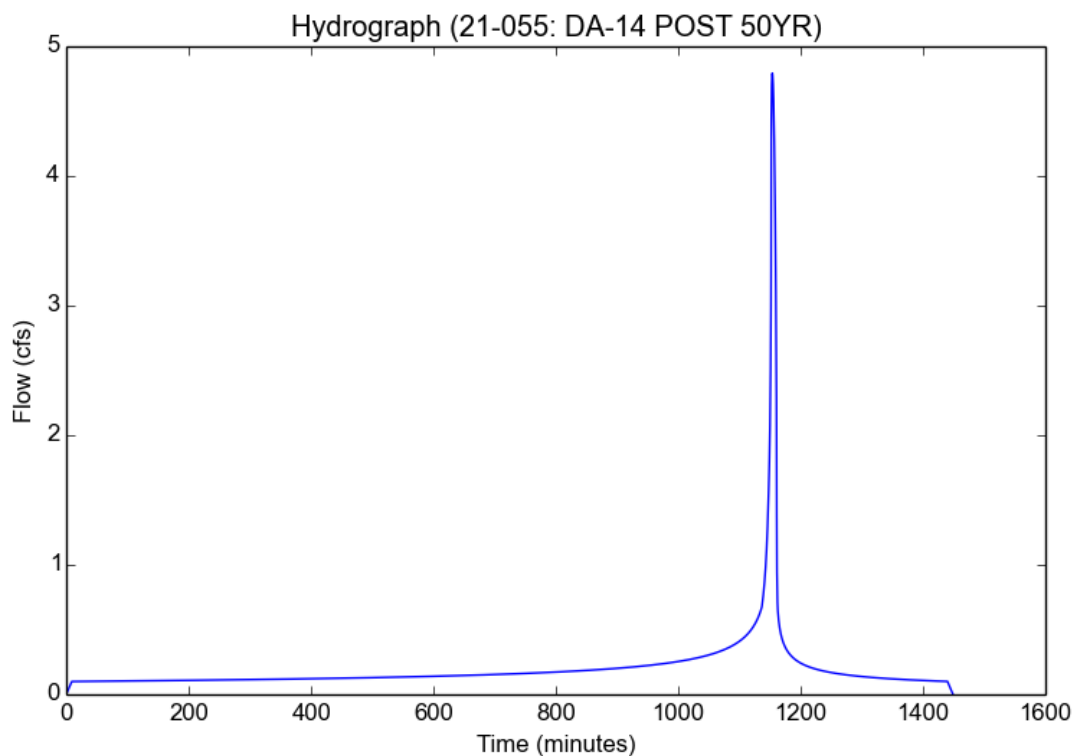
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-14 POST 50YR
Area (ac)	3.24
Flow Path Length (ft)	829.0
Flow Path Slope (vft/hft)	0.077
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.13
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.0778
Undeveloped Runoff Coefficient (Cu)	0.4181
Developed Runoff Coefficient (Cd)	0.4807
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	4.7936
Burned Peak Flow Rate (cfs)	4.7936
24-Hr Clear Runoff Volume (ac-ft)	0.4076
24-Hr Clear Runoff Volume (cu-ft)	17754.9492



Peak Flow Hydrologic Analysis

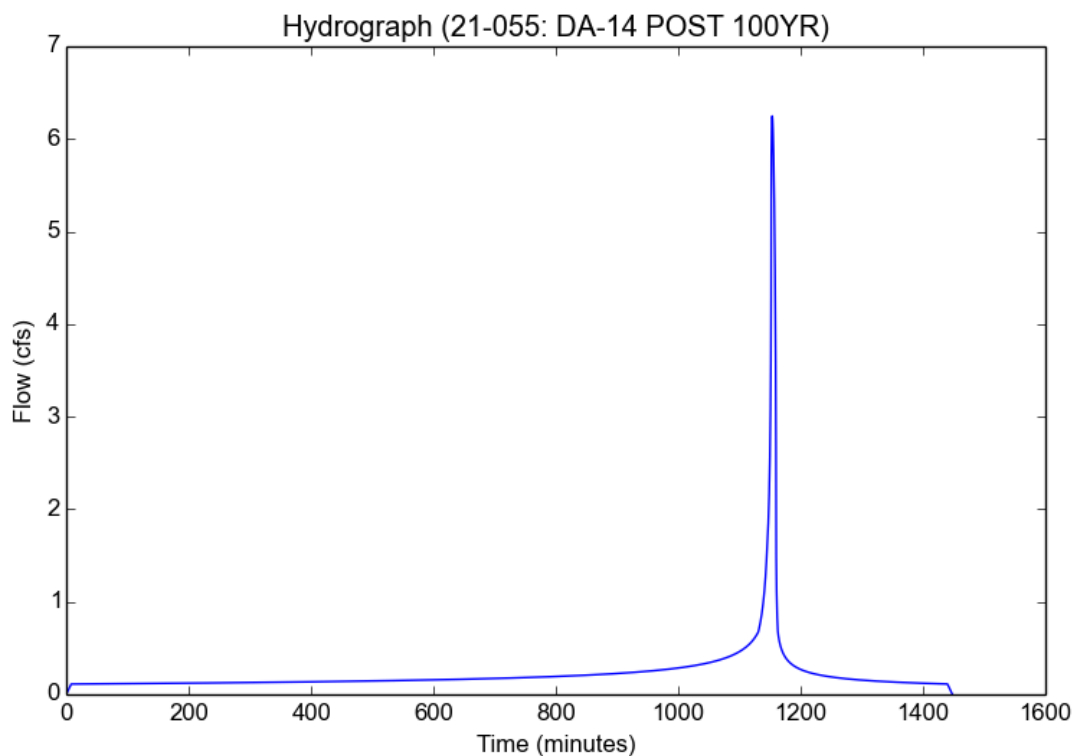
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-14 POST 100YR
Area (ac)	3.24
Flow Path Length (ft)	829.0
Flow Path Slope (vft/hft)	0.077
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.13
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.6498
Undeveloped Runoff Coefficient (Cu)	0.4728
Developed Runoff Coefficient (Cd)	0.5283
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	6.2474
Burned Peak Flow Rate (cfs)	6.2474
24-Hr Clear Runoff Volume (ac-ft)	0.4658
24-Hr Clear Runoff Volume (cu-ft)	20292.0033



Peak Flow Hydrologic Analysis

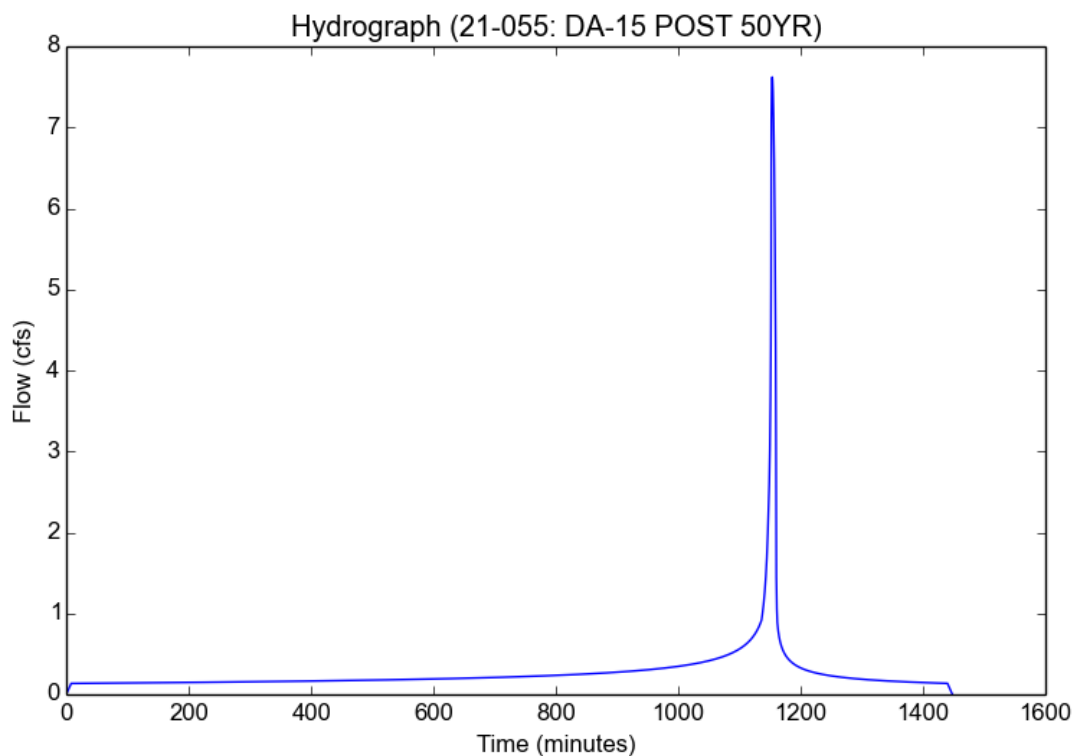
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-15 POST 50YR
Area (ac)	4.83
Flow Path Length (ft)	462.0
Flow Path Slope (vft/hft)	0.024
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.108
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.2529
Undeveloped Runoff Coefficient (Cu)	0.4348
Developed Runoff Coefficient (Cd)	0.485
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	7.6209
Burned Peak Flow Rate (cfs)	7.6209
24-Hr Clear Runoff Volume (ac-ft)	0.5624
24-Hr Clear Runoff Volume (cu-ft)	24497.5792



Peak Flow Hydrologic Analysis

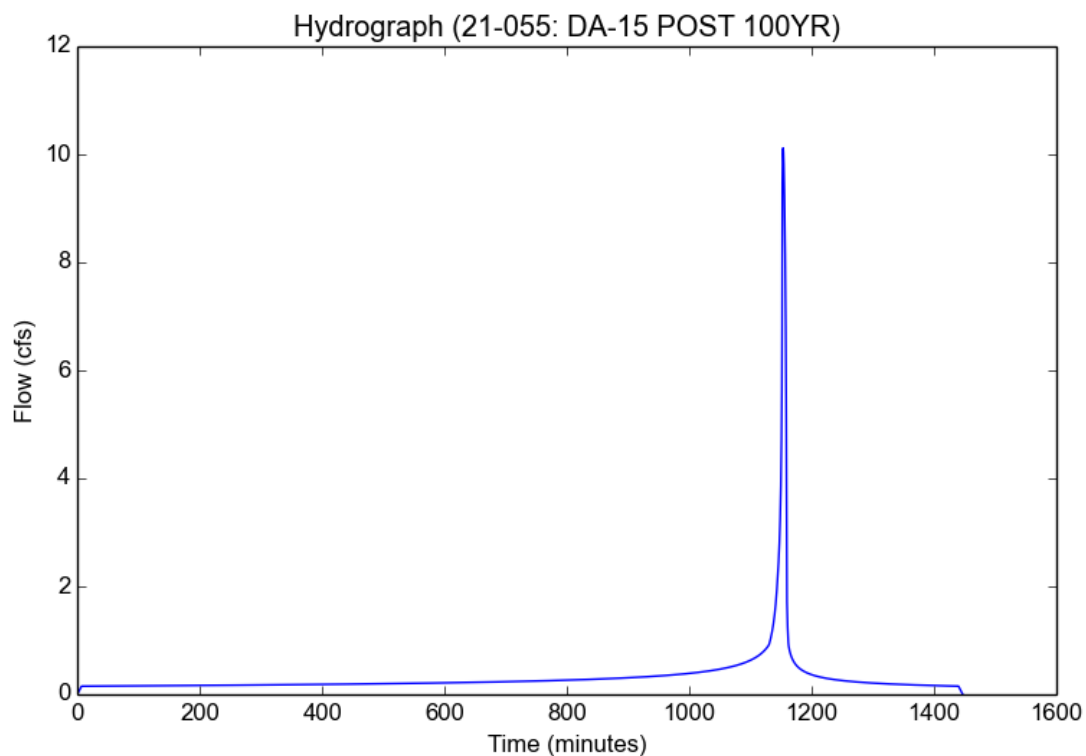
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-15 POST 100YR
Area (ac)	4.83
Flow Path Length (ft)	462.0
Flow Path Slope (vft/hft)	0.024
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.108
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.8862
Undeveloped Runoff Coefficient (Cu)	0.4954
Developed Runoff Coefficient (Cd)	0.5391
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	10.1186
Burned Peak Flow Rate (cfs)	10.1186
24-Hr Clear Runoff Volume (ac-ft)	0.6443
24-Hr Clear Runoff Volume (cu-ft)	28064.9506



Peak Flow Hydrologic Analysis

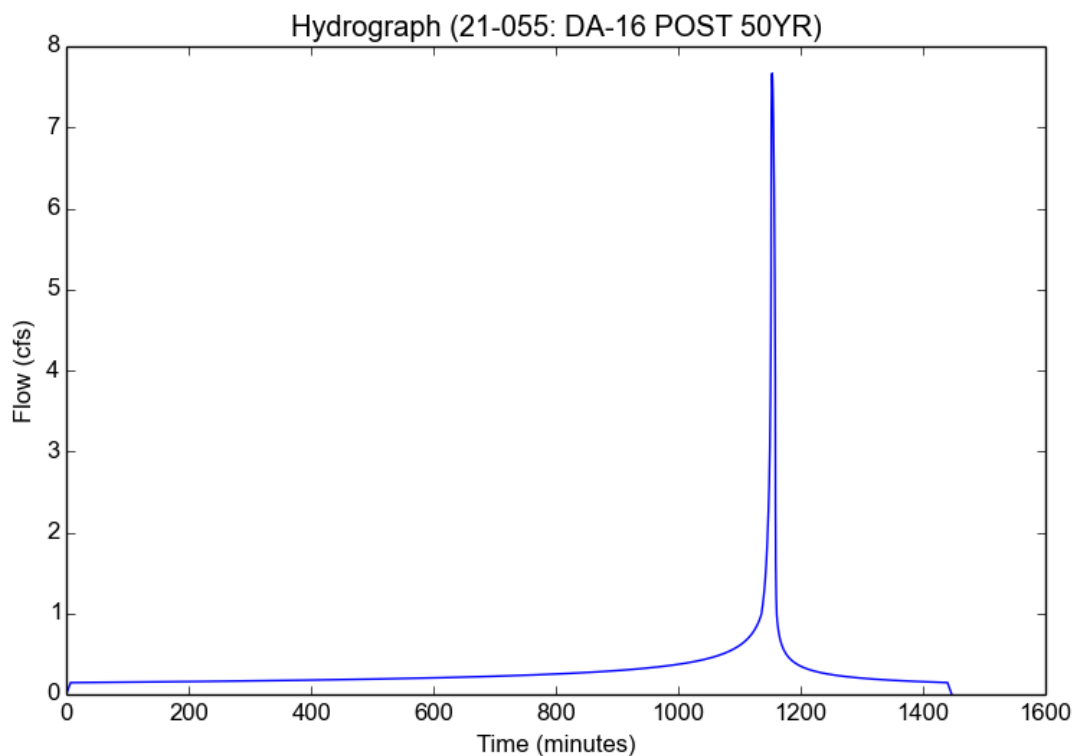
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-16 POST 50YR
Area (ac)	4.2
Flow Path Length (ft)	630.0
Flow Path Slope (vft/hft)	0.09
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.162
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.4636
Undeveloped Runoff Coefficient (Cu)	0.455
Developed Runoff Coefficient (Cd)	0.5271
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	7.6672
Burned Peak Flow Rate (cfs)	7.6672
24-Hr Clear Runoff Volume (ac-ft)	0.5891
24-Hr Clear Runoff Volume (cu-ft)	25659.1007



Peak Flow Hydrologic Analysis

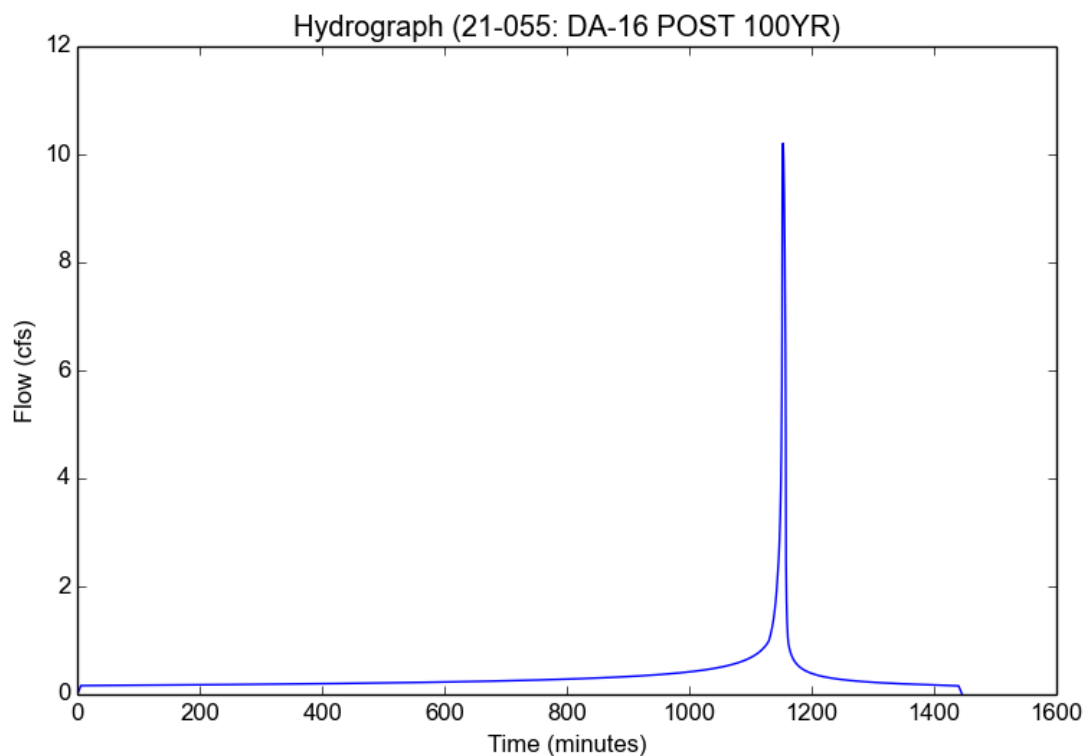
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-16 POST 100YR
Area (ac)	4.2
Flow Path Length (ft)	630.0
Flow Path Slope (vft/hft)	0.09
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.162
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.1782
Undeveloped Runoff Coefficient (Cu)	0.5199
Developed Runoff Coefficient (Cd)	0.5815
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	10.2043
Burned Peak Flow Rate (cfs)	10.2043
24-Hr Clear Runoff Volume (ac-ft)	0.672
24-Hr Clear Runoff Volume (cu-ft)	29272.389



Peak Flow Hydrologic Analysis

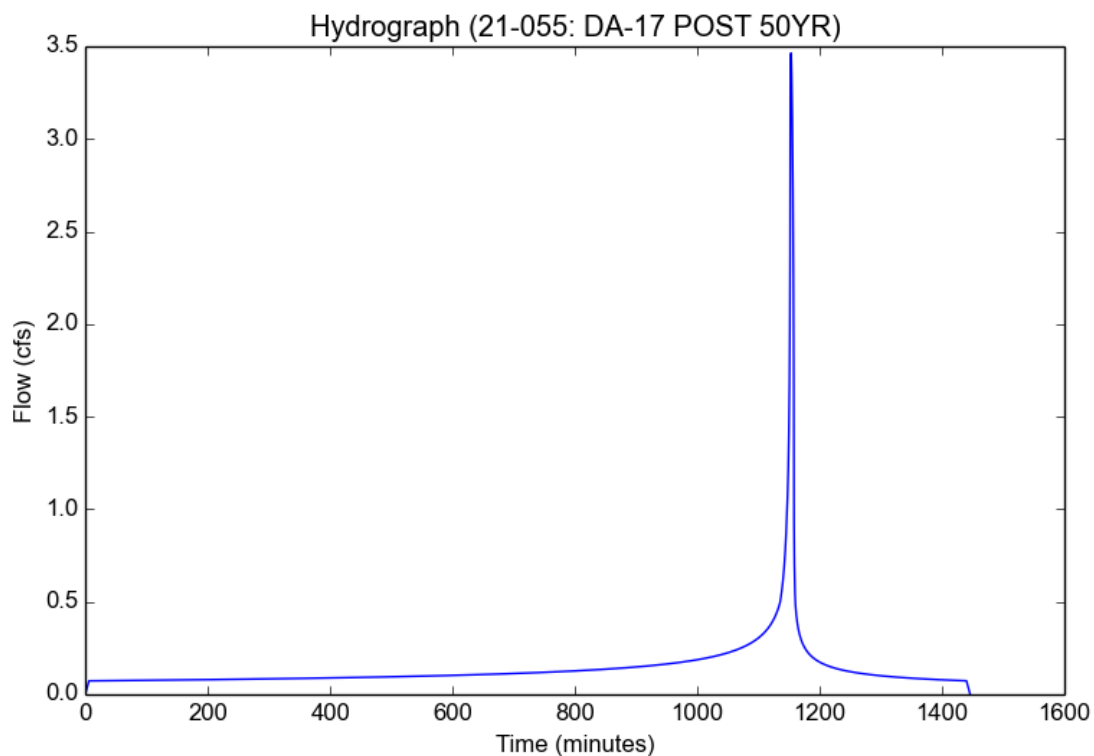
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-17 POST 50YR
Area (ac)	1.58
Flow Path Length (ft)	450.0
Flow Path Slope (vft/hft)	0.054
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.259
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	3.7239
Undeveloped Runoff Coefficient (Cu)	0.4799
Developed Runoff Coefficient (Cd)	0.5887
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	3.4636
Burned Peak Flow Rate (cfs)	3.4636
24-Hr Clear Runoff Volume (ac-ft)	0.2888
24-Hr Clear Runoff Volume (cu-ft)	12581.7458



Peak Flow Hydrologic Analysis

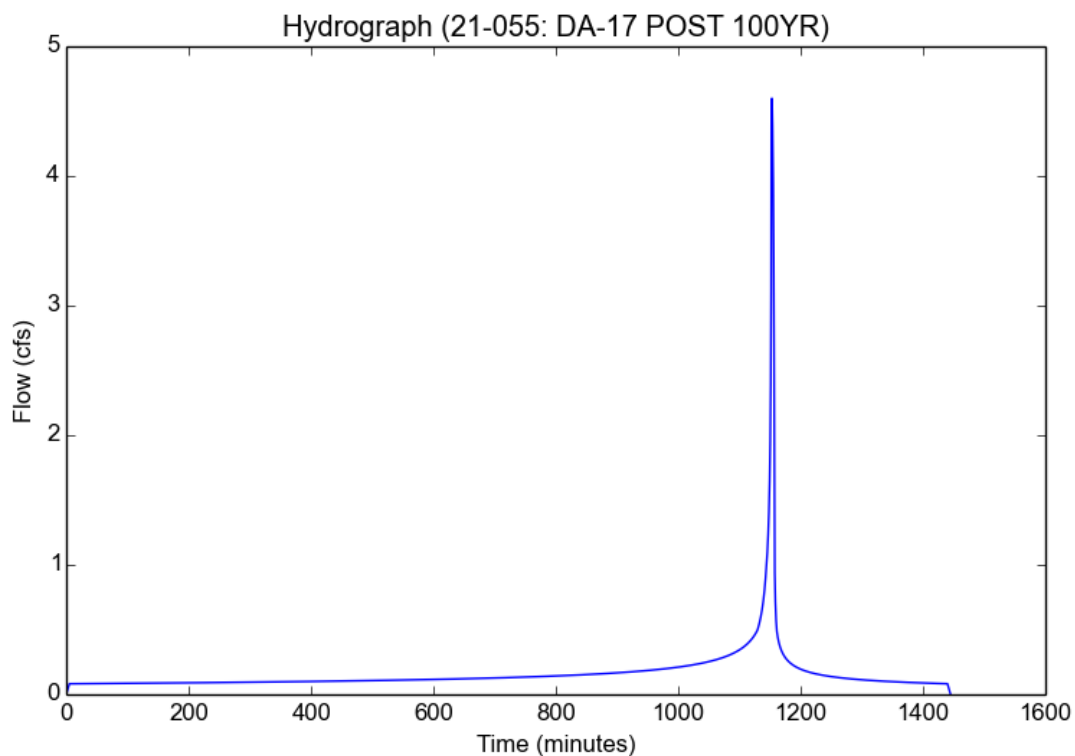
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-17 POST 100YR
Area (ac)	1.58
Flow Path Length (ft)	450.0
Flow Path Slope (vft/hft)	0.054
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.259
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6396
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.6
Burned Peak Flow Rate (cfs)	4.6
24-Hr Clear Runoff Volume (ac-ft)	0.3278
24-Hr Clear Runoff Volume (cu-ft)	14278.1905



Peak Flow Hydrologic Analysis

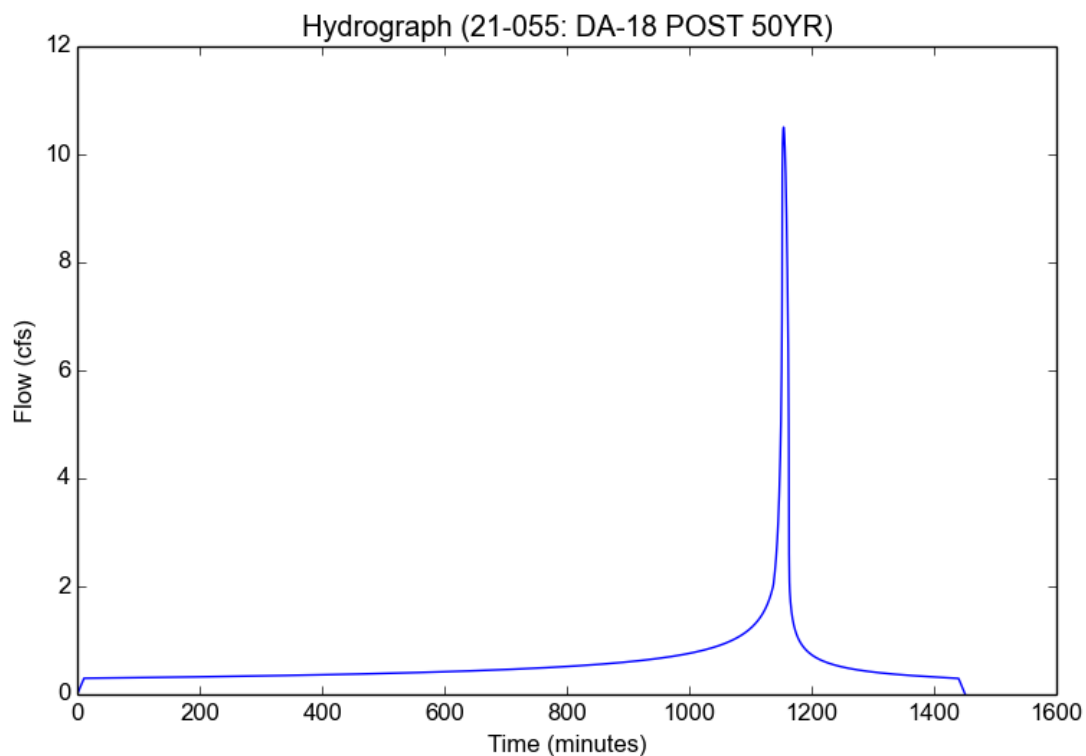
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-18 POST 50YR
Area (ac)	7.68
Flow Path Length (ft)	521.0
Flow Path Slope (vft/hft)	0.0046
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.198
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	2.8007
Undeveloped Runoff Coefficient (Cu)	0.3867
Developed Runoff Coefficient (Cd)	0.4883
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	10.5031
Burned Peak Flow Rate (cfs)	10.5031
24-Hr Clear Runoff Volume (ac-ft)	1.1908
24-Hr Clear Runoff Volume (cu-ft)	51871.2608



Peak Flow Hydrologic Analysis

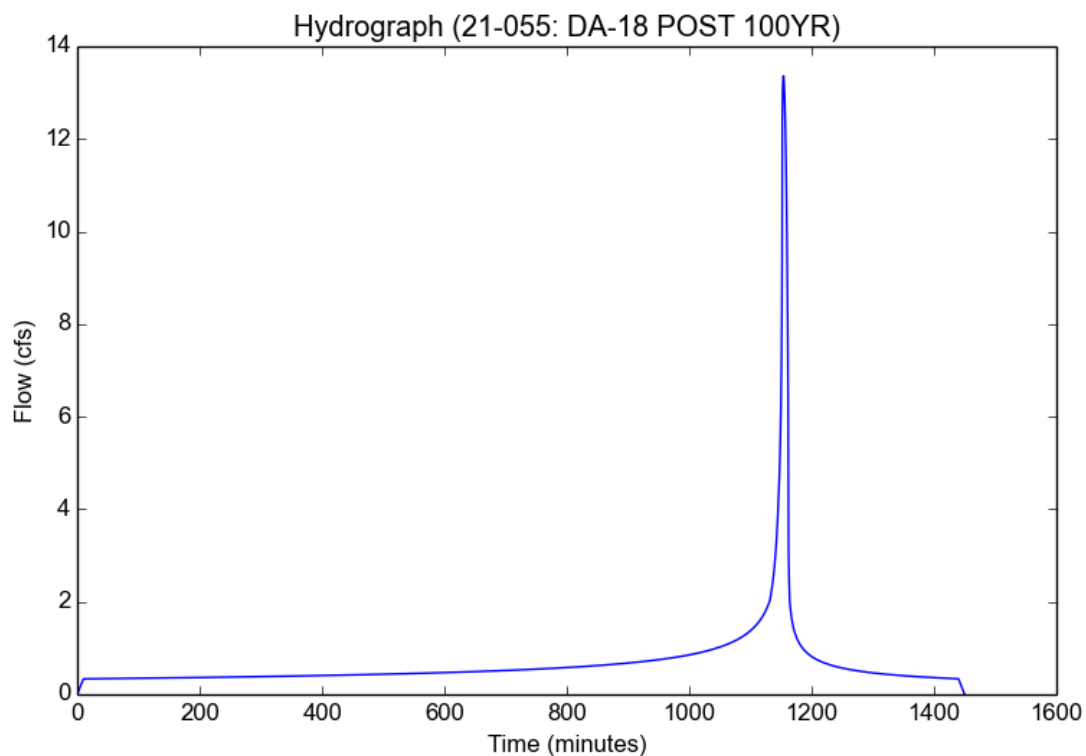
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-18 POST 100YR
Area (ac)	7.68
Flow Path Length (ft)	521.0
Flow Path Slope (vft/hft)	0.0046
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.198
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.2864
Undeveloped Runoff Coefficient (Cu)	0.438
Developed Runoff Coefficient (Cd)	0.5295
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	13.3639
Burned Peak Flow Rate (cfs)	13.3639
24-Hr Clear Runoff Volume (ac-ft)	1.3548
24-Hr Clear Runoff Volume (cu-ft)	59013.0341



Peak Flow Hydrologic Analysis

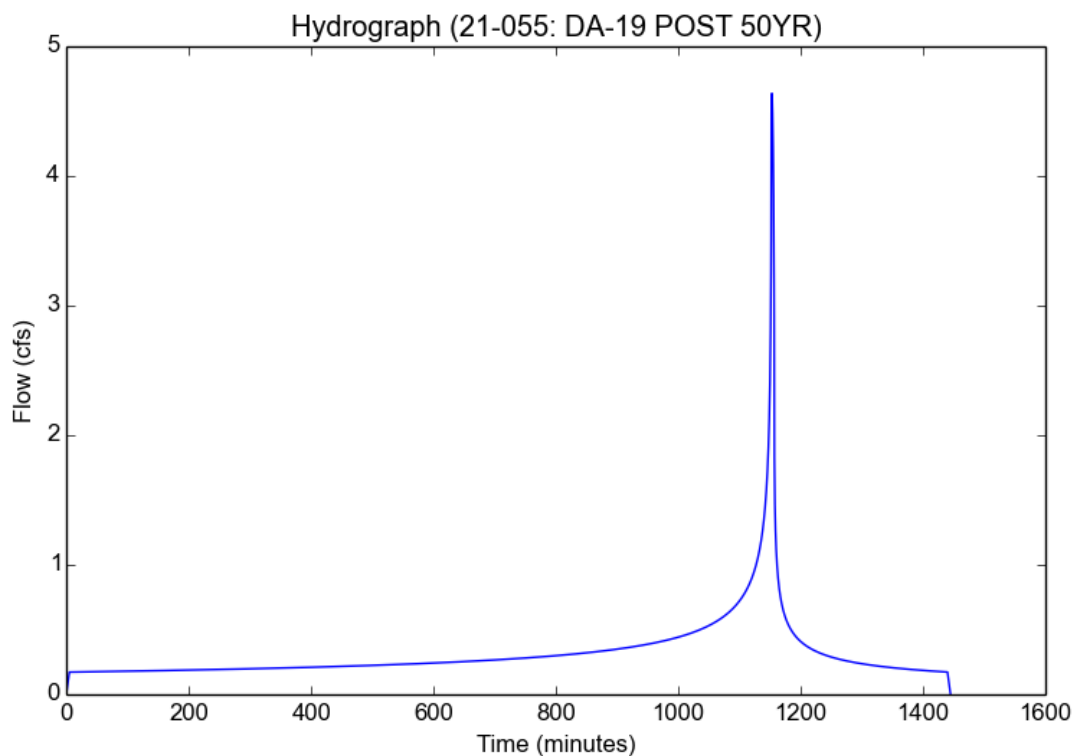
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-19 POST 50YR
Area (ac)	1.27
Flow Path Length (ft)	450.0
Flow Path Slope (vft/hft)	0.016
50-yr Rainfall Depth (in)	6.8
Percent Impervious	1.0
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.6372
Burned Peak Flow Rate (cfs)	4.6372
24-Hr Clear Runoff Volume (ac-ft)	0.6423
24-Hr Clear Runoff Volume (cu-ft)	27980.6488



Peak Flow Hydrologic Analysis

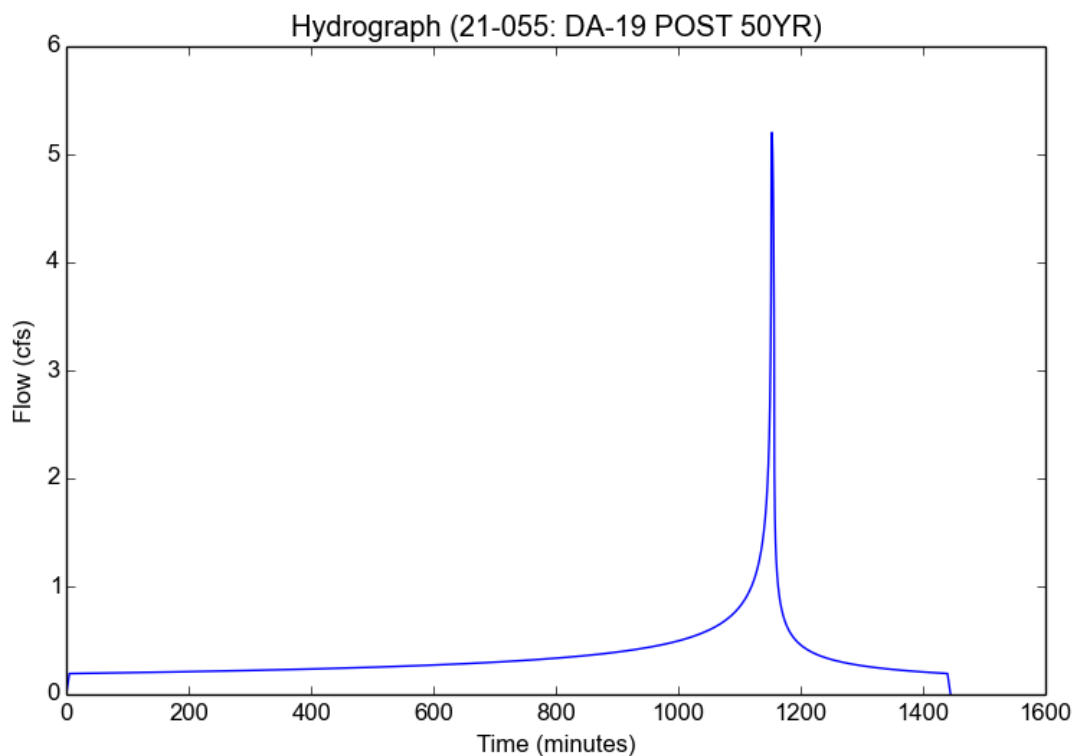
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-19 POST 50YR
Area (ac)	1.27
Flow Path Length (ft)	450.0
Flow Path Slope (vft/hft)	0.016
50-yr Rainfall Depth (in)	6.8
Percent Impervious	1.0
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.203
Burned Peak Flow Rate (cfs)	5.203
24-Hr Clear Runoff Volume (ac-ft)	0.7207
24-Hr Clear Runoff Volume (cu-ft)	31394.2879



Peak Flow Hydrologic Analysis

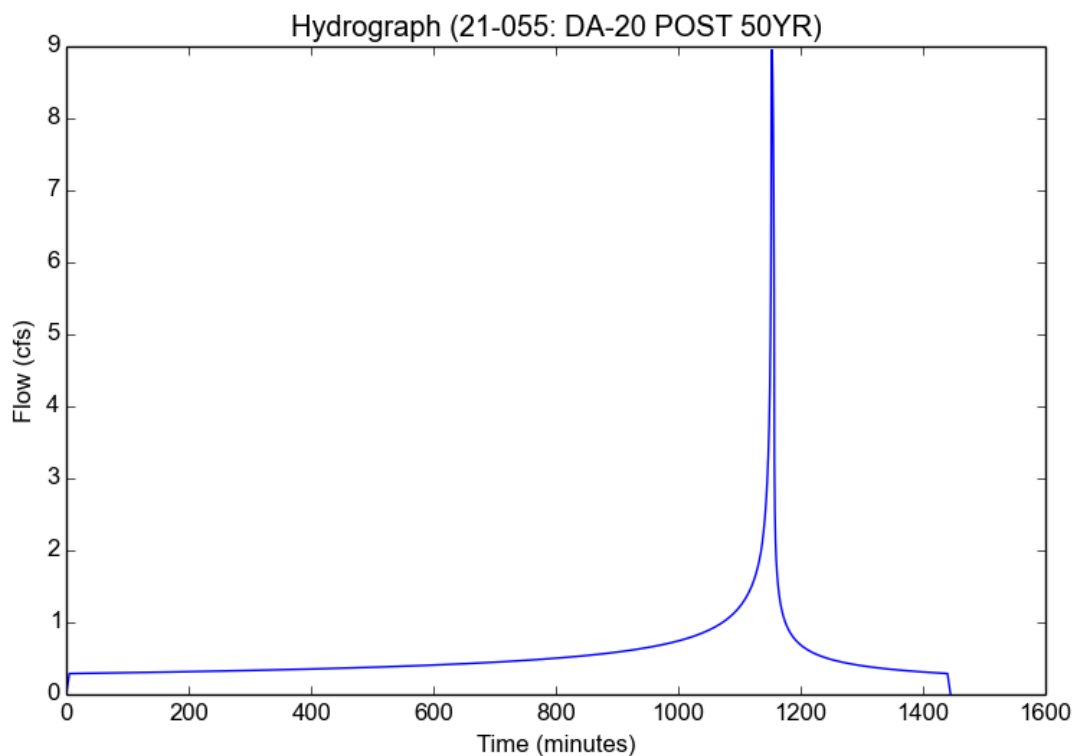
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-20 POST 50YR
Area (ac)	2.75
Flow Path Length (ft)	360.0
Flow Path Slope (vft/hft)	0.028
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.749
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.8023
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.9509
Burned Peak Flow Rate (cfs)	8.9509
24-Hr Clear Runoff Volume (ac-ft)	1.0903
24-Hr Clear Runoff Volume (cu-ft)	47494.4113



Peak Flow Hydrologic Analysis

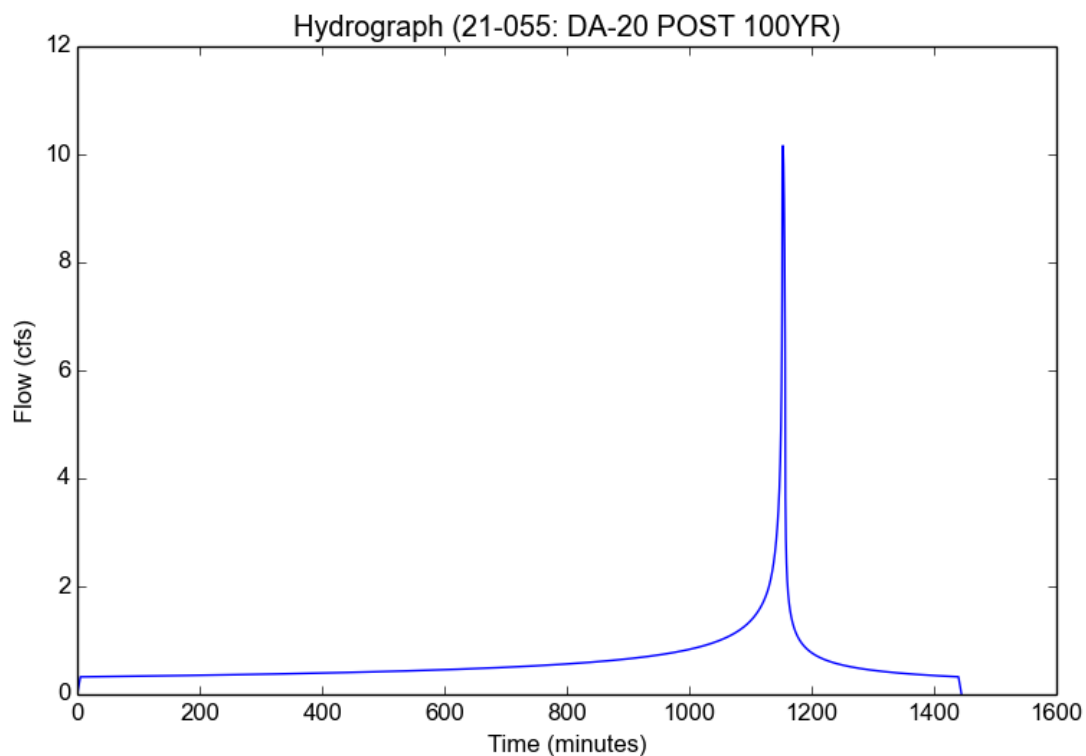
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-20 POST 100YR
Area (ac)	2.75
Flow Path Length (ft)	360.0
Flow Path Slope (vft/hft)	0.028
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.749
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.8118
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	10.162
Burned Peak Flow Rate (cfs)	10.162
24-Hr Clear Runoff Volume (ac-ft)	1.2252
24-Hr Clear Runoff Volume (cu-ft)	53370.7862



Peak Flow Hydrologic Analysis

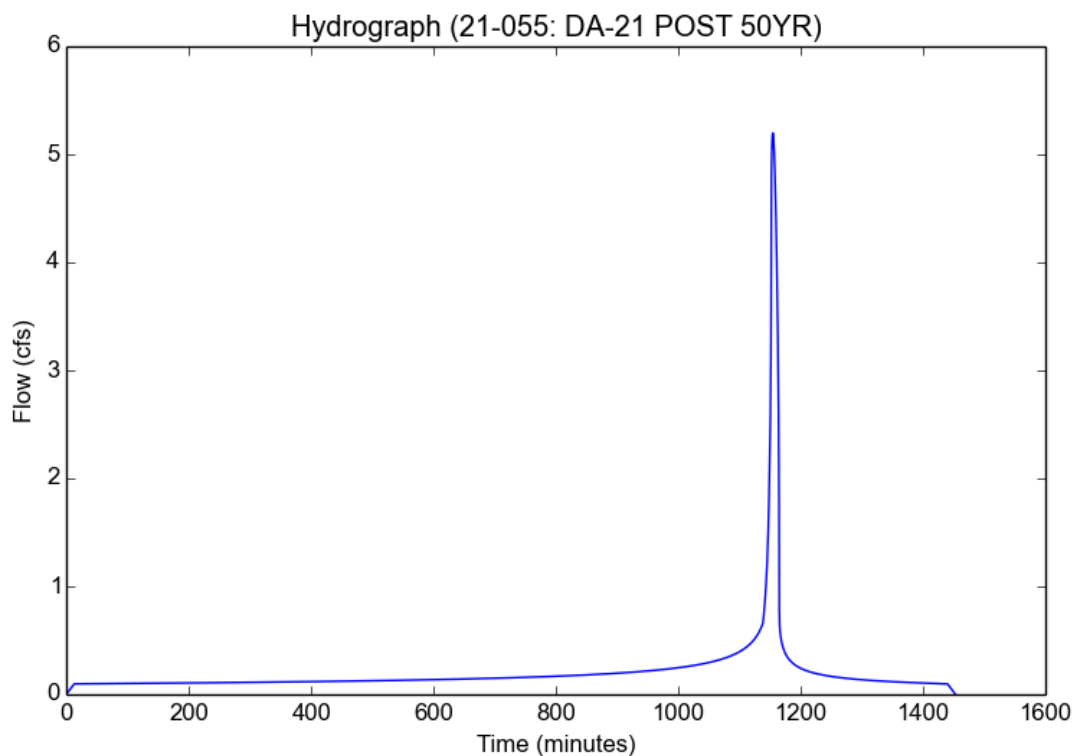
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-21 POST 50YR
Area (ac)	5.35
Flow Path Length (ft)	606.0
Flow Path Slope (vft/hft)	0.009
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.026
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	2.5893
Undeveloped Runoff Coefficient (Cu)	0.3612
Developed Runoff Coefficient (Cd)	0.3752
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	5.1979
Burned Peak Flow Rate (cfs)	5.1979
24-Hr Clear Runoff Volume (ac-ft)	0.4246
24-Hr Clear Runoff Volume (cu-ft)	18496.2541



Peak Flow Hydrologic Analysis

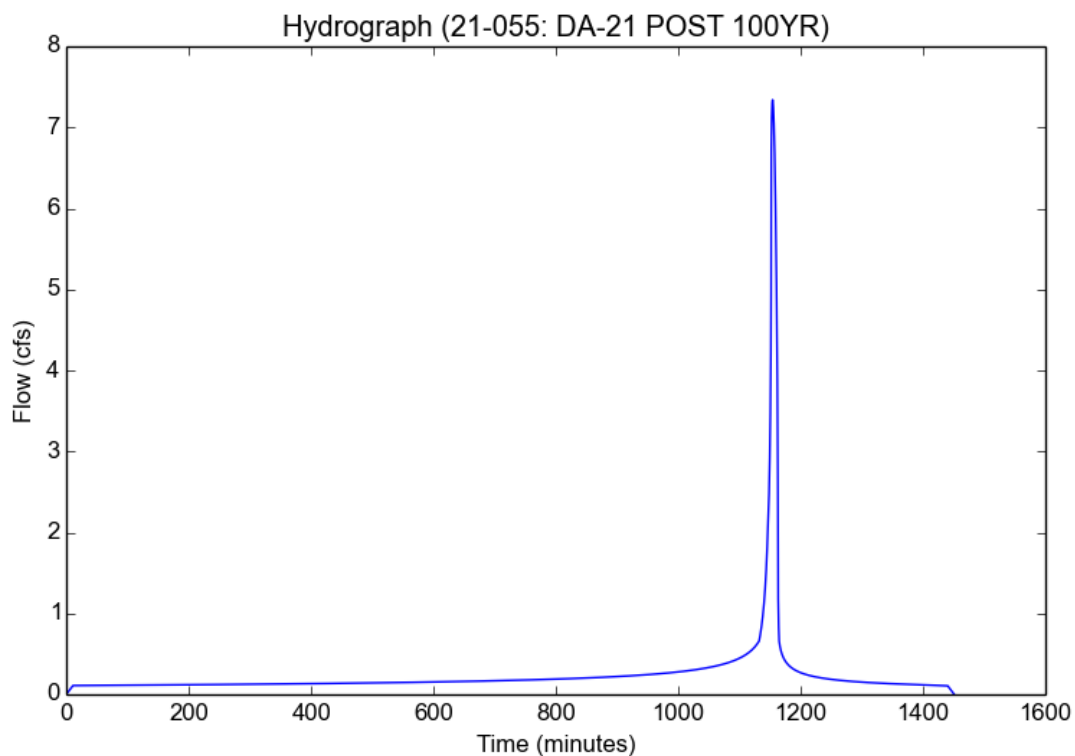
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-21 POST 100YR
Area (ac)	5.35
Flow Path Length (ft)	606.0
Flow Path Slope (vft/hft)	0.009
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.026
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	3.1424
Undeveloped Runoff Coefficient (Cu)	0.4242
Developed Runoff Coefficient (Cd)	0.4366
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	7.3403
Burned Peak Flow Rate (cfs)	7.3403
24-Hr Clear Runoff Volume (ac-ft)	0.4936
24-Hr Clear Runoff Volume (cu-ft)	21500.2456



Peak Flow Hydrologic Analysis

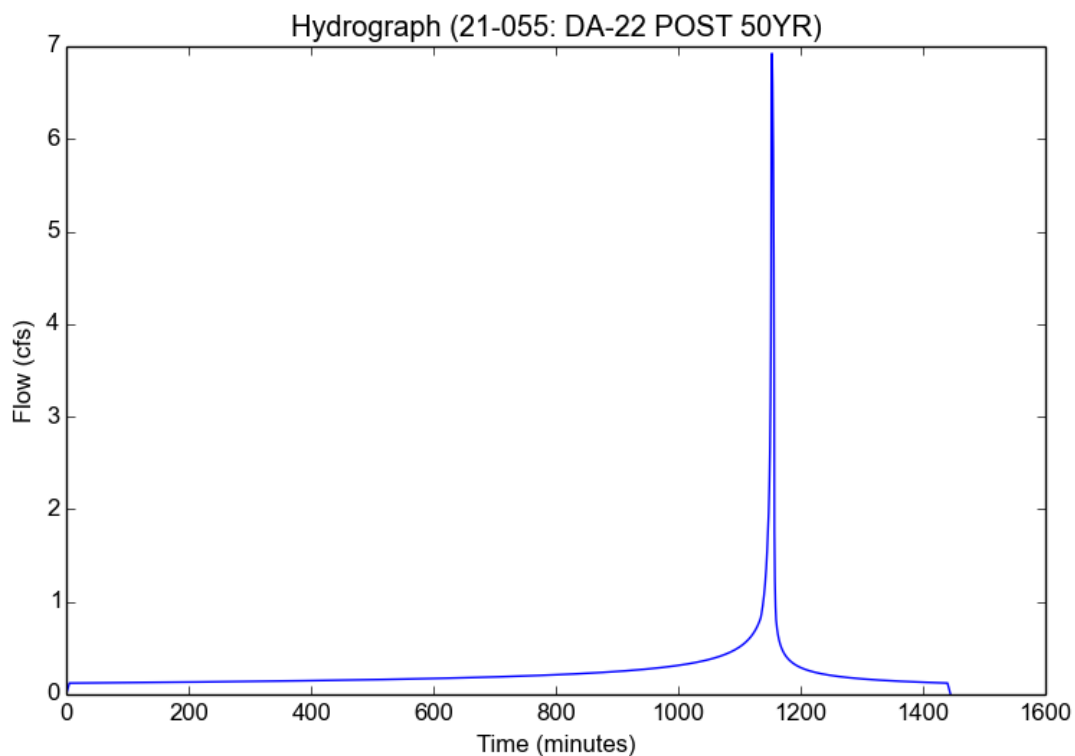
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-22 POST 50YR
Area (ac)	2.84
Flow Path Length (ft)	322.0
Flow Path Slope (vft/hft)	0.082
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.232
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.8
Peak Intensity (in/hr)	4.0571
Undeveloped Runoff Coefficient (Cu)	0.5106
Developed Runoff Coefficient (Cd)	0.601
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.9244
Burned Peak Flow Rate (cfs)	6.9244
24-Hr Clear Runoff Volume (ac-ft)	0.4866
24-Hr Clear Runoff Volume (cu-ft)	21196.427



Peak Flow Hydrologic Analysis

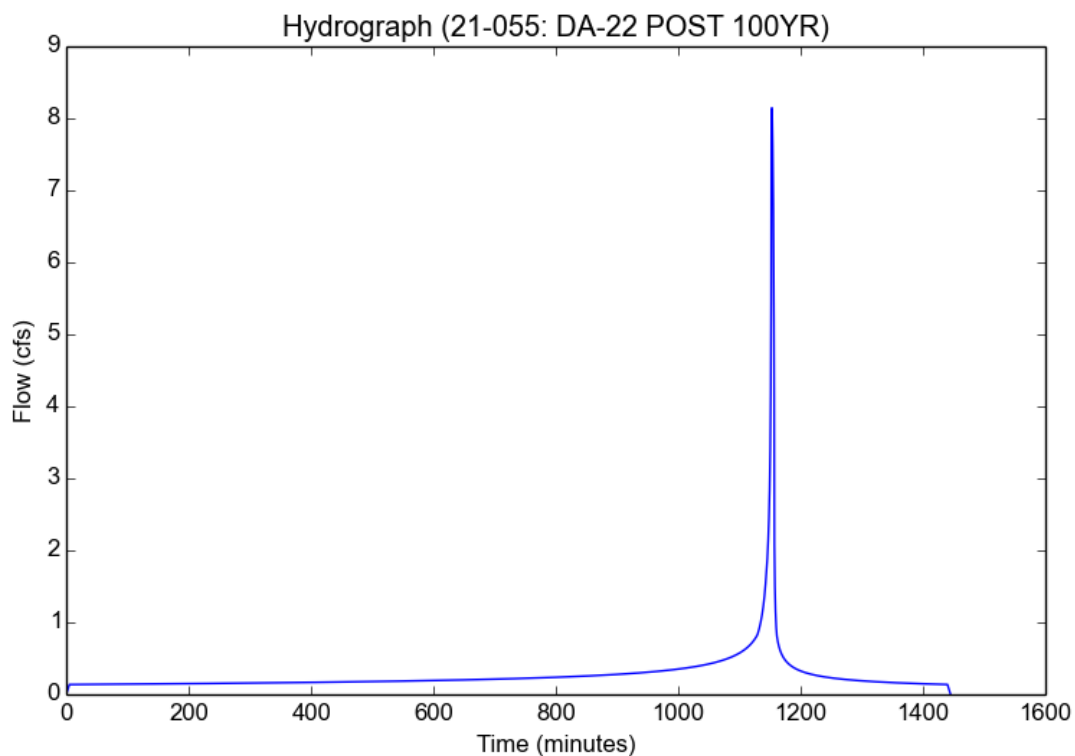
File location: C:/Local Cloud/Shared/2021/21-055 CMC East Campus/Civil/reports/Hydrology/Working/21-055 - DA-22 POST 100YR.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	21-055
Subarea ID	DA-22 POST 100YR
Area (ac)	2.84
Flow Path Length (ft)	322.0
Flow Path Slope (vft/hft)	0.082
50-yr Rainfall Depth (in)	6.8
Percent Impervious	0.232
Soil Type	15
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

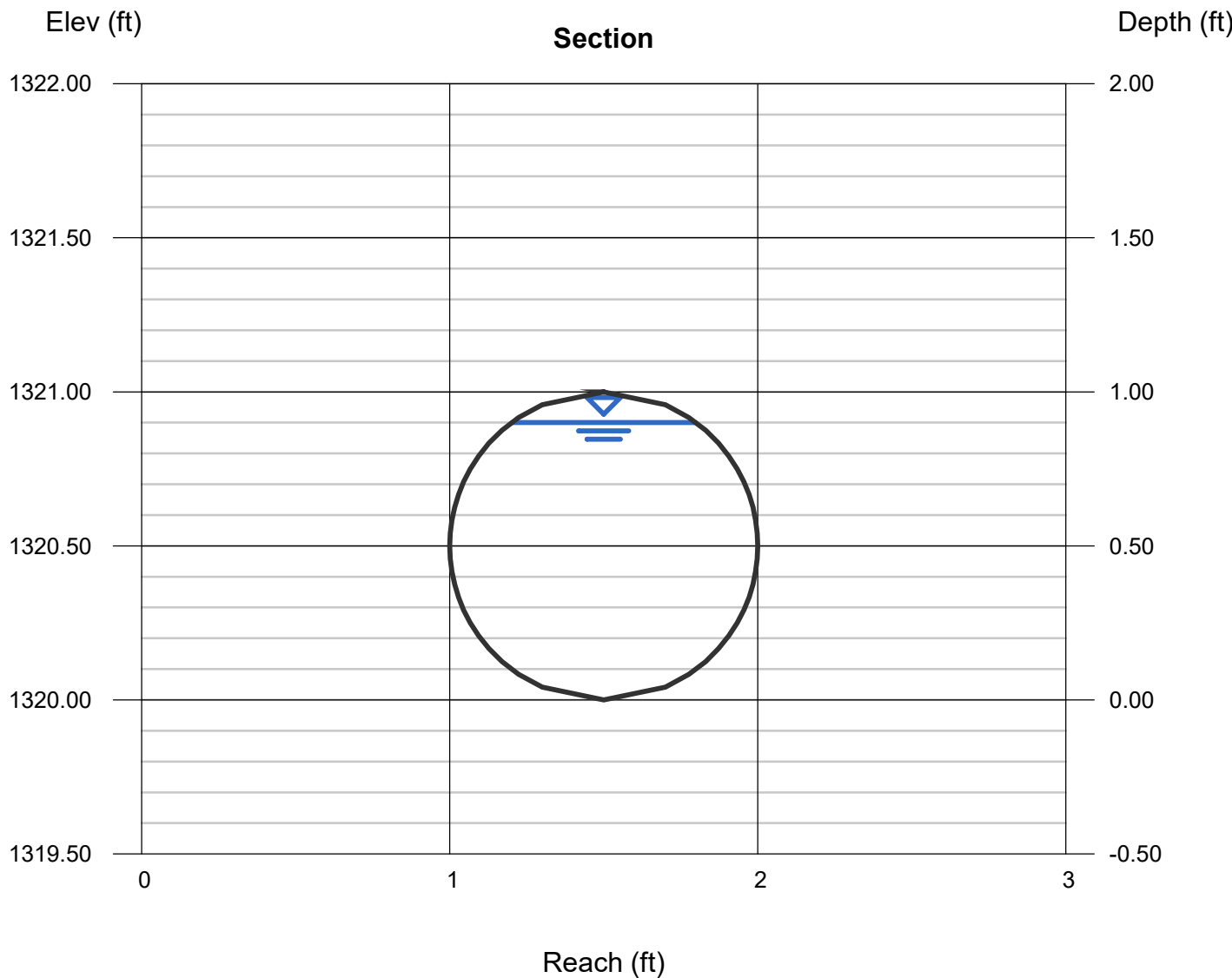
Output Results

Modeled (100-yr) Rainfall Depth (in)	7.6296
Peak Intensity (in/hr)	4.552
Undeveloped Runoff Coefficient (Cu)	0.5486
Developed Runoff Coefficient (Cd)	0.6301
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.1457
Burned Peak Flow Rate (cfs)	8.1457
24-Hr Clear Runoff Volume (ac-ft)	0.5519
24-Hr Clear Runoff Volume (cu-ft)	24041.6823



Attachment C

Wednesday, Aug 9 2023



Channel Report

36IN PVC

Circular

Diameter (ft) = 1.50

Invert Elev (ft) = 1320.00

Slope (%) = 3.00

N-Value = 0.012

Calculations

Compute by: Q vs Depth

No. Increments = 10

Highlighted

Depth (ft) = 1.35

Q (cfs) = 21.01

Area (sqft) = 1.68

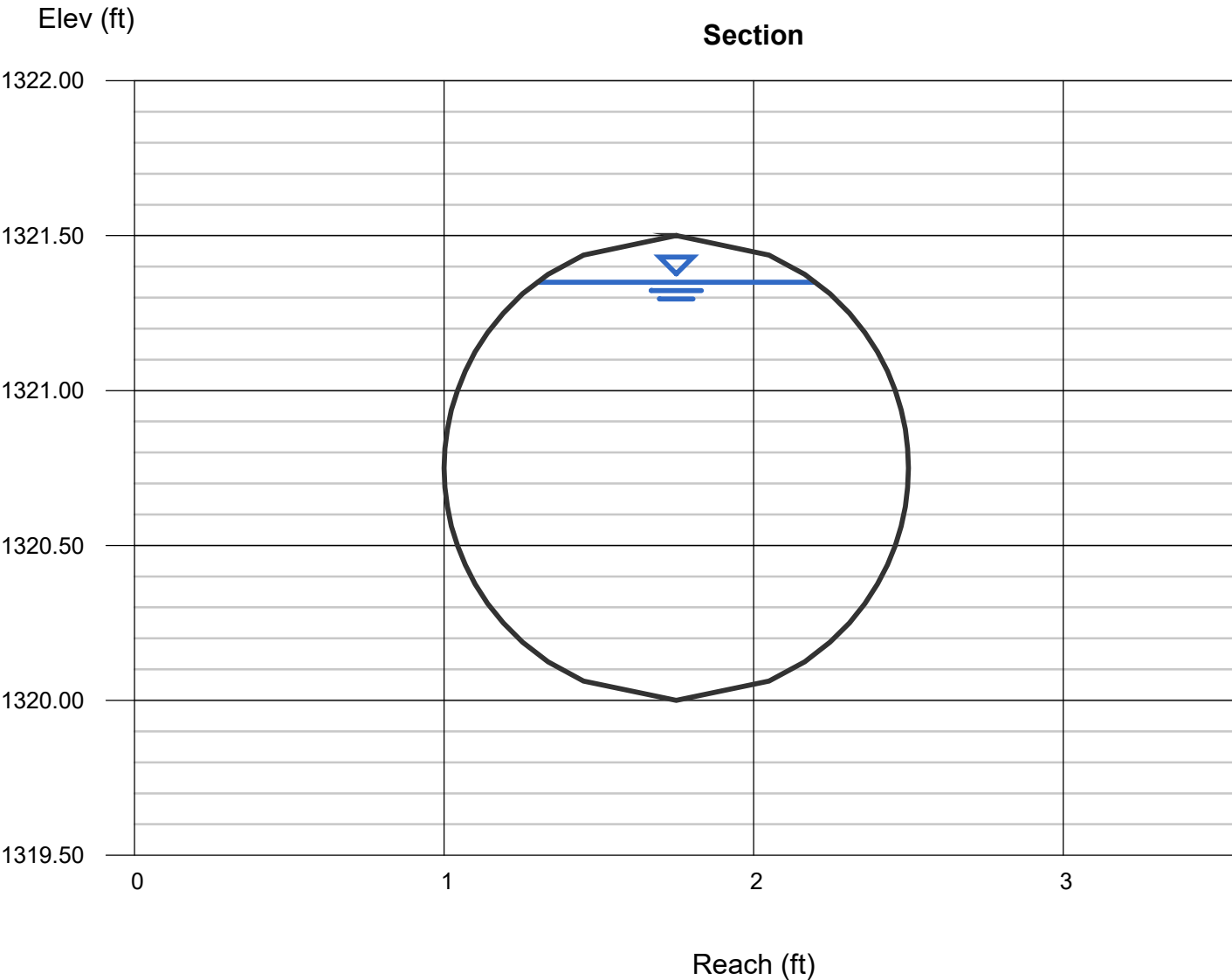
Velocity (ft/s) = 12.53

Wetted Perim (ft) = 3.75

Crit Depth, Yc (ft) = 1.48

Top Width (ft) = 0.90

EGL (ft) = 3.79



Channel Report

36IN PVC

Circular

Diameter (ft) = 2.00

Invert Elev (ft) = 1320.00

Slope (%) = 3.00

N-Value = 0.012

Calculations

Compute by: Q vs Depth

No. Increments = 10

Highlighted

Depth (ft) = 1.60

Q (cfs) = 41.50

Area (sqft) = 2.70

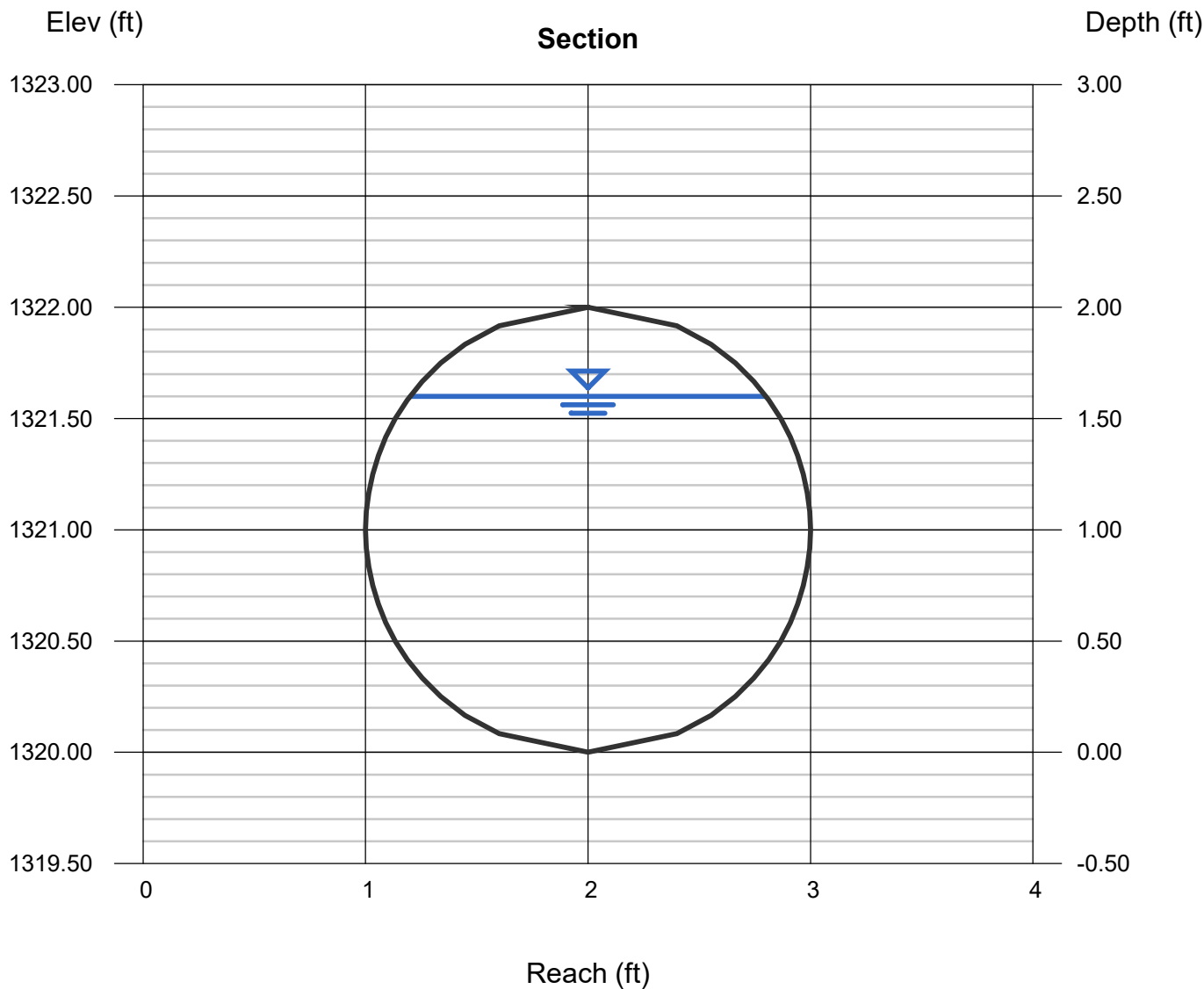
Velocity (ft/s) = 15.40

Wetted Perim (ft) = 4.43

Crit Depth, Yc (ft) = 1.96

Top Width (ft) = 1.60

EGL (ft) = 5.29



Channel Report

36IN PVC

Circular

Diameter (ft) = 3.00

Invert Elev (ft) = 1320.00

Slope (%) = 2.00

N-Value = 0.012

Highlighted

Depth (ft) = 2.70

Q (cfs) = 108.93

Area (sqft) = 6.70

Velocity (ft/s) = 16.25

Wetted Perim (ft) = 7.50

Crit Depth, Yc (ft) = 2.93

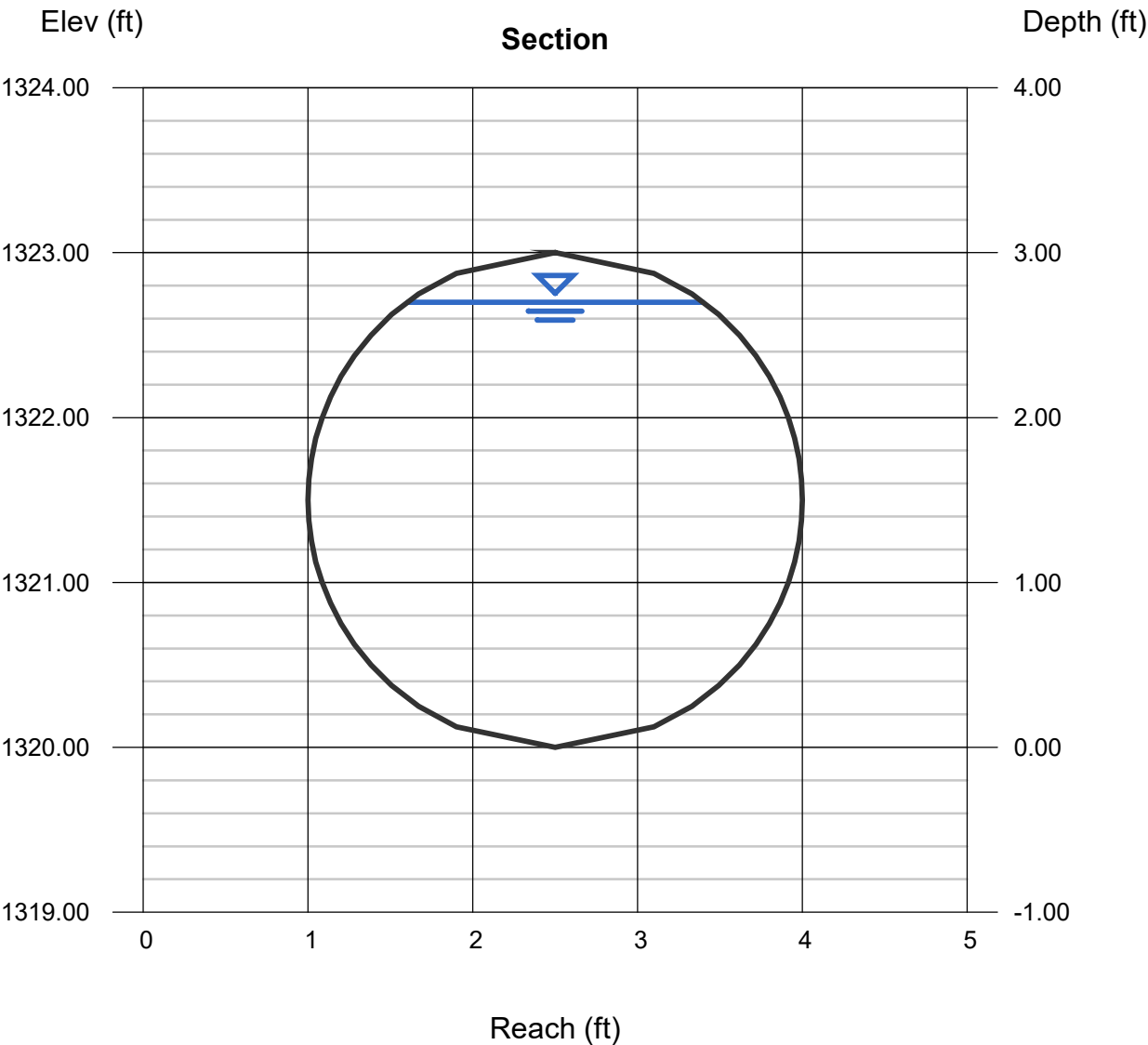
Top Width (ft) = 1.80

EGL (ft) = 6.81

Calculations

Compute by: Q vs Depth

No. Increments = 10



Appendix I

Noise Assumptions and Modeling

Exhibit A

Ambient Noise Data

Summary		
File Name on Meter	LxT_Data.237.s	
File Name on PC	LxT_0004983-20230503 125209-LxT_Data.237.ldbin	
Serial Number	0004983	
Model	SoundTrack LxT*	
Firmware Version	2.404	
User		
Location		
Job Description		
Note		

Measurement		
Description		
Start	2023-05-03 12:52:09	
Stop	2023-05-03 13:12:09	
Duration	00:20:00.0	
Run Time	00:20:00.0	
Pause	00:00:00.0	
Pre-Calibration	2023-05-02 06:54:42	
Post-Calibration	None	
Calibration Deviation	---	

Overall Settings				
RMS Weight	A Weighting			
Peak Weight	Z Weighting			
Detector	Slow			
Preamplifier	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	143.3 dB			
	A	C	Z	
Under Range Peak	99.3	96.3	101.3 dB	
Under Range Limit	36.5	36.2	43.2 dB	
Noise Floor	27.4	27.1	34.1 dB	
	First	Second	Third	
Instrument Identification				

Results		
LASeq	66.8	
LASE	97.6	
EAS	633.998 $\mu\text{Pa}^2\text{h}$	
EAS8	15.216 mPa^2h	
EAS40	76.080 mPa^2h	
LZpeak (max)	2023-05-03 12:58:30	103.0 dB
LASmax	2023-05-03 13:11:44	80.3 dB
LASmin	2023-05-03 13:07:16	48.8 dB
SEA	-99.9 dB	

	Exceedance Counts	Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s
LCSeq	74.7 dB	
LASEq	66.8 dB	
LCSeq - LASEq	8.0 dB	
LALeq	68.5 dB	
LAeq	66.8 dB	
LALeq - LAeq	1.7 dB	
	A	C
	dB	Time Stamp
Leq	66.8	
Ls(max)	80.3	2023/05/03 13:11:44
Ls(min)	48.8	2023/05/03 13:07:16
Lpeak(max)		
		103.0 2023/05/03 12:58:30

Overload Count	0
Overload Duration	0.0 s

Dose Settings		
Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results		
Dose	-99.94	0.00 %
Projected Dose	-99.94	0.01 %
TWA (Projected)	-99.9	22.4 dB
TWA (t)	-99.9	-0.5 dB
Lep (t)	53.0	53.0 dB

Statistics	
LAS 5.00	73.3 dB
LAS 10.00	71.3 dB
LAS 33.30	64.8 dB
LAS 50.00	61.6 dB
LAS 66.60	58.9 dB
LAS 90.00	54.1 dB

Summary					
File Name on Meter	LxT_Data.235.s				
File Name on PC	LxT_0004983-20230503 114114-LxT_Data.235.ldbin				
Serial Number	0004983				
Model	SoundTrack LxT®				
Firmware Version	2.404				
User					
Location					
Job Description					
Note					
Measurement					
Description					
Start	2023-05-03 11:41:14				
Stop	2023-05-03 12:01:14				
Duration	00:20:00.0				
Run Time	00:20:00.0				
Pause	00:00:00.0				
Pre-Calibration	2023-05-02 06:54:42				
Post-Calibration	None				
Calibration Deviation	---				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	Z Weighting				
Detector	Slow				
Preamplifier	PRMLxT1				
Microphone Correction	Off				
Integration Method	Exponential				
Overload	143.3 dB				
	A	C	Z		
Under Range Peak	99.3	96.3	101.3	dB	
Under Range Limit	36.5	36.2	43.2	dB	
Noise Floor	27.4	27.1	34.1	dB	
	First	Second	Third		
Instrument Identification					
Results					
LASeq	64.5				
LASE	95.3				
EAS	376.555 µPa²h				
EAS8	9.037 mPa²h				
EAS40	45.187 mPa²h				
LZpeak (max)	2023-05-03 11:41:44	100.0 dB			
LASmax	2023-05-03 12:01:06	77.5 dB			
LASmin	2023-05-03 11:43:27	46.6 dB			
SEA	-99.9 dB				
	Exceedance Counts	Duration			
LAS > 85.0 dB	0	0.0 s			
LAS > 115.0 dB	0	0.0 s			
LZpeak > 135.0 dB	0	0.0 s			
LZpeak > 137.0 dB	0	0.0 s			
LZpeak > 140.0 dB	0	0.0 s			
LCSeq	71.9 dB				
LASEq	64.5 dB				
LCSeq - LASEq	7.4 dB				
LALeq	67.6 dB				
LAeq	64.5 dB				
LALeq - LAeq	3.1 dB				
	A		C		Z
	dB	Time Stamp	dB	Time Stamp	dB
Leq	64.5				
Ls(max)	77.5	2023/05/03 12:01:06			
Ls(min)	46.6	2023/05/03 11:43:27			
LPeak(max)					100.0 2023/05/03 11:41:44
Overload Count	0				
Overload Duration	0.0 s				
Dose Settings					
Dose Name	OSHA-1		OSHA-2		
Exchange Rate	5		5 dB		
Threshold	90		80 dB		
Criterion Level	90		90 dB		
Criterion Duration	8		8 h		
Results					
Dose	-99.94		-99.94 %		
Projected Dose	-99.94		-99.94 %		
TWA (Projected)	-99.9		-99.9 dB		
TWA (t)	-99.9		-99.9 dB		
Lep (t)	50.7		50.7 dB		
Statistics					
LAS 5.00	70.7 dB				
LAS 10.00	69.1 dB				
LAS 33.30	62.9 dB				
LAS 50.00	59.5 dB				
LAS 66.60	56.4 dB				
LAS 90.00	51.7 dB				

Summary

File Name on Meter

File Name on PC

Serial Number

Model

Firmware Version

User

Location

Job Description

Note

LxT_Data.236.s

LxT_0004983-20230503 122206-LxT_Data.236.lbin

0004983

SoundTrack LxT®

2.404

Measurement

Description

Start

Stop

Duration

Run Time

Pause

Pre-Calibration

Post-Calibration

Calibration Deviation

2023-05-03 12:22:06

2023-05-03 12:42:06

00:20:00.0

00:20:00.0

00:00:00.0

2023-05-02 06:54:42

None

Overall Settings

RMS Weight

Peak Weight

Detector

Preamplifier

Microphone Correction

Integration Method

Overload

Under Range Peak

Under Range Limit

Noise Floor

A Weighting

Z Weighting

Slow

PRMLxT1

Off

Exponential

143.3 dB

A

C

Z

99.3

96.3

101.3 dB

36.5

36.2

43.2 dB

27.4

27.1

34.1 dB

Instrument Identification

First

Second

Third

Results

LASeq

LASE

EAS

EAS8

EAS40

LZpeak (max)

LASmax

LASmin

SEA

LAS > 85.0 dB

LAS > 115.0 dB

LZpeak > 135.0 dB

LZpeak > 137.0 dB

LZpeak > 140.0 dB

LCSeq

LASEq

LCSeq - LASEq

LALeq

LAeq

LALeq - LAeq

68.8

99.6

1.012 mPa²h

24.288 mPa²h

121.440 mPa²h

2023-05-03 12:23:36

2023-05-03 12:23:34

2023-05-03 12:25:31

-99.9 dB

Exceedance Counts

Duration

2

3.3 s

0

0.0 s

0

0.0 s

0

0.0 s

0

0.0 s

74.7 dB

68.8 dB

5.9 dB

70.9 dB

68.8 dB

2.1 dB

Leq

Ls(max)

Ls(min)

LPeak(max)

68.8

86.7

45.0

2023/05/03 12:23:34

2023/05/03 12:25:31

112.6

2023/05/03 12:23:36

Overload Count

Overload Duration

0

0.0 s

Dose Settings

Dose Name

Exchange Rate

Threshold

Criterion Level

Criterion Duration

OSHA-1

5

90

90

8

OSHA-2

5 dB

80 dB

90 dB

8 h

Results

Dose

Projected Dose

TWA (Projected)

TWA (t)

Lep (t)

-99.94

-99.94

-99.9

-99.9

55.0

0.01 %

0.29 %

48.0 dB

25.0 dB

55.0 dB

Statistics

LAS 5.00

LAS 10.00

LAS 33.30

LAS 50.00

LAS 66.60

LAS 90.00

74.3 dB

72.3 dB

67.2 dB

63.9 dB

59.1 dB

50.2 dB

Summary	
File Name on Meter	LxT_Data.014.s
File Name on PC	LxT_0007058-20230505 115343-LxT_Data.014.ldbin
Serial Number	0007058
Model	SoundTrack LxT*
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement	
Description	
Start	2023-05-05 11:53:43
Stop	2023-05-08 13:21:23
Duration	73:27:39.688
Run Time	73:27:39.688
Pause	00:00:00.0
Pre-Calibration	2023-05-05 11:08:00
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	143.4 dB
	A C Z
Under Range Peak	99.4 96.4 101.4 dB
Under Range Limit	36.6 36.2 43.3 dB
Noise Floor	27.5 27.1 34.1 dB
	First Second Third
Instrument Identification	

Results	
LASeq	68.8
LASE	123.0
EAS	221.349 mPa²h
EAS8	24.105 mPa²h
EAS40	120.526 mPa²h
LAPeak (max)	2023-05-06 00:45:11 115.6 dB
LASmax	2023-05-07 22:23:16 95.8 dB
LASmin	2023-05-07 03:35:03 36.5 dB
SEA	-99.9 dB

	Exceedance Counts	Duration
LAS > 85.0 dB	38	97.4 s
LAS > 115.0 dB	0	0.0 s
LAPeak > 135.0 dB	0	0.0 s
LAPeak > 137.0 dB	0	0.0 s
LAPeak > 140.0 dB	0	0.0 s

LCSeq	73.6 dB
LASEq	68.8 dB
LCSeq - LASEq	4.8 dB
LALeq	70.9 dB
LAeq	68.8 dB
LALeq - LAeq	2.2 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	68.8					
Ls(max)	95.8	2023/05/07 22:23:16				
Ls(min)	36.5	2023/05/07 3:35:03				
LPeak(max)	115.6	2023/05/06 0:45:11				

Overload Count	0
Overload Duration	0.0 s

Dose Settings		
Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results	
Dose	0.05 1.73 %
Projected Dose	0.01 0.19 %
TWA (Projected)	19.1 44.7 dB
TWA (t)	35.1 60.7 dB
Lep (t)	78.4 78.4 dB

Statistics	
LAS 5.00	76.2 dB
LAS 10.00	73.8 dB
LAS 33.30	63.2 dB
LAS 50.00	56.8 dB
LAS 66.60	52.0 dB
LAS 90.00	44.6 dB

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R3**

	05/07/23	05/08/23	05/09/23	05/10/23	05/11/23	05/12/23	05/13/23	Start Date and Time		
11:53:00 AM	71.5	70.1	71.0					5/7/2023	11:53:00 AM	Start
12:53:00 PM	71.7	70.7	70.4					5/8/2023	12:53:00 PM	5/7/23 11:53 AM
1:53:00 PM	71.1	70.2	69.9					5/9/2023	1:53:00 PM	End
2:53:00 PM	71.6	70.4	69.7					5/10/2023	2:53:00 PM	5/8/23 11:53 AM
3:53:00 PM	71.6	70.8	69.0						3:53:00 PM	
4:53:00 PM	72.0	70.7	69.3						4:53:00 PM	
5:53:00 PM	71.5	70.8	69.7						5:53:00 PM	
6:53:00 PM	70.6	68.9	69.4							
7:53:00 PM	68.9	68.2	69.5							
8:53:00 PM	67.8	67.1	66.4							
9:53:00 PM	67.5	67.5	67.4							
10:53:00 PM	66.6	66.4	64.5							
11:53:00 PM	64.8	65.5	62.3							
12:53:00 AM	63.8	63.3	61.5							
1:53:00 AM	61.5	61.3	58.3							
2:53:00 AM	60.2	59.2	62.1							
3:53:00 AM	64.5	58.8	61.1							
4:53:00 AM	63.6	63.1	66.1							
5:53:00 AM	66.6	63.9	68.4							
6:53:00 AM	67.8	65.7	70.8							
7:53:00 AM	69.6	68.3	71.2							
8:53:00 AM	70.5	69.6	70.4							
9:53:00 AM	71.2	70.6	69.9							
10:53:00 AM	70.9	70.2	69.7							
								CNEL 77.7 L_{dn} 77.5 24-hr Max. 72.0 24-hr Min. 60.2 24-hr Nighttime Average^a 71.5 24-hr Nighttime Max 72.0 24-hr Nighttime Min 70.9 24-hr Daytime Average^a 67.2 24-hr Daytime Max 70.6 24-hr Daytime Min 60.2 Total Period Average 68.8 Total Period Max 72.0 Total Period Min 58.3 Total Period Daytime Average 67.0 Total Period Daytime Max 70.6 Total Period Daytime Min 58.3 Total Period Nighttime Average 70.7 Total Period Nighttime Max 72.0 Total Period Nighttime Min 65.7		

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

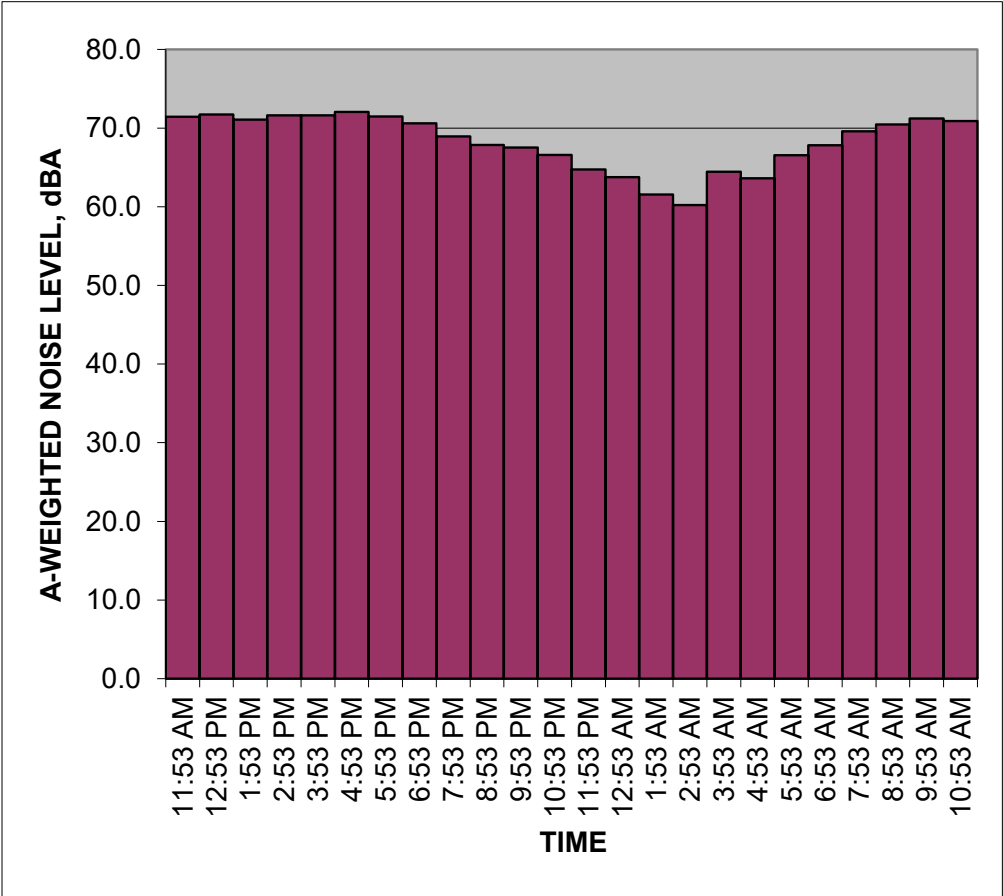


Measured Ambient Noise Levels

Project: Claremont Mckenna
Location: R3
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:53 AM	71.5
12:53 PM	71.7
1:53 PM	71.1
2:53 PM	71.6
3:53 PM	71.6
4:53 PM	72.0
5:53 PM	71.5
6:53 PM	70.6
7:53 PM	68.9
8:53 PM	67.8
9:53 PM	67.5
10:53 PM	66.6
11:53 PM	64.8
12:53 AM	63.8
1:53 AM	61.5
2:53 AM	60.2
3:53 AM	64.5
4:53 AM	63.6
5:53 AM	66.6
6:53 AM	67.8
7:53 AM	69.6
8:53 AM	70.5
9:53 AM	71.2
10:53 AM	70.9
CNEL, dB(A):	77.7



NOTES:

Measurements began on 5/7/23

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R3**

	05/07/23	05/08/23	05/09/23	05/10/23	05/11/23	05/12/23	05/13/23	Start Date and Time			
11:53:00 AM	71.5	70.1	71.0					5/7/2023	11:53:00 AM	Start	
12:53:00 PM	71.7	70.7	70.4					5/8/2023	12:53:00 PM	5/8/23 11:53 AM	
1:53:00 PM	71.1	70.2	69.9					5/9/2023	1:53:00 PM	End	
2:53:00 PM	71.6	70.4	69.7					5/10/2023	2:53:00 PM	5/9/23 11:53 AM	
3:53:00 PM	71.6	70.8	69.0						3:53:00 PM		
4:53:00 PM	72.0	70.7	69.3						4:53:00 PM		
5:53:00 PM	71.5	70.8	69.7						5:53:00 PM		
6:53:00 PM	70.6	68.9	69.4					CNEL			76.7
7:53:00 PM	68.9	68.2	69.5					L _{dn}			76.5
8:53:00 PM	67.8	67.1	66.4					24-hr Max.			70.8
9:53:00 PM	67.5	67.5	67.4					24-hr Min.			58.8
10:53:00 PM	66.6	66.4	64.5					24-hr Nighttime Average ^a			70.5
11:53:00 PM	64.8	65.5	62.3					24-hr Nighttime Max			70.8
12:53:00 AM	63.8	63.3	61.5					24-hr Nighttime Min			70.1
1:53:00 AM	61.5	61.3	58.3					24-hr Daytime Average ^a			66.2
2:53:00 AM	60.2	59.2	62.1					24-hr Daytime Max			69.6
3:53:00 AM	64.5	58.8	61.1					24-hr Daytime Min			58.8
4:53:00 AM	63.6	63.1	66.1					Total Period Average			68.8
5:53:00 AM	66.6	63.9	68.4					Total Period Max			72.0
6:53:00 AM	67.8	65.7	70.8					Total Period Min			58.3
7:53:00 AM	69.6	68.3	71.2	Total Period Daytime Average			67.0				
8:53:00 AM	70.5	69.6	70.4	Total Period Daytime Max			70.6				
9:53:00 AM	71.2	70.6	69.9	Total Period Daytime Min			58.3				
10:53:00 AM	70.9	70.2	69.7	Total Period Nighttime Average			70.7				
				Total Period Nighttime Max			72.0				
				Total Period Nighttime Min			65.7				

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

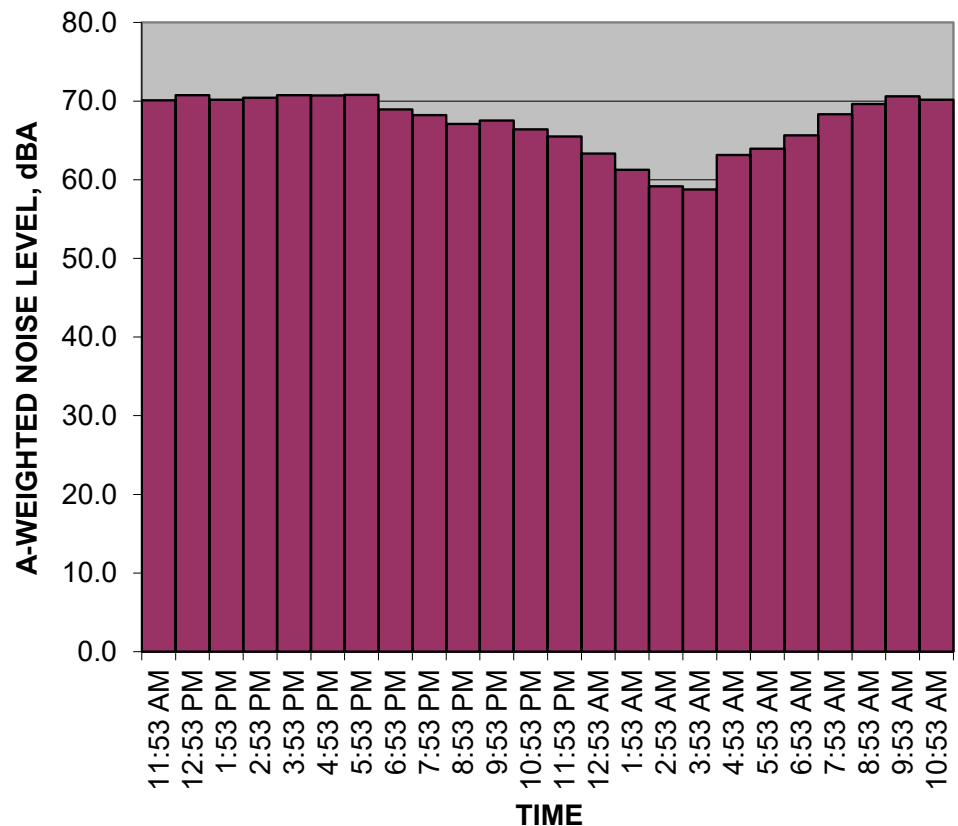
Measured Ambient Noise Levels



Project: Claremont Mckenna
Location: R3
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:53 AM	70.1
12:53 PM	70.7
1:53 PM	70.2
2:53 PM	70.4
3:53 PM	70.8
4:53 PM	70.7
5:53 PM	70.8
6:53 PM	68.9
7:53 PM	68.2
8:53 PM	67.1
9:53 PM	67.5
10:53 PM	66.4
11:53 PM	65.5
12:53 AM	63.3
1:53 AM	61.3
2:53 AM	59.2
3:53 AM	58.8
4:53 AM	63.1
5:53 AM	63.9
6:53 AM	65.7
7:53 AM	68.3
8:53 AM	69.6
9:53 AM	70.6
10:53 AM	70.2
CNEL, dB(A):	76.7



NOTES:

Measurements began on 5/8/23

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R3**

05/07/2305/08/2305/09/2305/10/2305/11/2305/12/2305/13/23				Start Date and Time			
11:53:00 AM	71.5	70.1	71.0		5/7/2023	11:53:00 AM	Start
12:53:00 PM	71.7	70.7	70.4		5/8/2023	12:53:00 PM	5/9/23 11:53 AM
1:53:00 PM	71.1	70.2	69.9		5/9/2023	1:53:00 PM	End
2:53:00 PM	71.6	70.4	69.7		5/10/2023	2:53:00 PM	5/10/23 11:53 AM
3:53:00 PM	71.6	70.8	69.0			3:53:00 PM	
4:53:00 PM	72.0	70.7	69.3			4:53:00 PM	
5:53:00 PM	71.5	70.8	69.7			5:53:00 PM	
6:53:00 PM	70.6	68.9	69.4			CNEL76.4	
7:53:00 PM	68.9	68.2	69.5			L _{dn} 76.0	
8:53:00 PM	67.8	67.1	66.4			24-hr Max.71.2	
9:53:00 PM	67.5	67.5	67.4			24-hr Min.58.3	
10:53:00 PM	66.6	66.4	64.5			24-hr Nighttime Average ^a 69.9	
11:53:00 PM	64.8	65.5	62.3			24-hr Nighttime Max71.0	
12:53:00 AM	63.8	63.3	61.5			24-hr Nighttime Min69.0	
1:53:00 AM	61.5	61.3	58.3			24-hr Daytime Average ^a 67.5	
2:53:00 AM	60.2	59.2	62.1			24-hr Daytime Max71.2	
3:53:00 AM	64.5	58.8	61.1			24-hr Daytime Min58.3	
4:53:00 AM	63.6	63.1	66.1			Total Period Average68.8	
5:53:00 AM	66.6	63.9	68.4			Total Period Max72.0	
6:53:00 AM	67.8	65.7	70.8			Total Period Min58.3	
7:53:00 AM	69.6	68.3	71.2		Total Period Daytime Average67.0		
8:53:00 AM	70.5	69.6	70.4		Total Period Daytime Max70.6		
9:53:00 AM	71.2	70.6	69.9		Total Period Daytime Min58.3		
10:53:00 AM	70.9	70.2	69.7		Total Period Nighttime Average70.7		
					Total Period Nighttime Max72.0		
					Total Period Nighttime Min65.7		

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

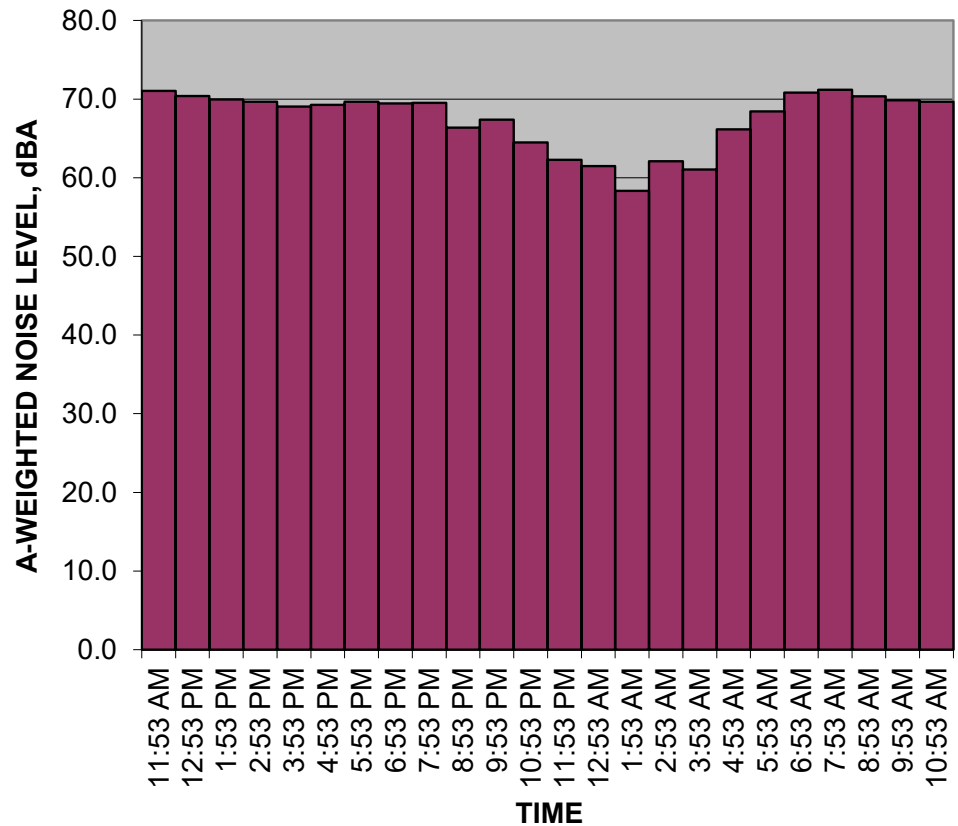
Measured Ambient Noise Levels



Project: Claremont Mckenna
Location: R3
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:53 AM	71.0
12:53 PM	70.4
1:53 PM	69.9
2:53 PM	69.7
3:53 PM	69.0
4:53 PM	69.3
5:53 PM	69.7
6:53 PM	69.4
7:53 PM	69.5
8:53 PM	66.4
9:53 PM	67.4
10:53 PM	64.5
11:53 PM	62.3
12:53 AM	61.5
1:53 AM	58.3
2:53 AM	62.1
3:53 AM	61.1
4:53 AM	66.1
5:53 AM	68.4
6:53 AM	70.8
7:53 AM	71.2
8:53 AM	70.4
9:53 AM	69.9
10:53 AM	69.7
CNEL, dB(A):	76.4



NOTES:

Measurements began on 5/9/23

Summary

File Name on Meter

File Name on PC

Serial Number

Model

Firmware Version

User

Location

Job Description

Note

LxT_Data.234.s

LxT_0004983-20230503 111144-LxT_Data.234.ldbin

0004983

SoundTrack LxT®

2.404

Measurement

Description

Start

Stop

Duration

Run Time

Pause

Pre-Calibration

Post-Calibration

Calibration Deviation

2023-05-03 11:11:44

2023-05-03 11:31:44

00:20:00.0

00:20:00.0

00:00:00.0

2023-05-02 06:54:42

None

Overall Settings

RMS Weight

Peak Weight

Detector

Preamplifier

Microphone Correction

Integration Method

Overload

Under Range Peak

Under Range Limit

Noise Floor

A Weighting

Z Weighting

Slow

PRMLxT1

Off

Exponential

143.3 dB

A

C

Z

99.3

96.3

101.3 dB

36.5

36.2

43.2 dB

27.4

27.1

34.1 dB

Instrument Identification

First

Second

Third

Results

LASeq

LASE

EAS

EAS8

EAS40

LZpeak (max)

LASmax

LASmin

SEA

LAS > 85.0 dB

LAS > 115.0 dB

LZpeak > 135.0 dB

LZpeak > 137.0 dB

LZpeak > 140.0 dB

LCSeq

LASEq

LCSeq - LASEq

LALeq

LAeq

LALeq - LAeq

66.8

97.6

634.301 μPa²h

15.223 mPa²h

76.116 mPa²h

2023-05-03 11:20:22

2023-05-03 11:23:43

2023-05-03 11:29:47

-99.9 dB

104.0 dB

80.6 dB

43.7 dB

0

0

0

0

0

72.8 dB

66.8 dB

6.1 dB

69.3 dB

66.8 dB

2.5 dB

Exceedance Counts

Duration

0

0.0 s

0

0.0 s

0

0.0 s

0

0.0 s

0

0.0 s

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	66.8				
Ls(max)	80.6	2023/05/03 11:23:43			
Ls(min)	43.7	2023/05/03 11:29:47			
LPeak(max)				104.0	2023/05/03 11:20:22

Overload Count

Overload Duration

0

0.0 s

Dose Settings

Dose Name

Exchange Rate

Threshold

Criterion Level

Criterion Duration

OSHA-1

5

90

90

8

OSHA-2

5 dB

80 dB

90 dB

8 h

Results

Dose

Projected Dose

TWA (Projected)

TWA (t)

Lep (t)

-99.94

-99.94

-99.9

-99.9

53.0

0.00 %

0.02 %

29.1 dB

6.2 dB

53.0 dB

Statistics

LAS 5.00

LAS 10.00

LAS 33.30

LAS 50.00

LAS 66.60

LAS 90.00

73.3 dB

71.0 dB

64.9 dB

60.9 dB

56.5 dB

49.0 dB

Summary

File Name on Meter

File Name on PC

Serial Number

Model

Firmware Version

User

Location

Job Description

Note

LxT_Data.238.s

LxT_0004983-20230505 112614-LxT_Data.238.ldbin

0004983

SoundTrack LxT®

2.404

Measurement

Description

Start

Stop

Duration

Run Time

Pause

Pre-Calibration

Post-Calibration

Calibration Deviation

2023-05-05 11:26:14

2023-05-08 12:59:17

73:33:02.500

73:33:00.594

00:00:01.9

2023-05-03 10:59:38

None

Overall Settings

RMS Weight

Peak Weight

Detector

Preamplifier

Microphone Correction

Integration Method

Overload

Under Range Peak

Under Range Limit

Noise Floor

A Weighting

Z Weighting

Slow

PRMLxT1

Off

Exponential

143.3 dB

A

99.3

36.5

27.4

C

96.3

36.2

27.0

Z

101.3 dB

43.2 dB

34.1 dB

Instrument Identification

First

Second

Third

Results

LASeq

LASE

EAS

EAS8

EAS40

LZpeak (max)

LASmax

LASmin

SEA

LAS > 85.0 dB

LAS > 115.0 dB

LZpeak > 135.0 dB

LZpeak > 137.0 dB

LZpeak > 140.0 dB

LCSeq

LASEq

LCSeq - LASEq

LALeq

LAeq

LALeq - LAeq

59.7

113.9

27.185 mPa²h

2.957 mPa²h

14.784 mPa²h

2023-05-06 16:16:30

2023-05-07 16:33:56

2023-05-07 03:23:19

-99.9 dB

Exceedance Counts

7

0

0

0

0

68.8 dB

59.7 dB

9.2 dB

61.5 dB

59.7 dB

1.8 dB

Duration

24.5 s

0.0 s

0.0 s

0.0 s

0.0 s

2023-05-06 16:16:30

2023-05-07 16:33:56

2023-05-07 03:23:19

34.9 dB

116.2 dB

93.8 dB

34.9 dB

0

0.0 s

Dose Settings

Dose Name

Exchange Rate

Threshold

Criterion Level

Criterion Duration

OSHA-1

5

90

90

8

OSHA-2

5 dB

80 dB

90 dB

8 h

Results

Dose

Projected Dose

TWA (Projected)

TWA (t)

Lep (t)

0.02

0.00

14.1

30.1

69.3

0.11 %

0.01 %

24.9 dB

40.9 dB

69.3 dB

Statistics

LAS 5.00

LAS 10.00

LAS 33.30

LAS 50.00

LAS 66.60

LAS 90.00

65.3 dB

63.3 dB

57.0 dB

53.4 dB

50.0 dB

43.6 dB

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R4**

	05/07/23	05/08/23	05/09/23	05/10/23	05/11/23	05/12/23	05/13/23	Start Date and Time		
11:26:00 AM	62.3	63.7	61.8					5/7/2023	11:26:00 AM	Start
12:26:00 PM	62.3	60.7	62.3					5/8/2023	12:26:00 PM	5/7/23 11:26 AM
1:26:00 PM	62.1	60.1	61.8					5/9/2023	1:26:00 PM	End
2:26:00 PM	63.4	61.0	63.0					5/10/2023	2:26:00 PM	5/8/23 11:26 AM
3:26:00 PM	63.0	63.0	60.5						3:26:00 PM	
4:26:00 PM	63.6	60.1	65.6						4:26:00 PM	
5:26:00 PM	63.0	60.1	60.1						5:26:00 PM	
6:26:00 PM	61.2	60.4	59.4							
7:26:00 PM	59.7	57.8	57.4							
8:26:00 PM	58.8	57.7	56.6							
9:26:00 PM	58.1	59.2	56.1							
10:26:00 PM	56.6	56.6	53.8							
11:26:00 PM	56.4	54.6	53.4							
12:26:00 AM	54.7	60.2	54.1							
1:26:00 AM	54.0	51.8	49.6							
2:26:00 AM	50.1	49.4	46.2							
3:26:00 AM	49.7	47.8	49.8							
4:26:00 AM	51.9	48.6	53.7							
5:26:00 AM	55.8	54.1	57.8							
6:26:00 AM	56.0	55.4	60.7							
7:26:00 AM	57.2	55.7	61.8							
8:26:00 AM	59.9	59.1	60.4							
9:26:00 AM	59.9	60.7	61.5							
10:26:00 AM	62.0	61.9	61.2							
								CNEL 68.6 L_{dn} 68.4 24-hr Max. 63.6 24-hr Min. 49.7 24-hr Nighttime Average^a 62.5 24-hr Nighttime Max 63.6 24-hr Nighttime Min 59.9 24-hr Daytime Average^a 57.1 24-hr Daytime Max 61.2 24-hr Daytime Min 49.7 Total Period Average 59.6 Total Period Max 65.6 Total Period Min 46.2 Total Period Daytime Average 57.0 Total Period Daytime Max 61.2 Total Period Daytime Min 46.2 Total Period Nighttime Average 62.1 Total Period Nighttime Max 65.6 Total Period Nighttime Min 55.4		

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

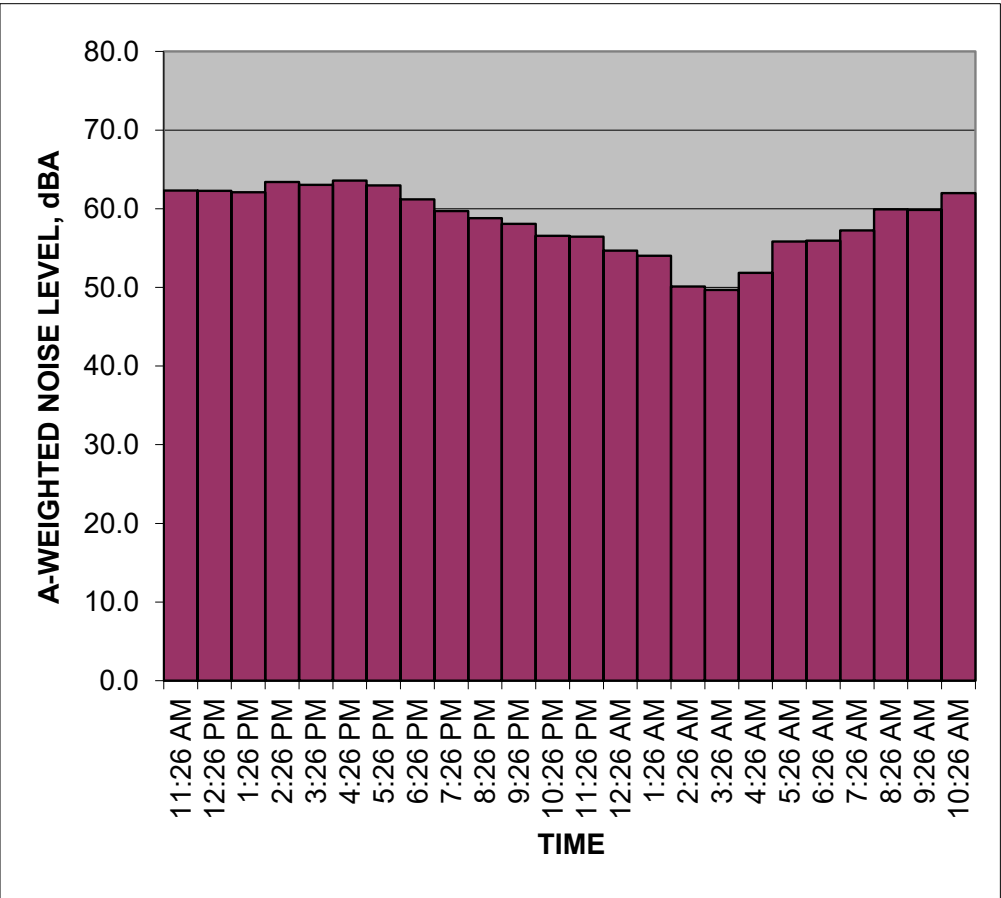


Measured Ambient Noise Levels

Project: Claremont Mckenna
Location: R4
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:26 AM	62.3
12:26 PM	62.3
1:26 PM	62.1
2:26 PM	63.4
3:26 PM	63.0
4:26 PM	63.6
5:26 PM	63.0
6:26 PM	61.2
7:26 PM	59.7
8:26 PM	58.8
9:26 PM	58.1
10:26 PM	56.6
11:26 PM	56.4
12:26 AM	54.7
1:26 AM	54.0
2:26 AM	50.1
3:26 AM	49.7
4:26 AM	51.9
5:26 AM	55.8
6:26 AM	56.0
7:26 AM	57.2
8:26 AM	59.9
9:26 AM	59.9
10:26 AM	62.0
CNEL, dB(A):	68.6



NOTES:

Measurements began on 5/7/23

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R4**

	05/07/23	05/08/23	05/09/23	05/10/23	05/11/23	05/12/23	05/13/23	Start Date and Time	
11:26:00 AM	62.3	63.7	61.8					5/7/2023 11:26:00 AM	Start
12:26:00 PM	62.3	60.7	62.3					5/8/2023 12:26:00 PM	5/8/23 11:26 AM
1:26:00 PM	62.1	60.1	61.8					5/9/2023 1:26:00 PM	End
2:26:00 PM	63.4	61.0	63.0					5/10/2023 2:26:00 PM	5/9/23 11:26 AM
3:26:00 PM	63.0	63.0	60.5					3:26:00 PM	
4:26:00 PM	63.6	60.1	65.6					4:26:00 PM	
5:26:00 PM	63.0	60.1	60.1					5:26:00 PM	
6:26:00 PM	61.2	60.4	59.4						
7:26:00 PM	59.7	57.8	57.4						
8:26:00 PM	58.8	57.7	56.6						
9:26:00 PM	58.1	59.2	56.1						
10:26:00 PM	56.6	56.6	53.8						
11:26:00 PM	56.4	54.6	53.4						
12:26:00 AM	54.7	60.2	54.1						
1:26:00 AM	54.0	51.8	49.6						
2:26:00 AM	50.1	49.4	46.2						
3:26:00 AM	49.7	47.8	49.8						
4:26:00 AM	51.9	48.6	53.7						
5:26:00 AM	55.8	54.1	57.8						
6:26:00 AM	56.0	55.4	60.7						
7:26:00 AM	57.2	55.7	61.8						
8:26:00 AM	59.9	59.1	60.4						
9:26:00 AM	59.9	60.7	61.5						
10:26:00 AM	62.0	61.9	61.2						
								CNEL	67.5
								L _{dn}	67.4
								24-hr Max.	63.7
								24-hr Min.	47.8
								24-hr Nighttime Average ^a	61.4
								24-hr Nighttime Max	63.7
								24-hr Nighttime Min	60.1
								24-hr Daytime Average ^a	56.7
								24-hr Daytime Max	60.4
								24-hr Daytime Min	47.8
								Total Period Average	59.6
								Total Period Max	65.6
								Total Period Min	46.2
								Total Period Daytime Average	57.0
								Total Period Daytime Max	61.2
								Total Period Daytime Min	46.2
								Total Period Nighttime Average	62.1
								Total Period Nighttime Max	65.6
								Total Period Nighttime Min	55.4

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

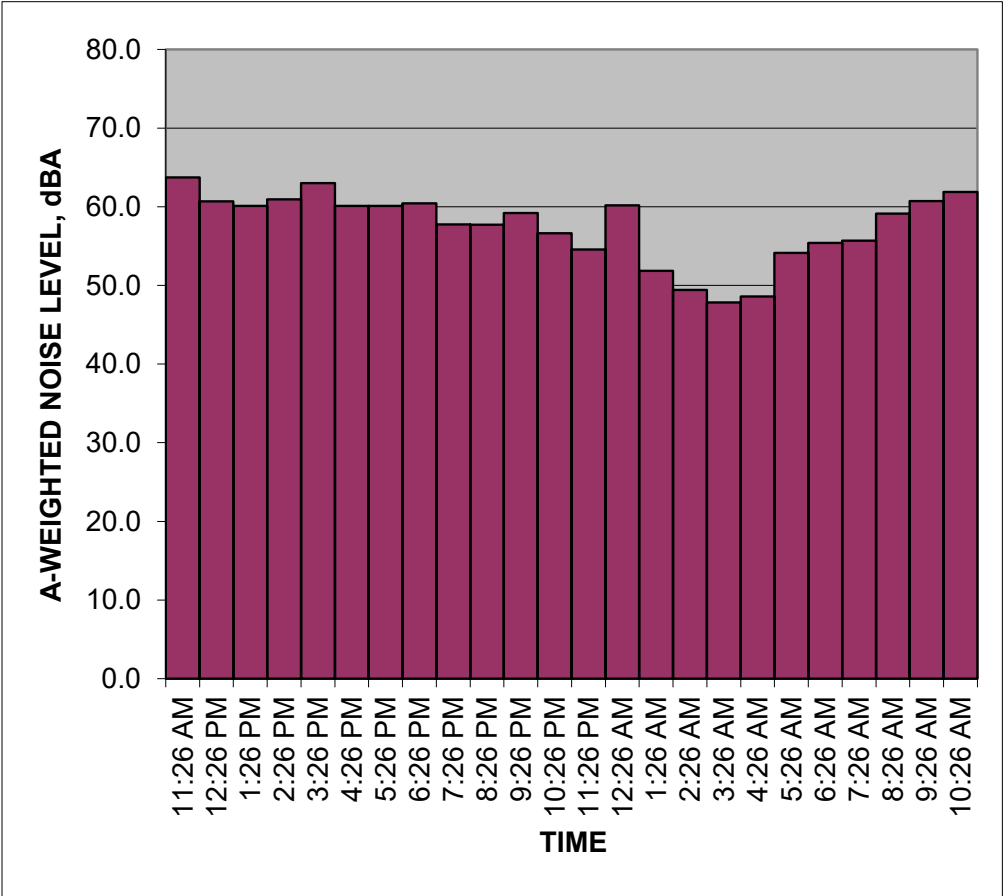


Measured Ambient Noise Levels

Project: Claremont Mckenna
Location: R4
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:26 AM	63.7
12:26 PM	60.7
1:26 PM	60.1
2:26 PM	61.0
3:26 PM	63.0
4:26 PM	60.1
5:26 PM	60.1
6:26 PM	60.4
7:26 PM	57.8
8:26 PM	57.7
9:26 PM	59.2
10:26 PM	56.6
11:26 PM	54.6
12:26 AM	60.2
1:26 AM	51.8
2:26 AM	49.4
3:26 AM	47.8
4:26 AM	48.6
5:26 AM	54.1
6:26 AM	55.4
7:26 AM	55.7
8:26 AM	59.1
9:26 AM	60.7
10:26 AM	61.9
CNEL, dB(A):	67.5



NOTES:

Measurements began on 5/8/23

Noise Measurement Data

Project: **Claremont Mckenna**

Location: **R4**

	05/07/23	05/08/23	05/09/23	05/10/23	05/11/23	05/12/23	05/13/23	Start Date and Time		
11:26:00 AM	62.3	63.7	61.8					5/7/2023	11:26:00 AM	Start
12:26:00 PM	62.3	60.7	62.3					5/8/2023	12:26:00 PM	5/9/23 11:26 AM
1:26:00 PM	62.1	60.1	61.8					5/9/2023	1:26:00 PM	End
2:26:00 PM	63.4	61.0	63.0					5/10/2023	2:26:00 PM	5/10/23 11:26 AM
3:26:00 PM	63.0	63.0	60.5						3:26:00 PM	
4:26:00 PM	63.6	60.1	65.6						4:26:00 PM	
5:26:00 PM	63.0	60.1	60.1						5:26:00 PM	
6:26:00 PM	61.2	60.4	59.4					CNEL68.4		
7:26:00 PM	59.7	57.8	57.4					L _{dn} 68.2		
8:26:00 PM	58.8	57.7	56.6					24-hr Max.65.6		
9:26:00 PM	58.1	59.2	56.1					24-hr Min.46.2		
10:26:00 PM	56.6	56.6	53.8					24-hr Nighttime Average ^a 62.3		
11:26:00 PM	56.4	54.6	53.4					24-hr Nighttime Max65.6		
12:26:00 AM	54.7	60.2	54.1					24-hr Nighttime Min60.1		
1:26:00 AM	54.0	51.8	49.6					24-hr Daytime Average ^a 57.2		
2:26:00 AM	50.1	49.4	46.2					24-hr Daytime Max61.8		
3:26:00 AM	49.7	47.8	49.8					24-hr Daytime Min46.2		
4:26:00 AM	51.9	48.6	53.7					Total Period Average59.6		
5:26:00 AM	55.8	54.1	57.8					Total Period Max65.6		
6:26:00 AM	56.0	55.4	60.7					Total Period Min46.2		
7:26:00 AM	57.2	55.7	61.8	Total Period Daytime Average57.0						
8:26:00 AM	59.9	59.1	60.4	Total Period Daytime Max61.2						
9:26:00 AM	59.9	60.7	61.5	Total Period Daytime Min46.2						
10:26:00 AM	62.0	61.9	61.2	Total Period Nighttime Average62.1						
				Total Period Nighttime Max65.6						
				Total Period Nighttime Min55.4						

^a Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

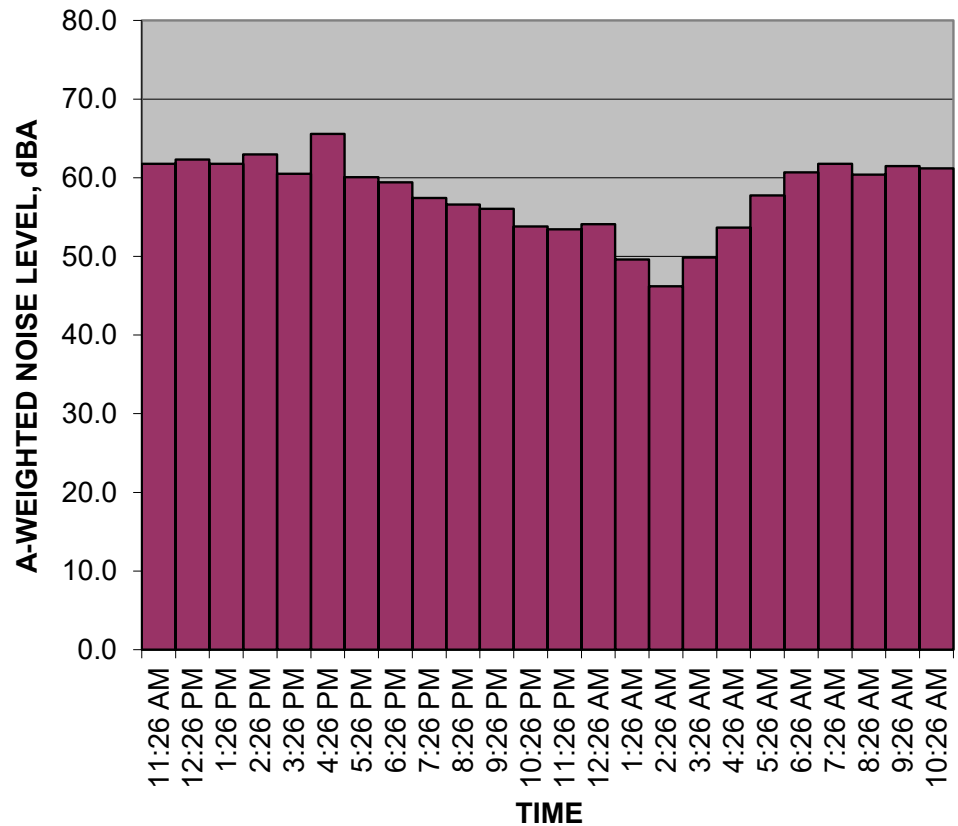
Measured Ambient Noise Levels



Project: Claremont Mckenna
Location: R4
Sources: Ambient

Date: May 23, 2024

TIME	HNL, dB(A)
11:26 AM	61.8
12:26 PM	62.3
1:26 PM	61.8
2:26 PM	63.0
3:26 PM	60.5
4:26 PM	65.6
5:26 PM	60.1
6:26 PM	59.4
7:26 PM	57.4
8:26 PM	56.6
9:26 PM	56.1
10:26 PM	53.8
11:26 PM	53.4
12:26 AM	54.1
1:26 AM	49.6
2:26 AM	46.2
3:26 AM	49.8
4:26 AM	53.7
5:26 AM	57.8
6:26 AM	60.7
7:26 AM	61.8
8:26 AM	60.4
9:26 AM	61.5
10:26 AM	61.2
CNEL, dB(A):	68.4



NOTES:

Measurements began on 5/9/23

Exhibit B

**Construction and
Vibration Noise
Calculations**

Project: Claremont McKenna College Project Addendum
Construction Noise Impact on Sensitive Receptors



Parameters				Noise Barrier+Elevation Difference +5 dBA Reduction																			
Leq to L10 factor				R1-Brighton Park Apartments					R2 - Pitzer Dorms					R3 - Condos east of Monte Vista Avenue					R4 - College Park Luxury Apartments				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 90R, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Site Preparation																							
1. Roberts Sports Bowl I				50 46					68 64					63 59					71 67				
Tractor/Loader/Backhoe	1	78	40%	1480	49	45	48	0	160	68	64	67	0	160	63	59	62	5	110	71	67	70	0
Tractor/Loader/Backhoe	1	78	40%	2450	44	40	43	0	1000	52	48	51	0	1000	47	43	46	5	1000	52	48	51	0
Dump Truck	1	76	40%	3450	39	35	38	0	2000	44	40	43	0	2000	39	35	38	5	2000	44	40	43	0
2. Street Improvements I				52 48					72 68					67 63					69 65				
Tractor/Loader/Backhoe	1	78	40%	1480	49	45	48	0	100	72	68	71	0	100	67	63	66	5	150	68	64	67	0
Tractor/Loader/Backhoe	1	78	40%	2000	46	42	45	0	750	54	50	53	0	750	49	45	48	5	750	54	50	53	0
Dump Truck	1	76	40%	2500	42	38	41	0	1400	47	43	46	0	1400	42	38	41	5	1400	47	43	46	0
Tractor/Loader/Backhoe	1	78	40%	3000	42	38	41	0	1800	47	43	46	0	1800	42	38	41	5	1800	47	43	46	0
Grading				61 56					74 68					69 63					76 70				
4. Sports Bowl Rough Grading I				1480 52 45 48 0					160 71 64 67 0					160 66 59 62 5					110 74 67 70 0				
Rock Drill	1	81	20%	1600	51	44	47	0	300	65	58	61	0	300	60	53	56	5	300	65	58	61	0
Rock Drill	1	81	20%	1700	50	43	46	0	400	63	56	59	0	400	58	51	54	5	400	63	56	59	0
Dump Truck	5	76	40%	1800	52	48	51	0	500	63	59	62	0	500	58	54	57	5	800	63	59	62	0
Dump Truck	5	76	40%	1900	51	47	50	0	600	61	57	60	0	600	56	52	55	5	800	61	57	60	0
Dump Truck	5	76	40%	2000	51	47	50	0	700	60	56	59	0	700	55	51	54	5	700	60	56	59	0
Dump Truck	5	76	40%	2200	50	46	49	0	800	59	55	58	0	800	54	50	53	5	800	59	55	58	0
Front End Loader	2	79	40%	2400	48	44	47	0	900	57	53	56	0	900	52	48	51	5	900	57	53	56	0
Front End Loader	2	79	40%	2600	48	44	47	0	1000	56	52	55	0	1000	51	47	50	5	1000	56	52	55	0
Excavator	2	81	40%	2800	49	45	48	0	1100	57	53	56	0	1100	52	48	51	5	1100	57	53	56	0
Excavator	1	81	40%	3000	45	41	44	0	1200	53	49	52	0	1200	48	44	47	5	1200	53	49	52	0
Dump Truck	2	76	40%	3400	42	38	41	0	2000	47	43	46	0	2000	42	38	41	5	2000	47	43	46	0
5. Sport Bowl Fine Grading I				89 86					76 73					71 68					79 76				
Other Equipment	1	85	50%	1480	56	53	56	0	160	75	72	75	0	160	70	67	70	5	110	78	75	78	0
Other Equipment	1	85	50%	1700	54	51	54	0	300	68	65	68	0	300	64	61	64	5	300	69	66	69	0
Excavator	1	81	40%	2000	49	45	48	0	600	59	55	58	0	600	54	50	53	5	600	59	55	58	0
Excavator	1	81	40%	2300	48	44	47	0	900	56	52	55	0	900	51	47	50	5	900	56	52	55	0
Tractor/Loader/Backhoe	2	78	40%	2600	47	43	46	0	1200	53	49	52	0	1200	48	44	47	5	1200	53	49	52	0
Tractor/Loader/Backhoe	2	78	40%	2800	46	42	45	0	1500	51	47	50	0	1500	46	42	45	5	1500	51	47	50	0
Dump Truck	1	76	40%	3200	40	36	39	0	1900	44	40	43	0	1900	39	35	38	5	1900	44	40	43	0
Dump Truck	1	76	40%	3400	39	35	38	0	2000	44	40	43	0	2000	39	35	38	5	2000	44	40	43	0
6. Street Improvement I				54 50					79 75					70 66					72 68				
Excavator	1	81	40%	1480	52	48	51	0	100	75	71	74	0	100	70	66	69	5	150	71	67	70	0
Tractor/Loader/Backhoe	1	78	40%	2000	46	42	45	0	500	58	54	57	0	500	53	49	52	5	500	58	54	57	0
Tractor/Loader/Backhoe	1	78	40%	2200	44	40	43	0	600	53	49	52	0	600	48	44	47	5	600	53	49	52	0
Tractor/Loader/Backhoe	1	78	40%	2750	43	39	42	0	1500	48	44	47	0	1500	43	39	42	5	1500	48	44	47	0
Dump Truck	1	76	40%	3000	40	36	39	0	1800	45	41	44	0	1800	40	36	39	5	1800	45	41	44	0
3. Tunnel Rough Grading/Excavation (Shoring) I				54 49					64 60					52 48					64 59				
Excavator	1	81	40%	2470	47	43	46	0	750	57	53	56	0	1450	47	43	46	5	720	57	53	56	0
Excavator	1	81	40%	2475	47	43	46	0	760	57	53	56	0	1500	46	42	45	5	770	57	53	56	0
Dump Truck	2	76	40%	2480	45	41	44	0	770	55	51	54	0	1650	44	40	43	5	780	55	51	54	0
Dump Truck	1	76	40%	2485	42	38	41	0	780	52	48	51	0	1700	40	36	39	5	810	52	48	51	0
Tractor/Loader/Backhoe	2	78	40%	2495	47	43	46	0	800	57	53	56	0	1800	45	41	44	5	840	57	53	56	0
Roller	1	80	20%	2505	46	39	42	0	820	56	49	52	0	1950	43	36	39	5	880	55	48	51	0
7. Tunnel Fine Grading/Excavation I				59 45					69 55					49 44					69 55				
Tractor/Loader/Backhoe	1	78	40%	2470	44	40	43	0	750	54	50	53	0	1450	44	40	43	5	750	54	50	53	0
Tractor/Loader/Backhoe	1	78	40%	2480	44	40	43	0	775	54	50	53	0	1600	43	39	42	5	800	54	50	53	0
Roller	1	80	20%	2490	48	39	42	0	800	56	49	52	0	1750	44	37	40	5	840	55	49	52	0
Dump Truck	1	76	40%	2500	42	38	41	0	825	52	48	51	0	1950	39	35	38	5	880	51	47	50	0
Building Construction				57 53					79 66					65 60					69 61				
8. Structures and Parking Building and Sport Seating I				1900 51 48 51 0					250 67 64 67 0					1350 47 44 47 5					500 61 58 61 0				
Pumps	1	81	50%	1900	51	48	51	0	250	67	64	67	0	1350	47	44	47	5	500	61	58	61	0
Gradall	1	83	40%	1750	52	48	51	0	450	64	60	63	0	1450	49	45	48	5	700	60	56	59	0
Gradall	1	83	40%	2000	51	47	50	0	550	62	58	61	0	1425	49	45	48	5	900	58	54	57	0
Crane	1	81	16%	2200	48	40	43	0	650	59	51	54	0	1450	47	39	42	5	1100	54	46	49	0
Man Lift	1	75	20%	2400	41	34	37	0	750	51	44	47	0	1475	41	34	37	5	1300	47	40	43	0
Man Lift	1	75	20%	2600	41	34	37	0	900	50	43	46	0	1600	40	33	36	5	1500	45	38	41	0
Dump Truck	1	76	40%	2800	41	37	40	0	1100	49	45	48	0	1550	41	37	40	5	1700	45	41	44	0
9. Street Improvements I				54 50					79 75					70 66					72 68				
Excavator	1	81	40%	1480	52	48	51	0	100	75	71	74	0	100	70	66	69	5	150	71	67	70	0
Tractor/Loader/Backhoe	1	78	40%	2000	46	42	45	0	500	58	54	57	0	500	53	49	52	5	500	58	54	57	0
Tractor/Loader/Backhoe	1	78	40%	2200	44	40	43	0	600	53	49	52	0	600	48	44	47	5	600	53	49	52	0
Tractor/Loader/Backhoe	1	78	40%	2750	41	37	40	0	1500	46	42	45	0	1500	41	37	40	5	1500	46	42	45	0
Roller	80	20%	3000	44	37	40	0	1800	49	42	45	0	1800	44	37	40	5	1800	49	42	45	0	
10. Roberts Sports Bowl Site Utilities and Wall I				54 54 56 52					76 73 69 65					61 57 53 49					69 65 61 57				
Excavator	1	81	40%	2400	47	43	46	0	750	57	53	56	0	800	52	48	51	5	300	65	61	64	0
Excavator	1	81	40%	2450	47	43	46	0	850	56	52	55	0	900	51	47	50	5	350	64	60	63	0
Tractor/Loader/Backhoe	1	78	40%	2500	44	40	43	0	950	52	48	51	0	1000	47	43	46	5	400	60	56	59	0
Tractor/Loader/Backhoe	1	78	40%	2550	44	40	43	0	1100	48	44	47	0	1100	46	42	45	5	450	59	55	58	0
Tractor/Loader/Backhoe	1	78	40%	2600	44	40	43	0	1100	51	47	50	0	1200	45	41	44	5	500	58	54	57	0
Tractor/Loader/Backhoe	1	78	40%	2650	44	40	43	0	1200	50	46	49	0	1300	45	41	44	5	550	57	53	56	0
Tractor/Loader/Backhoe	1	78	40%	2700	41	37	40	0	1300	48	44	47	0	1400	42	38	41	5	600	54	50	53	0
Dump Truck	1	76	40%	2750	41	37	40	0	1325	48	44	47	0	1600	41	37	40	5	700	53	49	52	0
Roller	1	80	20%	2800	45	38	41	0	1350	51	44	47	0	1800	44	37	40	5	800	56	49	52	0
11. Pathways and Surface Parking I				52 47					66 62					55 50					60 56				
Tractor/Loader/Backhoe	1	78	40%	1500	48	44	47	0	250	64	60	63	0	750	49								

Project: Claremont McKenna College Project Addendum
Construction Noise Impact on Sensitive Receptors



Parameters

Leq to L10 factor **3**

Noise Barrier+Elevation Difference =5 dBA Reduction

				R1-Brighton Park Apartments					R2 - Pitzer Dorms					R3 - Condos east of Monte Vista Avenue					R4 - College Park Luxury Apartments				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA
Site Preparation																							
15. Roberts Sports Bowl II				62 59					72 69					67 64					55 52				
Tractor/Loader/Backhoe	1	78	40%	600	56	52	55	0	160	68	64	67	0	160	63	59	62	5	1500	48	44	47	0
Tractor/Loader/Backhoe	1	78	40%	1200	50	46	49	0	600	56	52	55	0	600	51	47	50	5	2000	46	42	45	0
Tractor/Loader/Backhoe	1	78	40%	1500	48	44	47	0	1200	50	46	49	0	1200	45	41	44	5	2500	44	40	43	0
Dump Truck	1	76	40%	2000	44	40	43	0	1600	46	42	45	0	1600	41	37	40	5	3000	40	36	39	0
Grading																							
16. Sports Bowl Rough Grading II				67 62					74 68					69 63					61 56				
Rock Drill	1	81	20%	600	59	52	55	0	160	71	64	67	0	160	66	59	62	5	1500	51	44	47	0
Rock Drill	1	81	20%	700	58	51	54	0	300	65	58	61	0	300	60	53	56	5	1600	51	44	47	0
Rock Drill	1	81	20%	800	57	50	53	0	400	63	56	59	0	400	58	51	54	5	1700	50	43	46	0
Dump Truck	5	76	40%	900	58	54	57	0	500	63	59	62	0	500	58	54	57	5	1800	52	48	51	0
Dump Truck	5	76	40%	1000	57	53	56	0	600	61	57	60	0	600	56	52	55	5	1900	51	47	50	0
Dump Truck	5	76	40%	1100	56	52	55	0	700	60	56	59	0	700	55	51	54	5	2000	51	47	50	0
Dump Truck	5	76	40%	1200	55	51	54	0	800	59	55	58	0	800	54	50	53	5	2100	51	47	50	0
Front End Loader	1	79	40%	1300	51	47	50	0	900	54	50	53	0	900	49	45	48	5	2200	46	42	45	0
Front End Loader	1	79	40%	1400	50	46	49	0	1000	53	49	52	0	1000	48	44	47	5	2300	46	42	45	0
Front End Loader	1	79	40%	1500	49	45	48	0	1100	52	48	51	0	1100	47	43	46	5	2400	45	41	44	0
Front End Loader	1	79	40%	1600	49	45	48	0	1200	51	47	50	0	1200	46	42	45	5	2500	45	41	44	0
Excavator	1	81	40%	1700	50	46	49	0	1300	53	49	52	0	1300	48	44	47	5	2600	47	43	46	0
Excavator	1	81	40%	1800	50	46	49	0	1400	52	48	51	0	1400	47	43	46	5	2700	46	42	45	0
Excavator	1	81	40%	1900	49	45	48	0	1500	51	47	50	0	1500	46	42	45	5	2800	46	42	45	0
Dump Truck	2	76	40%	2000	47	43	46	0	1600	49	45	48	0	1600	44	40	43	5	2900	44	40	43	0
17. Sport Bowl Fine Grading II				66 63					76 72					71 67					60 56				
Other Equipment	1	85	50%	600	63	60	63	0	160	75	72	75	0	160	70	67	70	5	1500	55	52	55	0
Other Equipment	1	85	50%	800	61	58	61	0	500	65	62	65	0	500	60	57	60	5	1700	54	51	54	0
Excavator	1	81	40%	1000	55	51	54	0	700	58	54	57	0	700	53	49	52	5	1900	49	45	48	0
Excavator	1	81	40%	1200	53	49	52	0	900	56	52	55	0	900	51	47	50	5	2100	49	45	48	0
Tractor/Loader/Backhoe	2	78	40%	1400	52	48	51	0	1100	54	50	53	0	1100	49	45	48	5	2300	48	44	47	0
Tractor/Loader/Backhoe	2	78	40%	1600	51	47	50	0	1200	53	49	52	0	1200	48	44	47	5	2500	47	43	46	0
Dump Truck	1	76	40%	1900	44	40	43	0	1400	47	43	46	0	1400	42	38	41	5	2900	41	37	40	0
Dump Truck	1	76	40%	2000	44	40	43	0	1600	46	42	45	0	1600	41	37	40	5	3000	40	36	39	0
Building Construction																							
18. Roberts Sports Bowl Site Utilities and Wall II				63 59					72 68					67 63					56 52				
Excavator	1	81	40%	600	59	55	58	0	160	71	67	70	0	160	66	62	65	5	1500	51	47	50	0
Excavator	1	81	40%	800	57	53	56	0	300	65	61	64	0	300	60	56	59	5	1700	50	46	49	0
Tractor/Loader/Backhoe	1	78	40%	1000	52	48	51	0	700	55	51	54	0	700	50	46	49	5	1900	46	42	45	0
Tractor/Loader/Backhoe	1	78	40%	1200	50	46	49	0	900	53	49	52	0	900	48	44	47	5	2100	46	42	45	0
Tractor/Loader/Backhoe	1	78	40%	1400	49	45	48	0	1100	51	47	50	0	1100	46	42	45	5	2300	45	41	44	0
Tractor/Loader/Backhoe	1	78	40%	1600	48	44	47	0	1200	50	46	49	0	1200	45	41	44	5	2500	44	40	43	0
Dump Truck	1	76	40%	1800	45	41	44	0	1300	48	44	47	0	1300	43	39	42	5	2700	41	37	40	0
Dump Truck	1	76	40%	1900	44	40	43	0	1500	46	42	45	0	1500	41	37	40	5	2900	41	37	40	0
Roller	1	80	20%	2000	48	41	44	0	1600	50	43	46	0	1600	45	38	41	5	3000	44	37	40	0
19. Pathways and Surface Parking II				57 52					56 52					55 51					50 45				
Tractor/Loader/Backhoe	1	78	40%	1000	52	48	51	0	1100	51	47	50	0	600	51	47	50	5	2675	43	39	42	0
Roller	1	80	20%	1250	52	45	48	0	1300	52	45	48	0	900	50	43	46	5	2750	45	38	41	0
Pumps	1	81	50%	1500	51	48	51	0	1500	51	48	51	0	1100	49	46	49	5	2825	46	43	46	0
Maximum Combined Overlapping Noise Levels-16,18				63					71					66					58				
Maximum Combined Overlapping Noise Levels-17,18				64					74					69					58				
Maximum Combined Overlapping Noise Levels-17,19				63					73					68					57				
Maximum Noise Level				64					74					69					58				
Ambient Noise Level				66.8					64.5					68.8					66.8				
Threshold (Ambient +5 dBA)				71.8					69.5					73.8					71.8				
Significant Impact?				No					Yes					No					No				

PROJECT NAME
Vibration Level Calculations

				Receptor		
				N =	1.5	
Construction Equipment	Project Equipment	Equipment Velocity Decibels @ 25 Feet* (VdB)	Equipment Peak Particle Velocity @ 25 Feet* (inches/second)	Distance to Structure (Feet)	Estimated Velocity Decibels @ Distance** (VdB)	Estimated Peak Particle Velocity @ Distance*** (inches/second)
Hoe Ram	Yes	87	0.089	110	74.1	0.010
Large Bulldozer	Yes	87	0.089	110	74.1	0.010
Caisson Drilling	Yes	87	0.089	110	67.7	0.010
Loaded Trucks	Yes	86	0.076	110	66.7	0.008
Jackhammer	Yes	79	0.035	110	66.1	0.004
Small Bulldozer	Yes	58	0.003	110	38.7	0.000

Source:
 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Notes:
 * Values taken from Table 7-4.
 ** Based on the formula $VdB(D) = VdB(25ft) - 30 \times \log_{10}(D/25)$, where D is equal to the distance (see page 185).
 *** Based on the formula $PPV(D) = PPV(25 ft) \times (25/D)^N$, where D is equal to the distance (see page 185).
 N = soil type classification factor (typically ranges from 1 to 1.5)

Exhibit C

**Traffic Noise
Modeling**

Claremont Colleges E. Campus Landfill
Horizon Year (2040) Plus Weekday Practice

Roadway Segment	Traffic Noise Levels (dBA CNEL)		Increase over Existing	Significant Impact?
	Horizon Year	Horizon Year + Weekday Practice		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	69.3	69.3	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	68.7	68.7	0.0	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	71.4	71.5	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	67.7	67.7	0.0	No
College Avenue between Foothill Boulevard and 6th Street	62.7	62.7	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	69.2	69.4	0.2	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	70.2	70.2	0.0	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	72.7	72.7	0.0	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	72.9	72.9	0.0	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	70.2	70.2	0.0	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	69.6	69.6	0.0	No
College Avenue between 6th Street and 1st Street	64.0	64.0	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	68.4	68.4	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	70.6	70.6	0.0	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	73.2	73.3	0.1	No
Indian Hill Boulevard between 1st Street and Arrow Highway	70.4	70.4	0.0	No
College Avenue between 1st Street and Arrow Highway	63.9	63.9	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	69.5	69.5	0.0	No
Indian Hill Boulevard n/o Base Line Road	64.4	64.4	0.0	No
Claremont Boulevard n/o Foothill Boulevard	68.8	68.8	0.0	No
Mills Avenue n/o Base Line Road	66.9	66.9	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	66.7	66.7	0.1	No
Central Avenue s/o Foothill Boulevard	71.7	71.7	0.0	No
Monte Vista Avenue s/o 1st Street	73.3	73.3	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	67.0	67.1	0.0	No
College Avenue s/o Arrow Highway	62.1	62.1	0.0	No
Indian Hill Boulevard s/o Arrow Highway	70.8	70.8	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	75.2	75.2	0.0	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	74.8	74.8	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	75.5	75.6	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.9	72.9	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	73.2	73.2	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	73.4	73.5	0.0	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.8	72.9	0.1	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	72.6	72.6	0.0	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	73.0	73.1	0.0	No
6th Street between Indian Hill Boulevard and College Avenue	63.3	63.4	0.1	No
6th Street between College Avenue and Mills Avenue	64.1	64.1	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	65.2	65.3	0.0	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	67.4	67.4	0.1	No
1st Street between Indian Hill Boulevard and College Avenue	64.8	64.8	0.0	No
1st Street between College Avenue and Claremont Boulevard	65.3	65.3	0.0	No
1st Street between Claremont Boulevard and Monte Vista Avenue	49.1	49.1	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	71.1	71.1	0.0	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	74.1	74.1	0.0	No
Base Line Road e/o I-210 Ramps	74.2	74.2	0.0	No
Foothill Boulevard e/o Central Avenue	69.9	69.9	0.0	No
1st Street e/o Monte Vista Avenue	66.6	66.6	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	74.0	74.0	0.0	No
Base Line Road w/o Indian Hill Boulevard	73.3	73.3	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	71.0	71.0	0.0	No
Claremont Boulevard w/o Monte Vista/Padua Ave	69.0	69.0	0.0	No

Claremont Colleges E. Campus Landfill
Horizon Year (2040) Plus Weekday Game

Roadway Segment	Traffic Noise Levels (dBA CNEL)		Increase over Existing	Significant Impact?
	Horizon Year	Horizon Year + Weekday Game		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	69.3	69.3	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	68.7	68.7	0.0	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	71.4	71.5	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	67.7	67.7	0.0	No
College Avenue between Foothill Boulevard and 6th Street	62.7	62.7	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	69.2	69.5	0.4	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	70.2	70.2	0.0	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	72.7	72.7	0.1	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	72.9	72.9	0.0	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	70.2	70.2	0.0	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	69.6	69.6	0.0	No
College Avenue between 6th Street and 1st Street	64.0	64.0	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	68.4	68.4	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	70.6	70.6	0.0	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	73.2	73.3	0.1	No
Indian Hill Boulevard between 1st Street and Arrow Highway	70.4	70.4	0.0	No
College Avenue between 1st Street and Arrow Highway	63.9	63.9	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	69.5	69.5	0.0	No
Indian Hill Boulevard n/o Base Line Road	64.4	64.4	0.0	No
Claremont Boulevard n/o Foothill Boulevard	68.8	68.8	0.0	No
Mills Avenue n/o Base Line Road	66.9	66.9	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	66.7	66.8	0.1	No
Central Avenue s/o Foothill Boulevard	71.7	71.7	0.0	No
Monte Vista Avenue s/o 1st Street	73.3	73.3	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	67.0	67.1	0.1	No
College Avenue s/o Arrow Highway	62.1	62.1	0.0	No
Indian Hill Boulevard s/o Arrow Highway	70.8	70.8	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	75.2	75.2	0.0	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	74.8	74.8	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	75.5	75.6	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.9	72.9	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	73.2	73.2	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	73.4	73.5	0.0	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.8	72.9	0.1	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	72.6	72.6	0.0	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	73.0	73.1	0.0	No
6th Street between Indian Hill Boulevard and College Avenue	63.3	63.4	0.1	No
6th Street between College Avenue and Mills Avenue	64.1	64.1	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	65.2	65.3	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	67.4	67.4	0.1	No
1st Street between Indian Hill Boulevard and College Avenue	64.8	64.9	0.1	No
1st Street between College Avenue and Claremont Boulevard	65.3	65.4	0.1	No
1st Street between Claremont Boulevard and Monte Vista Avenue	49.1	49.1	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	71.1	71.1	0.0	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	74.1	74.1	0.0	No
Base Line Road e/o I-210 Ramps	74.2	74.2	0.0	No
Foothill Boulevard e/o Central Avenue	69.9	69.9	0.0	No
1st Street e/o Monte Vista Avenue	66.6	66.6	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	74.0	74.0	0.0	No
Base Line Road w/o Indian Hill Boulevard	73.3	73.3	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	71.0	71.0	0.0	No
Claremont Boulevard w/o Monte Vista/Padua Ave	69.0	69.0	0.0	No

Claremont Colleges E. Campus Landfill
Horizon Year Weekend (2040) Plus Weekend Game in Fall

Roadway Segment	Traffic Noise Levels (dBA CNEL)			
	Horizon Year Weekend	Horizon Year + Weekend Game (Fall)	Increase over Existing	Significant Impact?
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	68.1	68.2	0.1	No
Mills Avenue between Base Line Road and Foothill Boulevard	67.5	68.0	0.5	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	71.6	71.7	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	68.1	68.1	0.0	No
College Avenue between Foothill Boulevard and 6th Street	61.8	61.8	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	68.5	69.2	0.7	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.8	69.2	0.4	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	72.1	72.2	0.1	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	73.2	73.3	0.1	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.8	69.2	0.4	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	69.7	69.8	0.1	No
College Avenue between 6th Street and 1st Street	63.7	63.7	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	68.6	68.6	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	69.6	69.8	0.2	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	73.0	73.2	0.2	No
Indian Hill Boulevard between 1st Street and Arrow Highway	71.0	71.0	0.0	No
College Avenue between 1st Street and Arrow Highway	63.2	63.2	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	68.0	68.2	0.2	No
Indian Hill Boulevard n/o Base Line Road	64.0	64.2	0.2	No
Claremont Boulevard n/o Foothill Boulevard	67.9	68.0	0.1	No
Mills Avenue n/o Base Line Road	67.5	67.5	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	67.2	67.3	0.1	No
Central Avenue s/o Foothill Boulevard	70.5	70.5	0.0	No
Monte Vista Avenue s/o 1st Street	73.2	73.3	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	65.8	66.0	0.2	No
College Avenue s/o Arrow Highway	60.7	60.7	0.0	No
Indian Hill Boulevard s/o Arrow Highway	71.3	71.3	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.9	74.1	0.2	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	74.1	74.1	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	75.1	75.1	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.4	72.4	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.9	72.9	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.5	72.6	0.1	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.1	72.4	0.3	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	72.0	72.2	0.2	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	72.6	72.7	0.1	No
6th Street between Indian Hill Boulevard and College Avenue	63.4	63.6	0.2	No
6th Street between College Avenue and Mills Avenue	64.3	64.4	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	65.1	65.2	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	66.5	66.6	0.1	No
1st Street between Indian Hill Boulevard and College Avenue	64.7	64.8	0.1	No
1st Street between College Avenue and Claremont Boulevard	64.6	64.7	0.1	No
1st Street between Claremont Boulevard and Monte Vista Avenue	47.7	47.7	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	71.5	71.6	0.1	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	74.5	74.5	0.0	No
Base Line Road e/o I-210 Ramps	73.4	73.4	0.0	No
Foothill Boulevard e/o Central Avenue	69.3	69.4	0.1	No
1st Street e/o Monte Vista Avenue	62.6	62.6	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	73.0	73.0	0.0	No
Base Line Road w/o Indian Hill Boulevard	72.7	72.7	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	70.7	70.8	0.1	No
Claremont Boulevard w/o Monte Vista/Padua Ave	68.4	68.4	0.0	No

Claremont Colleges E. Campus Landfill
Horizon Year Weekend (2040) + Weekend Game in Spring

Roadway Segment	Traffic Noise Levels (dBA CNEL)			
	Horizon Year Weekend	Horizon Year Weekend + Weekend Game (Spring)	Increase over Existing	Significant Impact?
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	68.1	68.1	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	67.5	67.8	0.3	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	71.6	71.7	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	68.1	68.1	0.0	No
College Avenue between Foothill Boulevard and 6th Street	61.8	61.8	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	68.5	68.9	0.4	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.8	69.1	0.3	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	72.1	72.2	0.1	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	73.2	73.3	0.1	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.8	69.1	0.3	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	69.7	69.8	0.1	No
College Avenue between 6th Street and 1st Street	63.7	63.7	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	68.6	68.6	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	69.6	69.7	0.1	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	73.0	73.1	0.1	No
Indian Hill Boulevard between 1st Street and Arrow Highway	71.0	71.0	0.0	No
College Avenue between 1st Street and Arrow Highway	63.2	63.2	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	68.0	68.1	0.1	No
Indian Hill Boulevard n/o Base Line Road	64.0	64.1	0.1	No
Claremont Boulevard n/o Foothill Boulevard	67.9	68.0	0.1	No
Mills Avenue n/o Base Line Road	67.5	67.5	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	67.2	67.2	0.0	No
Central Avenue s/o Foothill Boulevard	70.5	70.5	0.0	No
Monte Vista Avenue s/o 1st Street	73.2	73.3	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	65.8	65.9	0.1	No
College Avenue s/o Arrow Highway	60.7	60.7	0.0	No
Indian Hill Boulevard s/o Arrow Highway	71.3	71.3	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.9	74.0	0.1	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	74.1	74.1	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	75.1	75.1	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.4	72.4	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.9	72.9	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.5	72.6	0.1	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.1	72.3	0.2	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	72.0	72.1	0.1	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	72.6	72.7	0.1	No
6th Street between Indian Hill Boulevard and College Avenue	63.4	63.5	0.1	No
6th Street between College Avenue and Mills Avenue	64.3	64.4	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	65.1	65.2	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	66.5	66.6	0.1	No
1st Street between Indian Hill Boulevard and College Avenue	64.7	64.8	0.1	No
1st Street between College Avenue and Claremont Boulevard	64.6	64.7	0.1	No
1st Street between Claremont Boulevard and Monte Vista Avenue	47.7	47.7	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	71.5	71.5	0.0	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	74.5	74.5	0.0	No
Base Line Road e/o I-210 Ramps	73.4	73.4	0.0	No
Foothill Boulevard e/o Central Avenue	69.3	69.4	0.1	No
1st Street e/o Monte Vista Avenue	62.6	62.6	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	73.0	73.0	0.0	No
Base Line Road w/o Indian Hill Boulevard	72.7	72.7	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	70.7	70.8	0.1	No
Claremont Boulevard w/o Monte Vista/Padua Ave	68.4	68.4	0.0	No

Claremont Colleges E. Campus Landfill
Opening Year (2027) Plus Weekday Practice

Roadway Segment	Traffic Noise Levels (dBA CNEL)		Increase over Existing	Significant Impact?
	Opening Year	Opening Year + Weekday Practice		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	68.6	68.6	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	67.7	67.7	0.0	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	70.8	70.9	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	66.6	66.6	0.0	No
College Avenue between Foothill Boulevard and 6th Street	62.5	62.5	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	69.0	69.2	0.2	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	69.3	69.4	0.1	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	70.3	70.4	0.1	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	71.3	71.3	0.0	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	69.3	69.4	0.1	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	68.6	68.6	0.0	No
College Avenue between 6th Street and 1st Street	63.0	63.0	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	67.1	67.1	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	69.5	69.5	0.0	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	71.7	71.8	0.1	No
Indian Hill Boulevard between 1st Street and Arrow Highway	69.0	69.0	0.0	No
College Avenue between 1st Street and Arrow Highway	63.1	63.1	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	67.9	67.9	0.0	No
Indian Hill Boulevard n/o Base Line Road	63.5	63.5	0.0	No
Claremont Boulevard n/o Foothill Boulevard	68.3	68.3	0.0	No
Mills Avenue n/o Base Line Road	67.0	67.0	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	66.3	66.3	0.1	No
Central Avenue s/o Foothill Boulevard	68.7	68.7	0.0	No
Monte Vista Avenue s/o 1st Street	71.9	72.0	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	66.7	66.8	0.0	No
College Avenue s/o Arrow Highway	61.4	61.4	0.0	No
Indian Hill Boulevard s/o Arrow Highway	69.9	69.9	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.4	73.4	0.0	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	72.8	72.8	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	74.5	74.5	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.0	72.0	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.4	72.4	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.7	72.7	0.0	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.0	72.1	0.1	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	71.8	71.8	0.0	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	72.1	72.2	0.0	No
6th Street between Indian Hill Boulevard and College Avenue	59.9	60.0	0.1	No
6th Street between College Avenue and Mills Avenue	62.3	62.4	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	63.1	63.2	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	64.4	64.5	0.1	No
1st Street between Indian Hill Boulevard and College Avenue	62.2	62.3	0.1	No
1st Street between College Avenue and Claremont Boulevard	61.5	61.6	0.1	No
1st Street between Claremont Boulevard and Monte Vista Avenue	48.5	48.5	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	70.3	70.3	0.0	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	73.2	73.2	0.0	No
Base Line Road e/o I-210 Ramps	73.2	73.2	0.0	No
Foothill Boulevard e/o Central Avenue	69.6	69.6	0.0	No
1st Street e/o Monte Vista Avenue	63.2	63.2	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	72.6	72.6	0.0	No
Base Line Road w/o Indian Hill Boulevard	72.4	72.4	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	70.2	70.2	0.0	No
Claremont Boulevard w/o Monte Vista/Padua Ave	67.6	67.6	0.0	No

Claremont Colleges E. Campus Landfill
Opening Year (2027) Plus Weekday Game

Roadway Segment	Traffic Noise Levels (dBA CNEL)			
	Opening Year	Opening Year + Weekday Game	Increase over Existing	Significant Impact?
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	68.6	68.6	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	67.7	67.7	0.0	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	70.8	70.9	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	66.6	66.6	0.0	No
College Avenue between Foothill Boulevard and 6th Street	62.5	62.5	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	69.0	69.4	0.4	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	69.3	69.5	0.2	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	70.3	70.5	0.1	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	71.3	71.3	0.0	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	69.3	69.5	0.2	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	68.6	68.6	0.0	No
College Avenue between 6th Street and 1st Street	63.0	63.0	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	67.1	67.1	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	69.5	69.6	0.1	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	71.7	71.9	0.2	No
Indian Hill Boulevard between 1st Street and Arrow Highway	69.0	69.0	0.0	No
College Avenue between 1st Street and Arrow Highway	63.1	63.1	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	67.9	67.9	0.0	No
Indian Hill Boulevard n/o Base Line Road	63.5	63.5	0.0	No
Claremont Boulevard n/o Foothill Boulevard	68.3	68.3	0.0	No
Mills Avenue n/o Base Line Road	67.0	67.0	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	66.3	66.4	0.1	No
Central Avenue s/o Foothill Boulevard	68.7	68.7	0.0	No
Monte Vista Avenue s/o 1st Street	71.9	72.0	0.1	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	66.7	66.8	0.1	No
College Avenue s/o Arrow Highway	61.4	61.4	0.0	No
Indian Hill Boulevard s/o Arrow Highway	69.9	69.9	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.4	73.4	0.0	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	72.8	72.8	0.0	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	74.5	74.5	0.0	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	72.0	72.1	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.4	72.4	0.0	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.7	72.8	0.0	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	72.0	72.2	0.1	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	71.8	71.8	0.0	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	72.1	72.2	0.1	No
6th Street between Indian Hill Boulevard and College Avenue	59.9	60.1	0.2	No
6th Street between College Avenue and Mills Avenue	62.3	62.5	0.1	No
6th Street between Mills Avenue and Claremont Boulevard	63.1	63.2	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	64.4	64.6	0.2	No
1st Street between Indian Hill Boulevard and College Avenue	62.2	62.3	0.1	No
1st Street between College Avenue and Claremont Boulevard	61.5	61.6	0.1	No
1st Street between Claremont Boulevard and Monte Vista Avenue	48.5	48.5	0.0	No
Arrow Highway between Indian Hill Boulevard and College Avenue	70.3	70.4	0.0	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	73.2	73.2	0.0	No
Base Line Road e/o I-210 Ramps	73.2	73.2	0.0	No
Foothill Boulevard e/o Central Avenue	69.6	69.6	0.0	No
1st Street e/o Monte Vista Avenue	63.2	63.2	0.0	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	72.6	72.6	0.0	No
Base Line Road w/o Indian Hill Boulevard	72.4	72.4	0.0	No
Foothill Boulevard w/o Indian Hill Boulevard	70.2	70.2	0.0	No
Claremont Boulevard w/o Monte Vista/Padua Ave	67.6	67.6	0.0	No

Claremont Colleges E. Campus Landfill
Opening Year Weekend (2027) Plus Weekend Game in Fall

Roadway Segment	Traffic Noise Levels (dBA CNEL)		Increase over Existing	Significant Impact?
	Opening Year	Opening Year + Weekend Game (Fall)		
1st Street between Claremont Boulevard and Monte Vista Avenue	47.7	47.3	-0.4	No
1st Street between College Avenue and Claremont Boulevard	61.3	60.8	-0.5	No
1st Street between Indian Hill Boulevard and College Avenue	61.9	62.3	0.4	No
1st Street e/o Monte Vista Avenue	63.0	61.2	-1.8	No
6th Street between College Avenue and Mills Avenue	61.4	62.1	0.6	No
6th Street between Indian Hill Boulevard and College Avenue	57.6	59.4	1.8	No
6th Street between Mills Avenue and Claremont Boulevard	62.3	62.5	0.2	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	63.8	63.4	-0.4	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	72.9	73.7	0.8	No
Arrow Highway between Indian Hill Boulevard and College Avenue	70.0	70.7	0.7	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	72.3	73.2	0.9	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.2	72.1	-1.0	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	72.6	71.9	-0.7	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	74.2	74.1	-0.1	No
Base Line Road e/o I-210 Ramps	72.9	72.3	-0.6	No
Base Line Road w/o Indian Hill Boulevard	72.3	71.8	-0.5	No
Central Avenue s/o Foothill Boulevard	68.9	68.9	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	67.1	67.3	0.2	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	68.3	68.6	0.3	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.1	68.7	0.6	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.1	68.7	0.6	No
Claremont Boulevard between Foothill Boulevard and 9th Street	68.0	68.8	0.8	No
Claremont Boulevard n/o Foothill Boulevard	67.4	67.5	0.1	No
Claremont Boulevard w/o Monte Vista/Padua Ave	67.4	67.1	-0.3	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	65.7	65.9	0.2	No
College Avenue between 1st Street and Arrow Highway	62.0	62.0	0.0	No
College Avenue between 6th Street and 1st Street	62.6	62.6	0.0	No
College Avenue between Foothill Boulevard and 6th Street	61.2	61.2	0.0	No
College Avenue s/o Arrow Highway	59.6	59.6	0.0	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	71.3	71.4	0.0	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.1	72.2	0.1	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.4	71.8	-0.6	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	71.7	71.5	-0.1	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	71.6	71.9	0.2	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	71.7	71.7	0.0	No
Foothill Boulevard e/o Central Avenue	69.1	69.4	0.2	No
Foothill Boulevard w/o Indian Hill Boulevard	70.0	69.8	-0.2	No
Indian Hill Boulevard between 1st Street and Arrow Highway	68.8	68.8	0.0	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	67.9	68.0	0.1	No
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	66.3	66.3	0.0	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	66.4	66.4	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	66.7	66.7	0.0	No
Indian Hill Boulevard n/o Base Line Road	62.9	63.1	0.2	No
Indian Hill Boulevard s/o Arrow Highway	70.0	70.0	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	66.2	66.7	0.5	No
Mills Avenue n/o Base Line Road	66.7	66.7	0.0	No
Monte Vista Avenue s/o 1st Street	71.7	71.9	0.2	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	70.9	71.3	0.4	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	70.4	70.6	0.2	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	70.1	70.4	0.2	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	70.6	70.8	0.2	No
Monte Vista/Padua Ave n/o Base Line Road	66.5	66.6	0.1	No

Claremont Colleges E. Campus Landfill
Opening Year Weekend (2027) Plus Weekend Game in Spring

Roadway Segment	Traffic Noise Levels (dBA CNEL)			Significant Impact?
	Opening Year	Opening Year + Weekend Game (Spring)	Increase over Existing	
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	66.3	66.3	0.0	No
Mills Avenue between Base Line Road and Foothill Boulevard	66.2	66.5	0.3	No
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	70.4	70.6	0.1	No
Indian Hill Boulevard between Foothill Boulevard and 6th Street	66.4	66.4	0.0	No
College Avenue between Foothill Boulevard and 6th Street	61.2	61.2	0.0	No
Claremont Boulevard between Foothill Boulevard and 9th Street	68.0	68.5	0.5	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.1	68.5	0.4	No
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	70.1	70.3	0.2	No
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	70.6	70.8	0.1	No
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	68.1	68.5	0.4	No
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	67.9	68.0	0.0	No
College Avenue between 6th Street and 1st Street	62.6	62.6	0.0	No
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	66.7	66.7	0.0	No
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	68.3	68.5	0.2	No
Monte Vista/Padua Ave between Arrow Route and 1st Street	70.9	71.2	0.2	No
Indian Hill Boulevard between 1st Street and Arrow Highway	68.8	68.8	0.0	No
College Avenue between 1st Street and Arrow Highway	62.0	62.0	0.0	No
Claremont Boulevard between 1st Street and Arrow Highway	67.1	67.2	0.1	No
Indian Hill Boulevard n/o Base Line Road	62.9	63.0	0.1	No
Claremont Boulevard n/o Foothill Boulevard	67.4	67.4	0.1	No
Mills Avenue n/o Base Line Road	66.7	66.7	0.0	No
Monte Vista/Padua Ave n/o Base Line Road	66.5	66.6	0.1	No
Central Avenue s/o Foothill Boulevard	68.9	68.9	0.0	No
Monte Vista Avenue s/o 1st Street	71.7	71.8	0.2	No
Claremont Boulevard/Mills Avenue s/o Arrow Highway	65.7	65.8	0.1	No
College Avenue s/o Arrow Highway	59.6	59.6	0.0	No
Indian Hill Boulevard s/o Arrow Highway	70.0	70.0	0.0	No
Base Line Road between Indian Hill Boulevard and Mills Avenue	73.2	72.1	-1.1	No
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	72.6	71.9	-0.7	No
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	74.2	74.0	-0.1	No
Foothill Boulevard between Indian Hill Boulevard and College Avenue	71.7	71.5	-0.2	No
Foothill Boulevard between College Avenue and Dartmouth Avenue	72.1	72.2	0.1	No
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	72.4	71.8	-0.6	No
Foothill Boulevard between Mills Avenue and Claremont Boulevard	71.6	71.8	0.2	No
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	71.3	71.3	0.0	No
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	71.7	71.6	0.0	No
6th Street between Indian Hill Boulevard and College Avenue	57.6	59.3	1.6	No
6th Street between College Avenue and Mills Avenue	61.4	62.0	0.6	No
6th Street between Mills Avenue and Claremont Boulevard	62.3	62.4	0.1	No
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	63.8	63.3	-0.5	No
1st Street between Indian Hill Boulevard and College Avenue	61.9	62.2	0.3	No
1st Street between College Avenue and Claremont Boulevard	61.3	60.7	-0.6	No
1st Street between Claremont Boulevard and Monte Vista Avenue	47.7	47.3	-0.4	No
Arrow Highway between Indian Hill Boulevard and College Avenue	70.0	70.7	0.7	No
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	72.9	73.7	0.8	No
Base Line Road e/o I-210 Ramps	72.9	72.3	-0.6	No
Foothill Boulevard e/o Central Avenue	69.1	69.3	0.2	No
1st Street e/o Monte Vista Avenue	63.0	61.2	-1.8	No
Arrow Highway e/o Claremont Boulevard/Mills Avenue	72.3	73.2	0.9	No
Base Line Road w/o Indian Hill Boulevard	72.3	71.8	-0.5	No
Foothill Boulevard w/o Indian Hill Boulevard	70.0	69.8	-0.2	No
Claremont Boulevard w/o Monte Vista/Padua Ave	67.4	67.0	-0.4	No

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Existing (2023) Weekend**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	9	0	0	46.6	46.9
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	269	6	3	59.8	60.1
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	391	8	4	61.4	61.7
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	158	3	2	60.8	61.1
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	315	7	3	60.6	60.9
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	150	3	2	57.2	57.5
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	359	7	4	61.0	61.3
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	439	9	5	61.9	62.2
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1926	40	20	73.0	73.3
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1952	40	20	70.0	70.3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1738	36	18	72.6	72.9
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1323	27	14	71.5	71.8
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1275	26	13	71.3	71.6
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2077	43	21	73.3	73.6
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2008	41	21	71.7	72.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	1875	39	19	71.4	71.7
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	807	17	8	67.9	68.2
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	845	17	9	66.4	66.7
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	782	16	8	67.7	68.0
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	732	15	8	67.4	67.7
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	732	15	8	67.4	67.7
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	715	15	7	67.2	67.5
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	655	14	7	66.9	67.2
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	613	13	6	66.6	66.9
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	631	13	7	65.1	65.4
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	390	8	4	61.5	61.8
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	445	9	5	62.0	62.3
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	323	7	3	60.6	60.9
College Avenue s/o Arrow Highway	Hard	30	30	30	25	226	5	2	59.0	59.3
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1447	30	15	70.3	70.6
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	1884	39	19	71.5	71.8
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	1724	36	18	71.1	71.4
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	1602	33	17	70.8	71.1
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	1669	34	17	70.9	71.2
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	1570	32	16	70.7	71.0
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	1908	39	20	68.3	68.6
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1111	23	11	69.3	69.6
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1275	26	13	68.3	68.6
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1032	21	11	67.4	67.7
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	713	15	7	65.8	66.1
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1022	21	11	65.7	66.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1120	23	12	66.1	66.4
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	319	7	3	62.2	62.5
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1620	33	17	69.2	69.5
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	497	10	5	65.7	66.0
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	531	11	5	66.0	66.3
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1218	25	13	71.1	71.4
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1016	21	10	70.2	70.5
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1272	26	13	69.8	70.1
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	830	17	9	69.4	69.7
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	947	20	10	69.9	70.2
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	525	11	5	66.0	66.3

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	735	671	735	713	15	7
Mills Avenue between Base Line Road and Foothill Boulevard	512	501	512	497	10	5
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,311	1,112	1,311	1,272	26	13
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,050	1,054	1,054	1,022	21	11
College Avenue between Foothill Boulevard and 6th Street	319	333	333	323	7	3
Claremont Boulevard between Foothill Boulevard and 9th Street	737	673	737	715	15	7
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	755	728	755	732	15	8
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	856	767	856	830	17	9
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	976	850	976	947	20	10
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	755	728	755	732	15	8
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,061	1,064	1,064	1,032	21	11
College Avenue between 6th Street and 1st Street	447	459	459	445	9	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,155	1,026	1,155	1,120	23	12
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	806	772	806	782	16	8
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,039	1,047	1,047	1,016	21	10
Indian Hill Boulevard between 1st Street and Arrow Highway	1,314	1,177	1,314	1,275	26	13
College Avenue between 1st Street and Arrow Highway	402	400	402	390	8	4
Claremont Boulevard between 1st Street and Arrow Highway	734	871	871	845	17	9
Indian Hill Boulevard n/o Base Line Road	329	290	329	319	7	3
Claremont Boulevard n/o Foothill Boulevard	675	612	675	655	14	7
Mills Avenue n/o Base Line Road	547	535	547	531	11	5
Monte Vista/Padua Ave n/o Base Line Road	541	476	541	525	11	5
Central Avenue s/o Foothill Boulevard	832	817	832	807	17	8
Monte Vista Avenue s/o 1st Street	1,104	1,256	1,256	1,218	25	13
Claremont Boulevard/Mills Avenue s/o Arrow Highway	563	650	650	631	13	7
College Avenue s/o Arrow Highway	193	233	233	226	5	2
Indian Hill Boulevard s/o Arrow Highway	1,670	1,615	1,670	1,620	33	17
Base Line Road between Indian Hill Boulevard and Mills Avenue	1,364	1,262	1,364	1,323	27	14
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,314	1,258	1,314	1,275	26	13
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,141	2,105	2,141	2,077	43	21
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,652	1,634	1,652	1,602	33	17
Foothill Boulevard between College Avenue and Dartmouth Avenue	1,747	1,942	1,942	1,884	39	19
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	1,766	1,777	1,777	1,724	36	18
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,721	1,578	1,721	1,669	34	17
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,492	1,482	1,492	1,447	30	15
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,619	1,573	1,619	1,570	32	16
6th Street between Indian Hill Boulevard and College Avenue	130	155	155	150	3	2
6th Street between College Avenue and Mills Avenue	325	317	325	315	7	3
6th Street between Mills Avenue and Claremont Boulevard	370	340	370	359	7	4
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	453	427	453	439	9	5
1st Street between Indian Hill Boulevard and College Avenue	403	393	403	391	8	4
1st Street between College Avenue and Claremont Boulevard	274	277	277	269	6	3
1st Street between Claremont Boulevard and Monte Vista Avenue	8	9	9	9	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,523	2,012	2,012	1,952	40	20
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,448	1,986	1,986	1,926	40	20
Base Line Road e/o I-210 Ramps	2,032	2,070	2,070	2,008	41	21
Foothill Boulevard e/o Central Avenue	1,967	1,903	1,967	1,908	39	20
1st Street e/o Monte Vista Avenue	141	163	163	158	3	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,269	1,792	1,792	1,738	36	18
Base Line Road w/o Indian Hill Boulevard	1,933	1,877	1,933	1,875	39	19
Foothill Boulevard w/o Indian Hill Boulevard	1,145	1,067	1,145	1,111	23	11
Claremont Boulevard w/o Monte Vista/Padua Ave	632	626	632	613	13	6

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: Existing (2023)
 Source of Traffic Volumes: KOA

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	11	0	0	47.4	47.7
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	343	7	4	60.8	61.1
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	397	8	4	61.5	61.8
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	252	5	3	62.8	63.1
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	358	7	4	61.1	61.4
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	149	3	2	57.2	57.5
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	439	9	5	61.9	62.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	617	13	6	63.4	63.7
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1734	36	18	72.6	72.9
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1797	37	19	69.7	70.0
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1526	31	16	72.0	72.3
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1856	38	19	73.0	73.3
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1617	33	17	72.4	72.7
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2344	48	24	73.9	74.2
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2460	51	25	72.6	72.9
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2140	44	22	72.0	72.3
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	806	17	8	67.9	68.2
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1035	21	11	67.3	67.6
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1053	22	11	68.9	69.2
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1009	21	10	68.7	69.0
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1009	21	10	68.7	69.0
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	935	19	10	68.4	68.7
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	806	17	8	67.8	68.1
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	695	14	7	67.1	67.4
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	790	16	8	66.1	66.4
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	498	10	5	62.6	62.9
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	469	10	5	62.2	62.5
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	415	9	4	61.7	62.0
College Avenue s/o Arrow Highway	Hard	30	30	30	25	330	7	3	60.7	61.0
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1708	35	18	71.0	71.3
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2024	42	21	71.8	72.1
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2193	45	23	72.1	72.4
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	1845	38	19	71.4	71.7
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	1827	38	19	71.3	71.6
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	1840	38	19	71.4	71.7
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2105	43	22	68.7	69.0
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1255	26	13	69.8	70.1
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1297	27	13	68.4	68.7
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1163	24	12	67.9	68.2
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1226	25	13	68.1	68.4
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1085	22	11	66.0	66.3
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1178	24	12	66.3	66.6
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	377	8	4	62.9	63.2
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1579	33	16	69.1	69.4
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	716	15	7	67.3	67.6
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	585	12	6	66.4	66.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1300	27	13	71.4	71.7
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1235	25	13	71.1	71.4
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1386	29	14	70.1	70.4
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	876	18	9	69.6	69.9
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1127	23	12	70.7	71.0
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	498	10	5	65.8	66.1

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,264	741	1,264	1,226	25	13
Mills Avenue between Base Line Road and Foothill Boulevard	738	538	738	716	15	7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,308	1,429	1,429	1,386	29	14
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,119	1,058	1,119	1,085	22	11
College Avenue between Foothill Boulevard and 6th Street	428	302	428	415	9	4
Claremont Boulevard between Foothill Boulevard and 9th Street	964	953	964	935	19	10
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,040	1,003	1,040	1,009	21	10
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	891	903	903	876	18	9
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	939	1,162	1,162	1,127	23	12
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,040	1,003	1,040	1,009	21	10
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,199	1,089	1,199	1,163	24	12
College Avenue between 6th Street and 1st Street	483	474	483	469	10	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,214	1,080	1,214	1,178	24	12
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,086	1,055	1,086	1,053	22	11
Monte Vista/Padua Ave between Arrow Route and 1st Street	970	1,273	1,273	1,235	25	13
Indian Hill Boulevard between 1st Street and Arrow Highway	1,337	1,259	1,337	1,297	27	13
College Avenue between 1st Street and Arrow Highway	454	513	513	498	10	5
Claremont Boulevard between 1st Street and Arrow Highway	1,067	988	1,067	1,035	21	11
Indian Hill Boulevard n/o Base Line Road	389	300	389	377	8	4
Claremont Boulevard n/o Foothill Boulevard	831	766	831	806	17	8
Mills Avenue n/o Base Line Road	603	450	603	585	12	6
Monte Vista/Padua Ave n/o Base Line Road	404	513	513	498	10	5
Central Avenue s/o Foothill Boulevard	534	831	831	806	17	8
Monte Vista Avenue s/o 1st Street	1,049	1,340	1,340	1,300	27	13
Claremont Boulevard/Mills Avenue s/o Arrow Highway	769	814	814	790	16	8
College Avenue s/o Arrow Highway	340	301	340	330	7	3
Indian Hill Boulevard s/o Arrow Highway	1,610	1,628	1,628	1,579	33	16
Base Line Road between Indian Hill Boulevard and Mills Avenue	1,913	1,625	1,913	1,856	38	19
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,667	1,537	1,667	1,617	33	17
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,249	2,416	2,416	2,344	48	24
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,824	1,902	1,902	1,845	38	19
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,020	2,087	2,087	2,024	42	21
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,002	2,261	2,261	2,193	45	23
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,698	1,883	1,883	1,827	38	19
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,387	1,761	1,761	1,708	35	18
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,567	1,897	1,897	1,840	38	19
6th Street between Indian Hill Boulevard and College Avenue	144	154	154	149	3	2
6th Street between College Avenue and Mills Avenue	319	369	369	358	7	4
6th Street between Mills Avenue and Claremont Boulevard	319	453	453	439	9	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	503	636	636	617	13	6
1st Street between Indian Hill Boulevard and College Avenue	317	409	409	397	8	4
1st Street between College Avenue and Claremont Boulevard	349	354	354	343	7	4
1st Street between Claremont Boulevard and Monte Vista Avenue	7	11	11	11	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,531	1,853	1,853	1,797	37	19
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,492	1,788	1,788	1,734	36	18
Base Line Road e/o I-210 Ramps	2,103	2,536	2,536	2,460	51	25
Foothill Boulevard e/o Central Avenue	1,621	2,170	2,170	2,105	43	22
1st Street e/o Monte Vista Avenue	245	260	260	252	5	3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,212	1,573	1,573	1,526	31	16
Base Line Road w/o Indian Hill Boulevard	2,206	1,918	2,206	2,140	44	22
Foothill Boulevard w/o Indian Hill Boulevard	1,294	1,201	1,294	1,255	26	13
Claremont Boulevard w/o Monte Vista/Padua Ave	716	649	716	695	14	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: Claremont Mckenna Roberts Sports Bowl
 Analysis Scenario: Horizon Year with Weekday Game
 Source of Traffic Volumes: KOA

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1519	31	16	69.0	69.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	933	19	10	68.4	68.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1778	37	18	71.2	71.5
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1528	32	16	67.4	67.7
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	482	10	5	62.4	62.7
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1128	23	12	69.2	69.5
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1688	35	17	72.4	72.7
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1764	36	18	72.6	72.9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1629	34	17	69.3	69.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	642	13	7	63.7	64.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1762	36	18	68.1	68.4
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1447	30	15	70.3	70.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1916	40	20	73.0	73.3
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1956	40	20	70.1	70.4
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	635	13	7	63.6	63.9
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1604	33	17	69.2	69.5
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	499	10	5	64.1	64.4
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	948	20	10	68.5	68.8
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	618	13	6	66.6	66.9
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	598	12	6	66.5	66.8
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1877	39	19	71.4	71.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1932	40	20	73.0	73.3
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	919	19	9	66.8	67.1
College Avenue s/o Arrow Highway	Hard	30	30	30	25	416	9	4	61.8	62.1
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2149	44	22	70.5	70.8
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2974	61	31	74.9	75.2
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2732	56	28	74.5	74.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	3239	67	33	75.3	75.6
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2472	51	25	72.6	72.9
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2642	54	27	72.9	73.2
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2790	58	29	73.2	73.5
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2457	51	25	72.6	72.9
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2289	47	24	72.3	72.6
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2552	53	26	72.8	73.1
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	562	12	6	63.1	63.4
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	665	14	7	63.8	64.1
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	865	18	9	65.0	65.3
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1424	29	15	67.1	67.4
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	787	16	8	64.6	64.9
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	885	18	9	65.1	65.4
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	15	0	0	48.8	49.1
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2324	48	24	70.8	71.1
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2328	48	24	73.8	74.1
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	3308	68	34	73.9	74.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2517	52	26	69.6	69.9
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	569	12	6	66.3	66.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2270	47	23	73.7	74.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2694	56	28	73.0	73.3
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1589	33	16	70.7	71.0
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	981	20	10	68.7	69.0

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,566	1,202	1,566	1,519	31	16
Mills Avenue between Base Line Road and Foothill Boulevard	962	836	962	933	19	10
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,578	1,833	1,833	1,778	37	18
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,575	1,540	1,575	1,528	32	16
College Avenue between Foothill Boulevard and 6th Street	497	352	497	482	10	5
Claremont Boulevard between Foothill Boulevard and 9th Street	1,008	1,163	1,163	1,128	23	12
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,138	1,348	1,308	27	13
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,557	1,740	1,740	1,688	35	17
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,819	1,816	1,819	1,764	36	18
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,138	1,348	1,308	27	13
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,679	1,597	1,679	1,629	34	17
College Avenue between 6th Street and 1st Street	662	657	662	642	13	7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,817	1,560	1,817	1,762	36	18
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,490	1,492	1,492	1,447	30	15
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,908	1,975	1,975	1,916	40	20
Indian Hill Boulevard between 1st Street and Arrow Highway	1,858	2,017	2,017	1,956	40	20
College Avenue between 1st Street and Arrow Highway	519	655	655	635	13	7
Claremont Boulevard between 1st Street and Arrow Highway	1,654	1,479	1,654	1,604	33	17
Indian Hill Boulevard n/o Base Line Road	514	461	514	499	10	5
Claremont Boulevard n/o Foothill Boulevard	977	940	977	948	20	10
Mills Avenue n/o Base Line Road	637	588	637	618	13	6
Monte Vista/Padua Ave n/o Base Line Road	481	617	617	598	12	6
Central Avenue s/o Foothill Boulevard	949	1,935	1,935	1,877	39	19
Monte Vista Avenue s/o 1st Street	1,763	1,992	1,992	1,932	40	20
Claremont Boulevard/Mills Avenue s/o Arrow Highway	901	947	947	919	19	9
College Avenue s/o Arrow Highway	429	358	429	416	9	4
Indian Hill Boulevard s/o Arrow Highway	2,215	2,195	2,215	2,149	44	22
Base Line Road between Indian Hill Boulevard and Mills Avenue	3,066	2,861	3,066	2,974	61	31
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,817	2,707	2,817	2,732	56	28
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	3,296	3,339	3,339	3,239	67	33
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,454	2,548	2,548	2,472	51	25
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,647	2,724	2,724	2,642	54	27
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,643	2,876	2,876	2,790	58	29
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,375	2,533	2,533	2,457	51	25
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,151	2,360	2,360	2,289	47	24
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,138	2,631	2,631	2,552	53	26
6th Street between Indian Hill Boulevard and College Avenue	397	579	579	562	12	6
6th Street between College Avenue and Mills Avenue	582	686	686	665	14	7
6th Street between Mills Avenue and Claremont Boulevard	549	892	892	865	18	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,025	1,468	1,468	1,424	29	15
1st Street between Indian Hill Boulevard and College Avenue	678	811	811	787	16	8
1st Street between College Avenue and Claremont Boulevard	779	912	912	885	18	9
1st Street between Claremont Boulevard and Monte Vista Avenue	9	15	15	15	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,109	2,396	2,396	2,324	48	24
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,281	2,400	2,400	2,328	48	24
Base Line Road e/o I-210 Ramps	3,092	3,410	3,410	3,308	68	34
Foothill Boulevard e/o Central Avenue	1,773	2,595	2,595	2,517	52	26
1st Street e/o Monte Vista Avenue	587	339	587	569	12	6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	2,030	2,340	2,340	2,270	47	23
Base Line Road w/o Indian Hill Boulevard	2,777	2,578	2,777	2,694	56	28
Foothill Boulevard w/o Indian Hill Boulevard	1,617	1,638	1,638	1,589	33	16
Claremont Boulevard w/o Monte Vista/Padua Ave	1,011	954	1,011	981	20	10

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Horizon Year (2040) with Weekday Practice**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1519	31	16	69.0	69.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	933	19	10	68.4	68.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1763	36	18	71.2	71.5
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1528	32	16	67.4	67.7
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	482	10	5	62.4	62.7
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1094	23	11	69.1	69.4
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1678	35	17	72.4	72.7
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1764	36	18	72.6	72.9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1629	34	17	69.3	69.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	642	13	7	63.7	64.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1762	36	18	68.1	68.4
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1445	30	15	70.3	70.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1896	39	20	73.0	73.3
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1956	40	20	70.1	70.4
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	635	13	7	63.6	63.9
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1604	33	17	69.2	69.5
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	499	10	5	64.1	64.4
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	948	20	10	68.5	68.8
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	618	13	6	66.6	66.9
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	594	12	6	66.4	66.7
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1877	39	19	71.4	71.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1918	40	20	73.0	73.3
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	914	19	9	66.8	67.1
College Avenue s/o Arrow Highway	Hard	30	30	30	25	416	9	4	61.8	62.1
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2149	44	22	70.5	70.8
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2974	61	31	74.9	75.2
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2732	56	28	74.5	74.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	3229	67	33	75.3	75.6
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2467	51	25	72.6	72.9
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2637	54	27	72.9	73.2
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2785	57	29	73.2	73.5
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2433	50	25	72.6	72.9
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2284	47	24	72.3	72.6
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2542	52	26	72.8	73.1
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	557	11	6	63.1	63.4
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	661	14	7	63.8	64.1
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	860	18	9	65.0	65.3
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1414	29	15	67.1	67.4
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	782	16	8	64.5	64.8
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	880	18	9	65.0	65.3
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	15	0	0	48.8	49.1
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2319	48	24	70.8	71.1
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2323	48	24	73.8	74.1
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	3308	68	34	73.9	74.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2507	52	26	69.6	69.9
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	569	12	6	66.3	66.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2270	47	23	73.7	74.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2694	56	28	73.0	73.3
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1584	33	16	70.7	71.0
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	981	20	10	68.7	69.0

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,566	1,197	1,566	1,519	31	16
Mills Avenue between Base Line Road and Foothill Boulevard	962	821	962	933	19	10
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,578	1,818	1,818	1,763	36	18
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,575	1,540	1,575	1,528	32	16
College Avenue between Foothill Boulevard and 6th Street	497	352	497	482	10	5
Claremont Boulevard between Foothill Boulevard and 9th Street	1,008	1,128	1,128	1,094	23	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,108	1,348	1,308	27	13
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,557	1,730	1,730	1,678	35	17
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,819	1,816	1,819	1,764	36	18
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,108	1,348	1,308	27	13
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,679	1,592	1,679	1,629	34	17
College Avenue between 6th Street and 1st Street	662	657	662	642	13	7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,817	1,560	1,817	1,762	36	18
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,490	1,477	1,490	1,445	30	15
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,908	1,955	1,955	1,896	39	20
Indian Hill Boulevard between 1st Street and Arrow Highway	1,858	2,017	2,017	1,956	40	20
College Avenue between 1st Street and Arrow Highway	519	655	655	635	13	7
Claremont Boulevard between 1st Street and Arrow Highway	1,654	1,469	1,654	1,604	33	17
Indian Hill Boulevard n/o Base Line Road	514	456	514	499	10	5
Claremont Boulevard n/o Foothill Boulevard	977	935	977	948	20	10
Mills Avenue n/o Base Line Road	637	588	637	618	13	6
Monte Vista/Padua Ave n/o Base Line Road	481	612	612	594	12	6
Central Avenue s/o Foothill Boulevard	949	1,935	1,935	1,877	39	19
Monte Vista Avenue s/o 1st Street	1,763	1,977	1,977	1,918	40	20
Claremont Boulevard/Mills Avenue s/o Arrow Highway	901	942	942	914	19	9
College Avenue s/o Arrow Highway	429	358	429	416	9	4
Indian Hill Boulevard s/o Arrow Highway	2,215	2,190	2,215	2,149	44	22
Base Line Road between Indian Hill Boulevard and Mills Avenue	3,066	2,846	3,066	2,974	61	31
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,817	2,707	2,817	2,732	56	28
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	3,296	3,329	3,329	3,229	67	33
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,454	2,543	2,543	2,467	51	25
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,647	2,719	2,719	2,637	54	27
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,643	2,871	2,871	2,785	57	29
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,375	2,508	2,508	2,433	50	25
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,151	2,355	2,355	2,284	47	24
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,138	2,621	2,621	2,542	52	26
6th Street between Indian Hill Boulevard and College Avenue	397	574	574	557	11	6
6th Street between College Avenue and Mills Avenue	582	681	681	661	14	7
6th Street between Mills Avenue and Claremont Boulevard	549	887	887	860	18	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,025	1,458	1,458	1,414	29	15
1st Street between Indian Hill Boulevard and College Avenue	678	806	806	782	16	8
1st Street between College Avenue and Claremont Boulevard	779	907	907	880	18	9
1st Street between Claremont Boulevard and Monte Vista Avenue	9	15	15	15	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,109	2,391	2,391	2,319	48	24
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,281	2,395	2,395	2,323	48	24
Base Line Road e/o I-210 Ramps	3,092	3,410	3,410	3,308	68	34
Foothill Boulevard e/o Central Avenue	1,773	2,585	2,585	2,507	52	26
1st Street e/o Monte Vista Avenue	587	339	587	569	12	6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	2,030	2,340	2,340	2,270	47	23
Base Line Road w/o Indian Hill Boulevard	2,777	2,573	2,777	2,694	56	28
Foothill Boulevard w/o Indian Hill Boulevard	1,617	1,633	1,633	1,584	33	16
Claremont Boulevard w/o Monte Vista/Padua Ave	1,011	954	1,011	981	20	10

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Horizon Year (2040) Weekend Fall Game**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1180	24	12	67.9	68.2
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	792	16	8	67.7	68.0
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1872	39	19	71.4	71.7
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1650	34	17	67.8	68.1
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	393	8	4	61.5	61.8
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1046	22	11	68.9	69.2
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1057	22	11	68.9	69.2
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1501	31	15	71.9	72.2
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1931	40	20	73.0	73.3
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1057	22	11	68.9	69.2
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1712	35	18	69.5	69.8
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	598	12	6	63.4	63.7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1847	38	19	68.3	68.6
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1198	25	12	69.5	69.8
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1851	38	19	72.9	73.2
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	2251	46	23	70.7	71.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	531	11	5	62.9	63.2
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1179	24	12	67.9	68.2
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	475	10	5	63.9	64.2
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	800	17	8	67.7	68.0
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	707	15	7	67.2	67.5
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	673	14	7	67.0	67.3
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1425	29	15	70.2	70.5
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1918	40	20	73.0	73.3
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	709	15	7	65.7	66.0
College Avenue s/o Arrow Highway	Hard	30	30	30	25	302	6	3	60.4	60.7
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2453	51	25	71.0	71.3
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2278	47	23	73.8	74.1
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2280	47	24	73.8	74.1
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2925	60	30	74.8	75.1
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2201	45	23	72.1	72.4
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2461	51	25	72.6	72.9
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2280	47	24	72.3	72.6
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2168	45	22	72.1	72.4
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2071	43	21	71.9	72.2
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2348	48	24	72.4	72.7
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	586	12	6	63.3	63.6
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	710	15	7	64.1	64.4
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	849	18	9	64.9	65.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1185	24	12	66.3	66.6
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	781	16	8	64.5	64.8
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	760	16	8	64.4	64.7
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	11	0	0	47.4	47.7
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2576	53	27	71.3	71.6
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2546	53	26	74.2	74.5
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2769	57	29	73.1	73.4
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2242	46	23	69.1	69.4
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	228	5	2	62.3	62.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1784	37	18	72.7	73.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2354	49	24	72.4	72.7
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1515	31	16	70.5	70.8
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	841	17	9	68.1	68.4

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,142	1,217	1,217	1,180	24	12
Mills Avenue between Base Line Road and Foothill Boulevard	680	817	817	792	16	8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,930	1,608	1,930	1,872	39	19
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,217	1,701	1,701	1,650	34	17
College Avenue between Foothill Boulevard and 6th Street	370	405	405	393	8	4
Claremont Boulevard between Foothill Boulevard and 9th Street	1,078	985	1,078	1,046	22	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,090	967	1,090	1,057	22	11
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,356	1,547	1,547	1,501	31	15
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,991	1,462	1,991	1,931	40	20
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,090	967	1,090	1,057	22	11
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,418	1,765	1,765	1,712	35	18
College Avenue between 6th Street and 1st Street	528	616	616	598	12	6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,904	1,663	1,904	1,847	38	19
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,235	1,159	1,235	1,198	25	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,908	1,758	1,908	1,851	38	19
Indian Hill Boulevard between 1st Street and Arrow Highway	2,321	2,027	2,321	2,251	46	23
College Avenue between 1st Street and Arrow Highway	445	547	547	531	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,215	1,206	1,215	1,179	24	12
Indian Hill Boulevard n/o Base Line Road	480	490	490	475	10	5
Claremont Boulevard n/o Foothill Boulevard	825	798	825	800	17	8
Mills Avenue n/o Base Line Road	729	686	729	707	15	7
Monte Vista/Padua Ave n/o Base Line Road	694	604	694	673	14	7
Central Avenue s/o Foothill Boulevard	1,469	1,191	1,469	1,425	29	15
Monte Vista Avenue s/o 1st Street	1,977	1,935	1,977	1,918	40	20
Claremont Boulevard/Mills Avenue s/o Arrow Highway	731	640	731	709	15	7
College Avenue s/o Arrow Highway	276	311	311	302	6	3
Indian Hill Boulevard s/o Arrow Highway	2,529	2,380	2,529	2,453	51	25
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,155	2,348	2,348	2,278	47	23
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,329	2,351	2,351	2,280	47	24
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,889	3,015	3,015	2,925	60	30
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,077	2,269	2,269	2,201	45	23
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,156	2,537	2,537	2,461	51	25
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,163	2,351	2,351	2,280	47	24
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,142	2,235	2,235	2,168	45	22
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,135	2,019	2,135	2,071	43	21
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,421	2,323	2,421	2,348	48	24
6th Street between Indian Hill Boulevard and College Avenue	590	604	604	586	12	6
6th Street between College Avenue and Mills Avenue	718	732	732	710	15	7
6th Street between Mills Avenue and Claremont Boulevard	875	853	875	849	18	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,209	1,222	1,222	1,185	24	12
1st Street between Indian Hill Boulevard and College Avenue	586	805	805	781	16	8
1st Street between College Avenue and Claremont Boulevard	411	784	784	760	16	8
1st Street between Claremont Boulevard and Monte Vista Avenue	10	11	11	11	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,109	2,656	2,656	2,576	53	27
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,154	2,625	2,625	2,546	53	26
Base Line Road e/o I-210 Ramps	2,806	2,855	2,855	2,769	57	29
Foothill Boulevard e/o Central Avenue	2,265	2,311	2,311	2,242	46	23
1st Street e/o Monte Vista Avenue	153	235	235	228	5	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,503	1,839	1,839	1,784	37	18
Base Line Road w/o Indian Hill Boulevard	2,367	2,427	2,427	2,354	49	24
Foothill Boulevard w/o Indian Hill Boulevard	1,400	1,562	1,562	1,515	31	16
Claremont Boulevard w/o Monte Vista/Padua Ave	687	867	867	841	17	9

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Horizon Year (2040) Weekend Spring Game**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1171	24	12	67.8	68.1
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	761	16	8	67.5	67.8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1845	38	19	71.4	71.7
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1650	34	17	67.8	68.1
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	393	8	4	61.5	61.8
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	985	20	10	68.6	68.9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1017	21	10	68.8	69.1
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1480	31	15	71.9	72.2
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1911	39	20	73.0	73.3
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1017	21	10	68.8	69.1
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1702	35	18	69.5	69.8
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	598	12	6	63.4	63.7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1847	38	19	68.3	68.6
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1178	24	12	69.4	69.7
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1830	38	19	72.8	73.1
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	2251	46	23	70.7	71.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	531	11	5	62.9	63.2
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1165	24	12	67.8	68.1
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	466	10	5	63.8	64.1
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	793	16	8	67.7	68.0
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	707	15	7	67.2	67.5
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	666	14	7	66.9	67.2
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1425	29	15	70.2	70.5
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1897	39	20	73.0	73.3
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	702	14	7	65.6	65.9
College Avenue s/o Arrow Highway	Hard	30	30	30	25	302	6	3	60.4	60.7
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2446	50	25	71.0	71.3
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2247	46	23	73.7	74.0
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2280	47	24	73.8	74.1
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2904	60	30	74.8	75.1
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2191	45	23	72.1	72.4
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2451	51	25	72.6	72.9
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2271	47	23	72.3	72.6
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2117	44	22	72.0	72.3
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2044	42	21	71.8	72.1
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2335	48	24	72.4	72.7
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	576	12	6	63.2	63.5
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	700	14	7	64.1	64.4
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	842	17	9	64.9	65.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1165	24	12	66.3	66.6
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	771	16	8	64.5	64.8
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	751	15	8	64.4	64.7
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	11	0	0	47.4	47.7
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2567	53	26	71.2	71.5
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2537	52	26	74.2	74.5
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2769	57	29	73.1	73.4
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2221	46	23	69.1	69.4
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	228	5	2	62.3	62.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1784	37	18	72.7	73.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2344	48	24	72.4	72.7
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1505	31	16	70.5	70.8
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	841	17	9	68.1	68.4

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,142	1,207	1,207	1,171	24	12
Mills Avenue between Base Line Road and Foothill Boulevard	659	785	785	761	16	8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,902	1,577	1,902	1,845	38	19
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,217	1,701	1,701	1,650	34	17
College Avenue between Foothill Boulevard and 6th Street	370	405	405	393	8	4
Claremont Boulevard between Foothill Boulevard and 9th Street	1,015	910	1,015	985	20	10
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,048	903	1,048	1,017	21	10
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,335	1,526	1,526	1,480	31	15
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,970	1,462	1,970	1,911	39	20
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,048	903	1,048	1,017	21	10
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,411	1,755	1,755	1,702	35	18
College Avenue between 6th Street and 1st Street	528	616	616	598	12	6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,904	1,663	1,904	1,847	38	19
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,214	1,127	1,214	1,178	24	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,887	1,716	1,887	1,830	38	19
Indian Hill Boulevard between 1st Street and Arrow Highway	2,321	2,027	2,321	2,251	46	23
College Avenue between 1st Street and Arrow Highway	445	547	547	531	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,201	1,185	1,201	1,165	24	12
Indian Hill Boulevard n/o Base Line Road	473	480	480	466	10	5
Claremont Boulevard n/o Foothill Boulevard	818	788	818	793	16	8
Mills Avenue n/o Base Line Road	729	686	729	707	15	7
Monte Vista/Padua Ave n/o Base Line Road	687	594	687	666	14	7
Central Avenue s/o Foothill Boulevard	1,469	1,191	1,469	1,425	29	15
Monte Vista Avenue s/o 1st Street	1,956	1,903	1,956	1,897	39	20
Claremont Boulevard/Mills Avenue s/o Arrow Highway	724	630	724	702	14	7
College Avenue s/o Arrow Highway	276	311	311	302	6	3
Indian Hill Boulevard s/o Arrow Highway	2,522	2,370	2,522	2,446	50	25
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,134	2,316	2,316	2,247	46	23
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,329	2,351	2,351	2,280	47	24
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,868	2,994	2,994	2,904	60	30
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,070	2,259	2,259	2,191	45	23
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,149	2,527	2,527	2,451	51	25
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,156	2,341	2,341	2,271	47	23
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,107	2,182	2,182	2,117	44	22
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,107	2,009	2,107	2,044	42	21
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,407	2,302	2,407	2,335	48	24
6th Street between Indian Hill Boulevard and College Avenue	583	594	594	576	12	6
6th Street between College Avenue and Mills Avenue	711	722	722	700	14	7
6th Street between Mills Avenue and Claremont Boulevard	868	843	868	842	17	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,195	1,201	1,201	1,165	24	12
1st Street between Indian Hill Boulevard and College Avenue	579	795	795	771	16	8
1st Street between College Avenue and Claremont Boulevard	404	774	774	751	15	8
1st Street between Claremont Boulevard and Monte Vista Avenue	10	11	11	11	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,102	2,646	2,646	2,567	53	26
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,147	2,615	2,615	2,537	52	26
Base Line Road e/o I-210 Ramps	2,806	2,855	2,855	2,769	57	29
Foothill Boulevard e/o Central Avenue	2,251	2,290	2,290	2,221	46	23
1st Street e/o Monte Vista Avenue	153	235	235	228	5	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,503	1,839	1,839	1,784	37	18
Base Line Road w/o Indian Hill Boulevard	2,367	2,417	2,417	2,344	48	24
Foothill Boulevard w/o Indian Hill Boulevard	1,400	1,552	1,552	1,505	31	16
Claremont Boulevard w/o Monte Vista/Padua Ave	680	867	867	841	17	9

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Horizon Year (2040) Weekend without Project**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1155	24	12	67.8	68.1
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	715	15	7	67.2	67.5
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1799	37	19	71.3	71.6
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1650	34	17	67.8	68.1
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	393	8	4	61.5	61.8
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	882	18	9	68.2	68.5
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	947	20	10	68.5	68.8
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1448	30	15	71.8	72.1
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1879	39	19	72.9	73.2
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	947	20	10	68.5	68.8
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1687	35	17	69.4	69.7
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	598	12	6	63.4	63.7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1847	38	19	68.3	68.6
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1143	24	12	69.3	69.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1795	37	19	72.7	73.0
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	2251	46	23	70.7	71.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	531	11	5	62.9	63.2
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1142	24	12	67.7	68.0
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	450	9	5	63.7	64.0
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	782	16	8	67.6	67.9
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	707	15	7	67.2	67.5
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	655	14	7	66.9	67.2
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1425	29	15	70.2	70.5
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1862	38	19	72.9	73.2
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	691	14	7	65.5	65.8
College Avenue s/o Arrow Highway	Hard	30	30	30	25	302	6	3	60.4	60.7
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2435	50	25	71.0	71.3
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2201	45	23	73.6	73.9
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2280	47	24	73.8	74.1
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2872	59	30	74.8	75.1
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2176	45	22	72.1	72.4
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2436	50	25	72.6	72.9
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2255	47	23	72.2	72.5
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2039	42	21	71.8	72.1
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2000	41	21	71.7	72.0
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2312	48	24	72.3	72.6
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	561	12	6	63.1	63.4
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	685	14	7	64.0	64.3
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	830	17	9	64.8	65.1
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1136	23	12	66.2	66.5
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	756	16	8	64.4	64.7
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	735	15	8	64.3	64.6
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	11	0	0	47.4	47.7
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2551	53	26	71.2	71.5
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2521	52	26	74.2	74.5
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2769	57	29	73.1	73.4
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2189	45	23	69.0	69.3
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	228	5	2	62.3	62.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1784	37	18	72.7	73.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2329	48	24	72.4	72.7
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1490	31	15	70.4	70.7
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	841	17	9	68.1	68.4

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,141	1,191	1,191	1,155	24	12
Mills Avenue between Base Line Road and Foothill Boulevard	623	737	737	715	15	7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,855	1,528	1,855	1,799	37	19
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,217	1,701	1,701	1,650	34	17
College Avenue between Foothill Boulevard and 6th Street	370	405	405	393	8	4
Claremont Boulevard between Foothill Boulevard and 9th Street	909	797	909	882	18	9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	976	806	976	947	20	10
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,300	1,493	1,493	1,448	30	15
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,937	1,461	1,937	1,879	39	19
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	976	806	976	947	20	10
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,399	1,739	1,739	1,687	35	17
College Avenue between 6th Street and 1st Street	528	616	616	598	12	6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,904	1,663	1,904	1,847	38	19
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,178	1,079	1,178	1,143	24	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,850	1,652	1,850	1,795	37	19
Indian Hill Boulevard between 1st Street and Arrow Highway	2,321	2,027	2,321	2,251	46	23
College Avenue between 1st Street and Arrow Highway	445	547	547	531	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,177	1,153	1,177	1,142	24	12
Indian Hill Boulevard n/o Base Line Road	461	464	464	450	9	5
Claremont Boulevard n/o Foothill Boulevard	806	772	806	782	16	8
Mills Avenue n/o Base Line Road	729	686	729	707	15	7
Monte Vista/Padua Ave n/o Base Line Road	675	578	675	655	14	7
Central Avenue s/o Foothill Boulevard	1,469	1,191	1,469	1,425	29	15
Monte Vista Avenue s/o 1st Street	1,920	1,855	1,920	1,862	38	19
Claremont Boulevard/Mills Avenue s/o Arrow Highway	712	614	712	691	14	7
College Avenue s/o Arrow Highway	276	311	311	302	6	3
Indian Hill Boulevard s/o Arrow Highway	2,510	2,354	2,510	2,435	50	25
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,098	2,269	2,269	2,201	45	23
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,329	2,351	2,351	2,280	47	24
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,833	2,961	2,961	2,872	59	30
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,058	2,243	2,243	2,176	45	22
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,137	2,511	2,511	2,436	50	25
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,144	2,325	2,325	2,255	47	23
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,047	2,102	2,102	2,039	42	21
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,062	1,991	2,062	2,000	41	21
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,383	2,269	2,383	2,312	48	24
6th Street between Indian Hill Boulevard and College Avenue	571	578	578	561	12	6
6th Street between College Avenue and Mills Avenue	699	706	706	685	14	7
6th Street between Mills Avenue and Claremont Boulevard	856	827	856	830	17	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,171	1,169	1,171	1,136	23	12
1st Street between Indian Hill Boulevard and College Avenue	567	779	779	756	16	8
1st Street between College Avenue and Claremont Boulevard	392	758	758	735	15	8
1st Street between Claremont Boulevard and Monte Vista Avenue	10	11	11	11	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,090	2,630	2,630	2,551	53	26
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,135	2,599	2,599	2,521	52	26
Base Line Road e/o I-210 Ramps	2,806	2,855	2,855	2,769	57	29
Foothill Boulevard e/o Central Avenue	2,227	2,257	2,257	2,189	45	23
1st Street e/o Monte Vista Avenue	153	235	235	228	5	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,503	1,839	1,839	1,784	37	18
Base Line Road w/o Indian Hill Boulevard	2,366	2,401	2,401	2,329	48	24
Foothill Boulevard w/o Indian Hill Boulevard	1,399	1,536	1,536	1,490	31	15
Claremont Boulevard w/o Monte Vista/Padua Ave	669	867	867	841	17	9

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Horizon Year (2040) Without Project**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1519	31	16	69.0	69.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	933	19	10	68.4	68.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1739	36	18	71.1	71.4
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1528	32	16	67.4	67.7
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	482	10	5	62.4	62.7
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1038	21	11	68.9	69.2
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	1662	34	17	72.4	72.7
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1764	36	18	72.6	72.9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1308	27	13	69.9	70.2
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1629	34	17	69.3	69.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	642	13	7	63.7	64.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1762	36	18	68.1	68.4
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1445	30	15	70.3	70.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1866	38	19	72.9	73.2
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1956	40	20	70.1	70.4
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	635	13	7	63.6	63.9
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1604	33	17	69.2	69.5
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	499	10	5	64.1	64.4
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	948	20	10	68.5	68.8
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	618	13	6	66.6	66.9
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	586	12	6	66.4	66.7
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	1877	39	19	71.4	71.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1894	39	20	73.0	73.3
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	906	19	9	66.7	67.0
College Avenue s/o Arrow Highway	Hard	30	30	30	25	416	9	4	61.8	62.1
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	2149	44	22	70.5	70.8
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	2974	61	31	74.9	75.2
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	2732	56	28	74.5	74.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	3213	66	33	75.2	75.5
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2459	51	25	72.6	72.9
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2630	54	27	72.9	73.2
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2777	57	29	73.1	73.4
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2393	49	25	72.5	72.8
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	2276	47	23	72.3	72.6
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2527	52	26	72.7	73.0
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	549	11	6	63.0	63.3
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	653	13	7	63.8	64.1
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	853	18	9	64.9	65.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	1398	29	14	67.1	67.4
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	774	16	8	64.5	64.8
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	872	18	9	65.0	65.3
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	15	0	0	48.8	49.1
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2312	48	24	70.8	71.1
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2315	48	24	73.8	74.1
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	3308	68	34	73.9	74.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2492	51	26	69.6	69.9
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	569	12	6	66.3	66.6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2270	47	23	73.7	74.0
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2694	56	28	73.0	73.3
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1577	33	16	70.7	71.0
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	981	20	10	68.7	69.0

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,566	1,190	1,566	1,519	31	16
Mills Avenue between Base Line Road and Foothill Boulevard	962	797	962	933	19	10
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,578	1,793	1,793	1,739	36	18
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,575	1,540	1,575	1,528	32	16
College Avenue between Foothill Boulevard and 6th Street	497	352	497	482	10	5
Claremont Boulevard between Foothill Boulevard and 9th Street	1,008	1,070	1,070	1,038	21	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,059	1,348	1,308	27	13
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,557	1,713	1,713	1,662	34	17
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,819	1,814	1,819	1,764	36	18
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,348	1,059	1,348	1,308	27	13
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,679	1,584	1,679	1,629	34	17
College Avenue between 6th Street and 1st Street	662	657	662	642	13	7
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,817	1,560	1,817	1,762	36	18
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,490	1,453	1,490	1,445	30	15
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,908	1,924	1,924	1,866	38	19
Indian Hill Boulevard between 1st Street and Arrow Highway	1,858	2,017	2,017	1,956	40	20
College Avenue between 1st Street and Arrow Highway	519	655	655	635	13	7
Claremont Boulevard between 1st Street and Arrow Highway	1,654	1,452	1,654	1,604	33	17
Indian Hill Boulevard n/o Base Line Road	514	448	514	499	10	5
Claremont Boulevard n/o Foothill Boulevard	977	927	977	948	20	10
Mills Avenue n/o Base Line Road	637	588	637	618	13	6
Monte Vista/Padua Ave n/o Base Line Road	481	604	604	586	12	6
Central Avenue s/o Foothill Boulevard	949	1,935	1,935	1,877	39	19
Monte Vista Avenue s/o 1st Street	1,763	1,953	1,953	1,894	39	20
Claremont Boulevard/Mills Avenue s/o Arrow Highway	901	934	934	906	19	9
College Avenue s/o Arrow Highway	429	358	429	416	9	4
Indian Hill Boulevard s/o Arrow Highway	2,215	2,182	2,215	2,149	44	22
Base Line Road between Indian Hill Boulevard and Mills Avenue	3,066	2,821	3,066	2,974	61	31
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	2,817	2,707	2,817	2,732	56	28
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	3,296	3,312	3,312	3,213	66	33
Foothill Boulevard between Indian Hill Boulevard and College Avenue	2,454	2,535	2,535	2,459	51	25
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,647	2,711	2,711	2,630	54	27
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,643	2,863	2,863	2,777	57	29
Foothill Boulevard between Mills Avenue and Claremont Boulevard	2,375	2,467	2,467	2,393	49	25
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	2,151	2,346	2,346	2,276	47	23
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	2,138	2,605	2,605	2,527	52	26
6th Street between Indian Hill Boulevard and College Avenue	397	566	566	549	11	6
6th Street between College Avenue and Mills Avenue	582	673	673	653	13	7
6th Street between Mills Avenue and Claremont Boulevard	549	879	879	853	18	9
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	1,025	1,441	1,441	1,398	29	14
1st Street between Indian Hill Boulevard and College Avenue	678	798	798	774	16	8
1st Street between College Avenue and Claremont Boulevard	779	899	899	872	18	9
1st Street between Claremont Boulevard and Monte Vista Avenue	9	15	15	15	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	2,109	2,383	2,383	2,312	48	24
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	2,281	2,387	2,387	2,315	48	24
Base Line Road e/o I-210 Ramps	3,092	3,410	3,410	3,308	68	34
Foothill Boulevard e/o Central Avenue	1,773	2,569	2,569	2,492	51	26
1st Street e/o Monte Vista Avenue	587	339	587	569	12	6
Arrow Highway e/o Claremont Boulevard/Mills Avenue	2,030	2,340	2,340	2,270	47	23
Base Line Road w/o Indian Hill Boulevard	2,777	2,566	2,777	2,694	56	28
Foothill Boulevard w/o Indian Hill Boulevard	1,617	1,626	1,626	1,577	33	16
Claremont Boulevard w/o Monte Vista/Padua Ave	1,011	953	1,011	981	20	10

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) with Weekday Game**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1299	27	13	68.3	68.6
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	747	15	8	67.4	67.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1557	32	16	70.6	70.9
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1176	24	12	66.3	66.6
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	459	9	5	62.2	62.5
Claremont Boulevard between 9th Street and Foothill Boulevard	Hard	30	40	40	35	1096	23	11	69.1	69.4
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1127	23	12	69.2	69.5
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	995	21	10	70.2	70.5
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1217	25	13	71.0	71.3
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1127	23	12	69.2	69.5
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1312	27	14	68.3	68.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	510	11	5	62.7	63.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1307	27	13	66.8	67.1
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1142	24	12	69.3	69.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1378	28	14	71.6	71.9
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1429	29	15	68.7	69.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	528	11	5	62.8	63.1
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1109	23	11	67.6	67.9
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	400	8	4	63.2	63.5
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	859	18	9	68.0	68.3
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	630	13	6	66.7	67.0
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	547	11	6	66.1	66.4
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	940	19	10	68.4	68.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1435	30	15	71.7	72.0
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	861	18	9	66.5	66.8
College Avenue s/o Arrow Highway	Hard	30	30	30	25	353	7	4	61.1	61.4
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1775	37	18	69.6	69.9
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1950	40	20	73.1	73.4
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1724	36	18	72.5	72.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2551	53	26	74.2	74.5
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2021	42	21	71.8	72.1
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2210	46	23	72.1	72.4
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2372	49	24	72.5	72.8
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2067	43	21	71.9	72.2
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1913	39	20	71.5	71.8
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2076	43	21	71.9	72.2
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	264	5	3	59.8	60.1
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	453	9	5	62.2	62.5
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	537	11	6	62.9	63.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	732	15	8	64.3	64.6
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	437	9	5	62.0	62.3
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	373	8	4	61.3	61.6
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	13	0	0	48.2	48.5
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1956	40	20	70.1	70.4
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1890	39	19	72.9	73.2
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2616	54	27	72.9	73.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2364	49	24	69.3	69.6
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	265	5	3	62.9	63.2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1638	34	17	72.3	72.6
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2178	45	22	72.1	72.4
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1329	27	14	69.9	70.2
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	719	15	7	67.3	67.6

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,339	815	1,339	1,299	27	13
Mills Avenue between Base Line Road and Foothill Boulevard	770	603	770	747	15	8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,433	1,605	1,605	1,557	32	16
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,212	1,149	1,212	1,176	24	12
College Avenue between Foothill Boulevard and 6th Street	473	330	473	459	9	5
Claremont Boulevard between 9th Street and Foothill Boulevard	977	1,130	1,130	1,096	23	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,162	1,162	1,127	23	12
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	979	1,026	1,026	995	21	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,019	1,255	1,255	1,217	25	13
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,162	1,162	1,127	23	12
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,353	1,243	1,353	1,312	27	14
College Avenue between 6th Street and 1st Street	526	513	526	510	11	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,347	1,210	1,347	1,307	27	13
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,162	1,177	1,177	1,142	24	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,041	1,421	1,421	1,378	28	14
Indian Hill Boulevard between 1st Street and Arrow Highway	1,473	1,400	1,473	1,429	29	15
College Avenue between 1st Street and Arrow Highway	483	544	544	528	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,143	1,100	1,143	1,109	23	11
Indian Hill Boulevard n/o Base Line Road	412	335	412	400	8	4
Claremont Boulevard n/o Foothill Boulevard	886	828	886	859	18	9
Mills Avenue n/o Base Line Road	649	491	649	630	13	6
Monte Vista/Padua Ave n/o Base Line Road	437	564	564	547	11	6
Central Avenue s/o Foothill Boulevard	646	969	969	940	19	10
Monte Vista Avenue s/o 1st Street	1,124	1,479	1,479	1,435	30	15
Claremont Boulevard/Mills Avenue s/o Arrow Highway	817	888	888	861	18	9
College Avenue s/o Arrow Highway	364	323	364	353	7	4
Indian Hill Boulevard s/o Arrow Highway	1,790	1,830	1,830	1,775	37	18
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,010	1,759	2,010	1,950	40	20
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,777	1,645	1,777	1,724	36	18
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,418	2,630	2,630	2,551	53	26
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,974	2,084	2,084	2,021	42	21
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,179	2,278	2,278	2,210	46	23
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,172	2,445	2,445	2,372	49	24
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,861	2,131	2,131	2,067	43	21
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,543	1,972	1,972	1,913	39	20
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,721	2,140	2,140	2,076	43	21
6th Street between Indian Hill Boulevard and College Avenue	252	272	272	264	5	3
6th Street between College Avenue and Mills Avenue	439	467	467	453	9	5
6th Street between Mills Avenue and Claremont Boulevard	399	554	554	537	11	6
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	582	755	755	732	15	8
1st Street between Indian Hill Boulevard and College Avenue	341	451	451	437	9	5
1st Street between College Avenue and Claremont Boulevard	366	385	385	373	8	4
1st Street between Claremont Boulevard and Monte Vista Avenue	8	13	13	13	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,659	2,016	2,016	1,956	40	20
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,609	1,948	1,948	1,890	39	19
Base Line Road e/o I-210 Ramps	2,240	2,697	2,697	2,616	54	27
Foothill Boulevard e/o Central Avenue	1,827	2,437	2,437	2,364	49	24
1st Street e/o Monte Vista Avenue	258	273	273	265	5	3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,298	1,689	1,689	1,638	34	17
Base Line Road w/o Indian Hill Boulevard	2,245	1,963	2,245	2,178	45	22
Foothill Boulevard w/o Indian Hill Boulevard	1,370	1,316	1,370	1,329	27	14
Claremont Boulevard w/o Monte Vista/Padua Ave	741	665	741	719	15	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) with Weekday Practice**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1299	27	13	68.3	68.6
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	747	15	8	67.4	67.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1542	32	16	70.6	70.9
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1176	24	12	66.3	66.6
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	459	9	5	62.2	62.5
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1058	22	11	68.9	69.2
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1098	23	11	69.1	69.4
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	986	20	10	70.1	70.4
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1217	25	13	71.0	71.3
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1098	23	11	69.1	69.4
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1312	27	14	68.3	68.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	510	11	5	62.7	63.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1307	27	13	66.8	67.1
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1127	23	12	69.2	69.5
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1359	28	14	71.5	71.8
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1429	29	15	68.7	69.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	528	11	5	62.8	63.1
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1109	23	11	67.6	67.9
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	400	8	4	63.2	63.5
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	859	18	9	68.0	68.3
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	630	13	6	66.7	67.0
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	542	11	6	66.0	66.3
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	940	19	10	68.4	68.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1420	29	15	71.7	72.0
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	857	18	9	66.5	66.8
College Avenue s/o Arrow Highway	Hard	30	30	30	25	353	7	4	61.1	61.4
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1770	37	18	69.6	69.9
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1950	40	20	73.1	73.4
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1724	36	18	72.5	72.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2541	52	26	74.2	74.5
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2017	42	21	71.7	72.0
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2205	45	23	72.1	72.4
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2367	49	24	72.4	72.7
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2043	42	21	71.8	72.1
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1908	39	20	71.5	71.8
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2066	43	21	71.9	72.2
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	259	5	3	59.7	60.0
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	448	9	5	62.1	62.4
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	533	11	5	62.9	63.2
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	723	15	7	64.2	64.5
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	433	9	4	62.0	62.3
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	369	8	4	61.3	61.6
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	13	0	0	48.2	48.5
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1951	40	20	70.0	70.3
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1885	39	19	72.9	73.2
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2616	54	27	72.9	73.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2354	49	24	69.3	69.6
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	265	5	3	62.9	63.2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1638	34	17	72.3	72.6
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2178	45	22	72.1	72.4
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1329	27	14	69.9	70.2
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	719	15	7	67.3	67.6

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,339	810	1,339	1,299	27	13
Mills Avenue between Base Line Road and Foothill Boulevard	770	588	770	747	15	8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,433	1,590	1,590	1,542	32	16
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,212	1,149	1,212	1,176	24	12
College Avenue between Foothill Boulevard and 6th Street	473	330	473	459	9	5
Claremont Boulevard between Foothill Boulevard and 9th Street	1,036	1,091	1,091	1,058	22	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,132	1,132	1,098	23	11
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	979	1,016	1,016	986	20	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,019	1,255	1,255	1,217	25	13
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,132	1,132	1,098	23	11
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,353	1,238	1,353	1,312	27	14
College Avenue between 6th Street and 1st Street	526	513	526	510	11	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,347	1,210	1,347	1,307	27	13
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,162	1,162	1,162	1,127	23	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,041	1,401	1,401	1,359	28	14
Indian Hill Boulevard between 1st Street and Arrow Highway	1,473	1,400	1,473	1,429	29	15
College Avenue between 1st Street and Arrow Highway	483	544	544	528	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,143	1,090	1,143	1,109	23	11
Indian Hill Boulevard n/o Base Line Road	412	330	412	400	8	4
Claremont Boulevard n/o Foothill Boulevard	886	823	886	859	18	9
Mills Avenue n/o Base Line Road	649	491	649	630	13	6
Monte Vista/Padua Ave n/o Base Line Road	437	559	559	542	11	6
Central Avenue s/o Foothill Boulevard	646	969	969	940	19	10
Monte Vista Avenue s/o 1st Street	1,124	1,464	1,464	1,420	29	15
Claremont Boulevard/Mills Avenue s/o Arrow Highway	817	883	883	857	18	9
College Avenue s/o Arrow Highway	364	323	364	353	7	4
Indian Hill Boulevard s/o Arrow Highway	1,790	1,825	1,825	1,770	37	18
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,010	1,744	2,010	1,950	40	20
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,777	1,645	1,777	1,724	36	18
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,418	2,620	2,620	2,541	52	26
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,974	2,079	2,079	2,017	42	21
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,179	2,273	2,273	2,205	45	23
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,172	2,440	2,440	2,367	49	24
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,861	2,106	2,106	2,043	42	21
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,543	1,967	1,967	1,908	39	20
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,721	2,130	2,130	2,066	43	21
6th Street between Indian Hill Boulevard and College Avenue	252	267	267	259	5	3
6th Street between College Avenue and Mills Avenue	439	462	462	448	9	5
6th Street between Mills Avenue and Claremont Boulevard	399	549	549	533	11	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	582	745	745	723	15	7
1st Street between Indian Hill Boulevard and College Avenue	341	446	446	433	9	4
1st Street between College Avenue and Claremont Boulevard	366	380	380	369	8	4
1st Street between Claremont Boulevard and Monte Vista Avenue	8	13	13	13	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,659	2,011	2,011	1,951	40	20
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,609	1,943	1,943	1,885	39	19
Base Line Road e/o I-210 Ramps	2,240	2,697	2,697	2,616	54	27
Foothill Boulevard e/o Central Avenue	1,827	2,427	2,427	2,354	49	24
1st Street e/o Monte Vista Avenue	258	273	273	265	5	3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,298	1,689	1,689	1,638	34	17
Base Line Road w/o Indian Hill Boulevard	2,245	1,958	2,245	2,178	45	22
Foothill Boulevard w/o Indian Hill Boulevard	1,370	1,311	1,370	1,329	27	14
Claremont Boulevard w/o Monte Vista/Padua Ave	741	665	741	719	15	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) Weekend Fall Game**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	776	16	8	66.0	66.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	587	12	6	66.4	66.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1461	30	15	70.3	70.6
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1123	23	12	66.1	66.4
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	342	7	4	60.9	61.2
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	954	20	10	68.5	68.8
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	933	19	10	68.4	68.7
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	977	20	10	70.1	70.4
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1089	22	11	70.5	70.8
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	933	19	10	68.4	68.7
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1139	23	12	67.7	68.0
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	470	10	5	62.3	62.6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1204	25	12	66.4	66.7
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	911	19	9	68.3	68.6
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1216	25	13	71.0	71.3
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1373	28	14	68.5	68.8
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	408	8	4	61.7	62.0
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	970	20	10	67.0	67.3
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	366	8	4	62.8	63.1
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	705	15	7	67.2	67.5
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	582	12	6	66.4	66.7
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	581	12	6	66.3	66.6
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	979	20	10	68.6	68.9
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1402	29	14	71.6	71.9
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	701	14	7	65.6	65.9
College Avenue s/o Arrow Highway	Hard	30	30	30	25	237	5	2	59.3	59.6
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1803	37	19	69.7	70.0
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1466	30	15	71.8	72.1
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1383	29	14	71.6	71.9
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2294	47	24	73.8	74.1
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	1787	37	18	71.2	71.5
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2076	43	21	71.9	72.2
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	1905	39	20	71.5	71.8
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	1933	40	20	71.6	71.9
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1721	35	18	71.1	71.4
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	1853	38	19	71.4	71.7
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	226	5	2	59.1	59.4
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	415	9	4	61.8	62.1
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	455	9	5	62.2	62.5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	561	12	6	63.1	63.4
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	436	9	4	62.0	62.3
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	308	6	3	60.5	60.8
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	10	0	0	47.0	47.3
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2128	44	22	70.4	70.7
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2102	43	22	73.4	73.7
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2138	44	22	72.0	72.3
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2213	46	23	69.1	69.4
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	166	3	2	60.9	61.2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1859	38	19	72.9	73.2
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	1907	39	20	71.5	71.8
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1213	25	13	69.5	69.8
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	642	13	7	66.8	67.1

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	800	754	800	776	16	8
Mills Avenue between Base Line Road and Foothill Boulevard	593	605	605	587	12	6
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,506	1,303	1,506	1,461	30	15
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,158	1,153	1,158	1,123	23	12
College Avenue between Foothill Boulevard and 6th Street	339	353	353	342	7	4
Claremont Boulevard between Foothill Boulevard and 9th Street	983	930	983	954	20	10
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	950	962	962	933	19	10
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	1,007	913	1,007	977	20	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,123	944	1,123	1,089	22	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	950	962	962	933	19	10
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,170	1,174	1,174	1,139	23	12
College Avenue between 6th Street and 1st Street	472	485	485	470	10	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,241	1,105	1,241	1,204	25	12
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	939	920	939	911	19	9
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,178	1,254	1,254	1,216	25	13
Indian Hill Boulevard between 1st Street and Arrow Highway	1,415	1,273	1,415	1,373	28	14
College Avenue between 1st Street and Arrow Highway	421	419	421	408	8	4
Claremont Boulevard between 1st Street and Arrow Highway	849	1,000	1,000	970	20	10
Indian Hill Boulevard n/o Base Line Road	377	339	377	366	8	4
Claremont Boulevard n/o Foothill Boulevard	727	667	727	705	15	7
Mills Avenue n/o Base Line Road	600	583	600	582	12	6
Monte Vista/Padua Ave n/o Base Line Road	599	535	599	581	12	6
Central Avenue s/o Foothill Boulevard	1,009	978	1,009	979	20	10
Monte Vista Avenue s/o 1st Street	1,246	1,445	1,445	1,402	29	14
Claremont Boulevard/Mills Avenue s/o Arrow Highway	626	723	723	701	14	7
College Avenue s/o Arrow Highway	203	244	244	237	5	2
Indian Hill Boulevard s/o Arrow Highway	1,859	1,799	1,859	1,803	37	19
Base Line Road between Indian Hill Boulevard and Mills Avenue	1,511	1,420	1,511	1,466	30	15
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,426	1,361	1,426	1,383	29	14
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,365	2,322	2,365	2,294	47	24
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,842	1,820	1,842	1,787	37	18
Foothill Boulevard between College Avenue and Dartmouth Avenue	1,940	2,140	2,140	2,076	43	21
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	1,956	1,964	1,964	1,905	39	20
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,993	1,870	1,993	1,933	40	20
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,774	1,702	1,774	1,721	35	18
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,910	1,855	1,910	1,853	38	19
6th Street between Indian Hill Boulevard and College Avenue	207	233	233	226	5	2
6th Street between College Avenue and Mills Avenue	428	420	428	415	9	4
6th Street between Mills Avenue and Claremont Boulevard	469	438	469	455	9	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	578	558	578	561	12	6
1st Street between Indian Hill Boulevard and College Avenue	449	447	449	436	9	4
1st Street between College Avenue and Claremont Boulevard	309	318	318	308	6	3
1st Street between Claremont Boulevard and Monte Vista Avenue	10	10	10	10	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,680	2,194	2,194	2,128	44	22
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,601	2,167	2,167	2,102	43	22
Base Line Road e/o I-210 Ramps	2,171	2,204	2,204	2,138	44	22
Foothill Boulevard e/o Central Avenue	2,281	2,209	2,281	2,213	46	23
1st Street e/o Monte Vista Avenue	149	171	171	166	3	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,369	1,917	1,917	1,859	38	19
Base Line Road w/o Indian Hill Boulevard	1,966	1,932	1,966	1,907	39	20
Foothill Boulevard w/o Indian Hill Boulevard	1,250	1,187	1,250	1,213	25	13
Claremont Boulevard w/o Monte Vista/Padua Ave	662	635	662	642	13	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) Weekend Spring Game**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	776	16	8	66.0	66.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	556	11	6	66.2	66.5
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1434	30	15	70.3	70.6
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1123	23	12	66.1	66.4
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	342	7	4	60.9	61.2
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	892	18	9	68.2	68.5
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	881	18	9	68.2	68.5
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	956	20	10	70.0	70.3
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1069	22	11	70.5	70.8
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	881	18	9	68.2	68.5
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1129	23	12	67.7	68.0
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	470	10	5	62.3	62.6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1204	25	12	66.4	66.7
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	890	18	9	68.2	68.5
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1176	24	12	70.9	71.2
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1373	28	14	68.5	68.8
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	408	8	4	61.7	62.0
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	950	20	10	66.9	67.2
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	359	7	4	62.7	63.0
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	698	14	7	67.1	67.4
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	582	12	6	66.4	66.7
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	574	12	6	66.3	66.6
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	979	20	10	68.6	68.9
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1371	28	14	71.5	71.8
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	692	14	7	65.5	65.8
College Avenue s/o Arrow Highway	Hard	30	30	30	25	237	5	2	59.3	59.6
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1796	37	19	69.7	70.0
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1445	30	15	71.8	72.1
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1383	29	14	71.6	71.9
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2274	47	23	73.7	74.0
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	1780	37	18	71.2	71.5
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2066	43	21	71.9	72.2
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	1895	39	20	71.5	71.8
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	1899	39	20	71.5	71.8
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1694	35	17	71.0	71.3
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	1839	38	19	71.3	71.6
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	216	4	2	59.0	59.3
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	408	8	4	61.7	62.0
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	448	9	5	62.1	62.4
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	547	11	6	63.0	63.3
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	429	9	4	61.9	62.2
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	299	6	3	60.4	60.7
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	10	0	0	47.0	47.3
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	2118	44	22	70.4	70.7
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	2092	43	22	73.4	73.7
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2138	44	22	72.0	72.3
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2199	45	23	69.0	69.3
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	166	3	2	60.9	61.2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1859	38	19	72.9	73.2
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	1907	39	20	71.5	71.8
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1213	25	13	69.5	69.8
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	635	13	7	66.7	67.0

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	800	744	800	776	16	8
Mills Avenue between Base Line Road and Foothill Boulevard	572	573	573	556	11	6
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,478	1,272	1,478	1,434	30	15
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,158	1,153	1,158	1,123	23	12
College Avenue between Foothill Boulevard and 6th Street	339	353	353	342	7	4
Claremont Boulevard between Foothill Boulevard and 9th Street	920	855	920	892	18	9
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	908	898	908	881	18	9
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	986	892	986	956	20	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,102	944	1,102	1,069	22	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	908	898	908	881	18	9
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,163	1,164	1,164	1,129	23	12
College Avenue between 6th Street and 1st Street	472	485	485	470	10	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,241	1,105	1,241	1,204	25	12
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	918	888	918	890	18	9
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,157	1,212	1,212	1,176	24	12
Indian Hill Boulevard between 1st Street and Arrow Highway	1,415	1,273	1,415	1,373	28	14
College Avenue between 1st Street and Arrow Highway	421	419	421	408	8	4
Claremont Boulevard between 1st Street and Arrow Highway	835	979	979	950	20	10
Indian Hill Boulevard n/o Base Line Road	370	329	370	359	7	4
Claremont Boulevard n/o Foothill Boulevard	720	657	720	698	14	7
Mills Avenue n/o Base Line Road	600	583	600	582	12	6
Monte Vista/Padua Ave n/o Base Line Road	592	525	592	574	12	6
Central Avenue s/o Foothill Boulevard	1,009	978	1,009	979	20	10
Monte Vista Avenue s/o 1st Street	1,225	1,413	1,413	1,371	28	14
Claremont Boulevard/Mills Avenue s/o Arrow Highway	619	713	713	692	14	7
College Avenue s/o Arrow Highway	203	244	244	237	5	2
Indian Hill Boulevard s/o Arrow Highway	1,852	1,789	1,852	1,796	37	19
Base Line Road between Indian Hill Boulevard and Mills Avenue	1,490	1,388	1,490	1,445	30	15
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,426	1,361	1,426	1,383	29	14
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,344	2,301	2,344	2,274	47	23
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,835	1,810	1,835	1,780	37	18
Foothill Boulevard between College Avenue and Dartmouth Avenue	1,933	2,130	2,130	2,066	43	21
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	1,949	1,954	1,954	1,895	39	20
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,958	1,817	1,958	1,899	39	20
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,746	1,692	1,746	1,694	35	17
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,896	1,834	1,896	1,839	38	19
6th Street between Indian Hill Boulevard and College Avenue	200	223	223	216	4	2
6th Street between College Avenue and Mills Avenue	421	410	421	408	8	4
6th Street between Mills Avenue and Claremont Boulevard	462	428	462	448	9	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	564	537	564	547	11	6
1st Street between Indian Hill Boulevard and College Avenue	442	437	442	429	9	4
1st Street between College Avenue and Claremont Boulevard	302	308	308	299	6	3
1st Street between Claremont Boulevard and Monte Vista Avenue	10	10	10	10	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,673	2,184	2,184	2,118	44	22
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,594	2,157	2,157	2,092	43	22
Base Line Road e/o I-210 Ramps	2,171	2,204	2,204	2,138	44	22
Foothill Boulevard e/o Central Avenue	2,267	2,188	2,267	2,199	45	23
1st Street e/o Monte Vista Avenue	149	171	171	166	3	2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,369	1,917	1,917	1,859	38	19
Base Line Road w/o Indian Hill Boulevard	1,966	1,922	1,966	1,907	39	20
Foothill Boulevard w/o Indian Hill Boulevard	1,250	1,177	1,250	1,213	25	13
Claremont Boulevard w/o Monte Vista/Padua Ave	655	635	655	635	13	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) Weekend Without Project**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	775	16	8	66.0	66.3
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	520	11	5	65.9	66.2
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1388	29	14	70.1	70.4
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1123	23	12	66.1	66.4
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	342	7	4	60.9	61.2
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	790	16	8	67.7	68.0
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	811	17	8	67.8	68.1
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	922	19	10	69.8	70.1
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1037	21	11	70.3	70.6
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	811	17	8	67.8	68.1
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1116	23	12	67.6	67.9
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	470	10	5	62.3	62.6
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1204	25	12	66.4	66.7
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	856	18	9	68.0	68.3
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1114	23	11	70.6	70.9
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1373	28	14	68.5	68.8
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	408	8	4	61.7	62.0
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	919	19	9	66.8	67.1
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	347	7	4	62.6	62.9
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	687	14	7	67.1	67.4
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	582	12	6	66.4	66.7
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	563	12	6	66.2	66.5
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	979	20	10	68.6	68.9
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1324	27	14	71.4	71.7
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	676	14	7	65.4	65.7
College Avenue s/o Arrow Highway	Hard	30	30	30	25	237	5	2	59.3	59.6
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1785	37	18	69.7	70.0
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1856	38	19	72.9	73.2
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1617	33	17	72.3	72.6
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2344	48	24	73.9	74.2
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	1845	38	19	71.4	71.7
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2024	42	21	71.8	72.1
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2193	45	23	72.1	72.4
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	1827	38	19	71.3	71.6
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1708	35	18	71.0	71.3
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	1840	38	19	71.4	71.7
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	149	3	2	57.3	57.6
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	358	7	4	61.1	61.4
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	439	9	5	62.0	62.3
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	617	13	6	63.5	63.8
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	397	8	4	61.6	61.9
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	343	7	4	61.0	61.3
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	11	0	0	47.4	47.7
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1797	37	19	69.7	70.0
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1734	36	18	72.6	72.9
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2460	51	25	72.6	72.9
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2105	43	22	68.8	69.1
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	252	5	3	62.7	63.0
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1526	31	16	72.0	72.3
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2140	44	22	72.0	72.3
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1255	26	13	69.7	70.0
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	695	14	7	67.1	67.4

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	799	728	799	775	16	8
Mills Avenue between Base Line Road and Foothill Boulevard	536	525	536	520	11	5
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,431	1,223	1,431	1,388	29	14
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,158	1,153	1,158	1,123	23	12
College Avenue between Foothill Boulevard and 6th Street	339	353	353	342	7	4
Claremont Boulevard between Foothill Boulevard and 9th Street	814	742	814	790	16	8
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	836	801	836	811	17	8
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	951	859	951	922	19	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,069	943	1,069	1,037	21	11
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	836	801	836	811	17	8
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,151	1,148	1,151	1,116	23	12
College Avenue between 6th Street and 1st Street	472	485	485	470	10	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,241	1,105	1,241	1,204	25	12
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	882	840	882	856	18	9
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,120	1,148	1,148	1,114	23	11
Indian Hill Boulevard between 1st Street and Arrow Highway	1,415	1,273	1,415	1,373	28	14
College Avenue between 1st Street and Arrow Highway	421	419	421	408	8	4
Claremont Boulevard between 1st Street and Arrow Highway	811	947	947	919	19	9
Indian Hill Boulevard n/o Base Line Road	358	313	358	347	7	4
Claremont Boulevard n/o Foothill Boulevard	708	641	708	687	14	7
Mills Avenue n/o Base Line Road	600	583	600	582	12	6
Monte Vista/Padua Ave n/o Base Line Road	580	509	580	563	12	6
Central Avenue s/o Foothill Boulevard	1,009	978	1,009	979	20	10
Monte Vista Avenue s/o 1st Street	1,189	1,365	1,365	1,324	27	14
Claremont Boulevard/Mills Avenue s/o Arrow Highway	607	697	697	676	14	7
College Avenue s/o Arrow Highway	203	244	244	237	5	2
Indian Hill Boulevard s/o Arrow Highway	1,840	1,773	1,840	1,785	37	18
Base Line Road between Indian Hill Boulevard and Mills Avenue	1,913	1,625	1,913	1,856	38	19
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,667	1,537	1,667	1,617	33	17
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,249	2,416	2,416	2,344	48	24
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,824	1,902	1,902	1,845	38	19
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,020	2,087	2,087	2,024	42	21
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,002	2,261	2,261	2,193	45	23
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,698	1,883	1,883	1,827	38	19
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,387	1,761	1,761	1,708	35	18
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,567	1,897	1,897	1,840	38	19
6th Street between Indian Hill Boulevard and College Avenue	144	154	154	149	3	2
6th Street between College Avenue and Mills Avenue	319	369	369	358	7	4
6th Street between Mills Avenue and Claremont Boulevard	319	453	453	439	9	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	503	636	636	617	13	6
1st Street between Indian Hill Boulevard and College Avenue	317	409	409	397	8	4
1st Street between College Avenue and Claremont Boulevard	349	354	354	343	7	4
1st Street between Claremont Boulevard and Monte Vista Avenue	7	11	11	11	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,531	1,853	1,853	1,797	37	19
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,492	1,788	1,788	1,734	36	18
Base Line Road e/o I-210 Ramps	2,103	2,536	2,536	2,460	51	25
Foothill Boulevard e/o Central Avenue	1,621	2,170	2,170	2,105	43	22
1st Street e/o Monte Vista Avenue	245	260	260	252	5	3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,212	1,573	1,573	1,526	31	16
Base Line Road w/o Indian Hill Boulevard	2,206	1,918	2,206	2,140	44	22
Foothill Boulevard w/o Indian Hill Boulevard	1,294	1,201	1,294	1,255	26	13
Claremont Boulevard w/o Monte Vista/Padua Ave	716	649	716	695	14	7

TRAFFIC NOISE ANALYSIS TOOL



Project Name: **Claremont Mckenna Roberts Sports Bowl**
 Analysis Scenario: **Opening Year (2027) Without Project**
 Source of Traffic Volumes: **KOA**

Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	Hard	30	35	35	30	1299	27	13	68.3	68.6
Mills Avenue between Base Line Road and Foothill Boulevard	Hard	30	40	40	35	747	15	8	67.4	67.7
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	Hard	30	40	40	35	1518	31	16	70.5	70.8
Indian Hill Boulevard between Foothill Boulevard and 6th Street	Hard	30	30	30	25	1176	24	12	66.3	66.6
College Avenue between Foothill Boulevard and 6th Street	Hard	30	30	30	25	459	9	5	62.2	62.5
Claremont Boulevard between Foothill Boulevard and 9th Street	Hard	30	40	40	35	1005	21	10	68.7	69.0
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1079	22	11	69.0	69.3
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	Hard	30	45	45	40	969	20	10	70.0	70.3
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	Hard	30	45	45	40	1215	25	13	71.0	71.3
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	Hard	30	40	40	35	1079	22	11	69.0	69.3
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	Hard	30	35	35	30	1312	27	14	68.3	68.6
College Avenue between 6th Street and 1st Street	Hard	30	30	30	25	510	11	5	62.7	63.0
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	Hard	30	30	30	25	1307	27	13	66.8	67.1
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	Hard	30	40	40	35	1127	23	12	69.2	69.5
Monte Vista/Padua Ave between Arrow Route and 1st Street	Hard	30	45	45	40	1329	27	14	71.4	71.7
Indian Hill Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1429	29	15	68.7	69.0
College Avenue between 1st Street and Arrow Highway	Hard	30	30	30	25	528	11	5	62.8	63.1
Claremont Boulevard between 1st Street and Arrow Highway	Hard	30	35	35	30	1109	23	11	67.6	67.9
Indian Hill Boulevard n/o Base Line Road	Hard	30	35	35	30	400	8	4	63.2	63.5
Claremont Boulevard n/o Foothill Boulevard	Hard	30	40	40	35	859	18	9	68.0	68.3
Mills Avenue n/o Base Line Road	Hard	30	40	40	35	630	13	6	66.7	67.0
Monte Vista/Padua Ave n/o Base Line Road	Hard	30	40	40	35	534	11	6	66.0	66.3
Central Avenue s/o Foothill Boulevard	Hard	30	40	40	35	940	19	10	68.4	68.7
Monte Vista Avenue s/o 1st Street	Hard	30	45	45	40	1397	29	14	71.6	71.9
Claremont Boulevard/Mills Avenue s/o Arrow Highway	Hard	30	35	35	30	849	18	9	66.4	66.7
College Avenue s/o Arrow Highway	Hard	30	30	30	25	353	7	4	61.1	61.4
Indian Hill Boulevard s/o Arrow Highway	Hard	30	35	35	30	1762	36	18	69.6	69.9
Base Line Road between Indian Hill Boulevard and Mills Avenue	Hard	30	45	45	40	1950	40	20	73.1	73.4
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	Hard	30	45	45	40	1724	36	18	72.5	72.8
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	Hard	30	45	45	40	2525	52	26	74.2	74.5
Foothill Boulevard between Indian Hill Boulevard and College Avenue	Hard	30	40	40	35	2009	41	21	71.7	72.0
Foothill Boulevard between College Avenue and Dartmouth Avenue	Hard	30	40	40	35	2197	45	23	72.1	72.4
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	Hard	30	40	40	35	2359	49	24	72.4	72.7
Foothill Boulevard between Mills Avenue and Claremont Boulevard	Hard	30	40	40	35	2003	41	21	71.7	72.0
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	40	40	35	1899	39	20	71.5	71.8
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	Hard	30	40	40	35	2051	42	21	71.8	72.1
6th Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	251	5	3	59.6	59.9
6th Street between College Avenue and Mills Avenue	Hard	30	30	30	25	440	9	5	62.0	62.3
6th Street between Mills Avenue and Claremont Boulevard	Hard	30	30	30	25	525	11	5	62.8	63.1
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	Hard	30	30	30	25	706	15	7	64.1	64.4
1st Street between Indian Hill Boulevard and College Avenue	Hard	30	30	30	25	425	9	4	61.9	62.2
1st Street between College Avenue and Claremont Boulevard	Hard	30	30	30	25	361	7	4	61.2	61.5
1st Street between Claremont Boulevard and Monte Vista Avenue	Hard	30	35	35	30	13	0	0	48.2	48.5
Arrow Highway between Indian Hill Boulevard and College Avenue	Hard	30	35	35	30	1943	40	20	70.0	70.3
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1877	39	19	72.9	73.2
Base Line Road e/o I-210 Ramps	Hard	30	40	40	35	2616	54	27	72.9	73.2
Foothill Boulevard e/o Central Avenue	Hard	30	30	30	25	2339	48	24	69.3	69.6
1st Street e/o Monte Vista Avenue	Hard	30	40	40	35	265	5	3	62.9	63.2
Arrow Highway e/o Claremont Boulevard/Mills Avenue	Hard	30	45	45	40	1638	34	17	72.3	72.6
Base Line Road w/o Indian Hill Boulevard	Hard	30	40	40	35	2178	45	22	72.1	72.4
Foothill Boulevard w/o Indian Hill Boulevard	Hard	30	40	40	35	1329	27	14	69.9	70.2
Claremont Boulevard w/o Monte Vista/Padua Ave	Hard	30	40	40	35	719	15	7	67.3	67.6

Claremont Mckenna Roberts Sports Bowl Traffic Segment Volumes

Roadway Segment	AM	PM	Max	Auto	MT	HT
Indian Hill Boulevard between Base Line Road and Foothill Boulevard	1,339	803	1,339	1,299	27	13
Mills Avenue between Base Line Road and Foothill Boulevard	770	564	770	747	15	8
Monte Vista/Padua Ave between Base Line Road and Claremont Boulevard	1,433	1,565	1,565	1,518	31	16
Indian Hill Boulevard between Foothill Boulevard and 6th Street	1,212	1,149	1,212	1,176	24	12
College Avenue between Foothill Boulevard and 6th Street	473	330	473	459	9	5
Claremont Boulevard between Foothill Boulevard and 9th Street	1,036	1,033	1,036	1,005	21	10
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,083	1,112	1,079	22	11
Monte Vista/Padua Ave between Claremont Boulevard and Foothill Boulevard	979	999	999	969	20	10
Monte Vista/Padua Ave between Foothill Boulevard and Arrow Route	1,019	1,253	1,253	1,215	25	13
Claremont Boulevard between 9th Street and 6th Street/Arrow Route	1,112	1,083	1,112	1,079	22	11
Indian Hill Boulevard between 6th Street and Harrison Avenue/5th Street	1,353	1,230	1,353	1,312	27	14
College Avenue between 6th Street and 1st Street	526	513	526	510	11	5
Indian Hill Boulevard between Harrison Avenue/5th Street and 1st Street	1,347	1,210	1,347	1,307	27	13
Claremont Boulevard between 6th Street/Arrow Route and 1st Street	1,162	1,138	1,162	1,127	23	12
Monte Vista/Padua Ave between Arrow Route and 1st Street	1,041	1,370	1,370	1,329	27	14
Indian Hill Boulevard between 1st Street and Arrow Highway	1,473	1,400	1,473	1,429	29	15
College Avenue between 1st Street and Arrow Highway	483	544	544	528	11	5
Claremont Boulevard between 1st Street and Arrow Highway	1,143	1,073	1,143	1,109	23	11
Indian Hill Boulevard n/o Base Line Road	412	322	412	400	8	4
Claremont Boulevard n/o Foothill Boulevard	886	815	886	859	18	9
Mills Avenue n/o Base Line Road	649	491	649	630	13	6
Monte Vista/Padua Ave n/o Base Line Road	437	551	551	534	11	6
Central Avenue s/o Foothill Boulevard	646	969	969	940	19	10
Monte Vista Avenue s/o 1st Street	1,124	1,440	1,440	1,397	29	14
Claremont Boulevard/Mills Avenue s/o Arrow Highway	817	875	875	849	18	9
College Avenue s/o Arrow Highway	364	323	364	353	7	4
Indian Hill Boulevard s/o Arrow Highway	1,790	1,817	1,817	1,762	36	18
Base Line Road between Indian Hill Boulevard and Mills Avenue	2,010	1,719	2,010	1,950	40	20
Base Line Road between Mills Avenue and Monte Vista/Padua Ave	1,777	1,645	1,777	1,724	36	18
Base Line Road between Monte Vista/Padua Ave and I-210 Ramps	2,418	2,603	2,603	2,525	52	26
Foothill Boulevard between Indian Hill Boulevard and College Avenue	1,974	2,071	2,071	2,009	41	21
Foothill Boulevard between College Avenue and Dartmouth Avenue	2,179	2,265	2,265	2,197	45	23
Foothill Boulevard between Dartmouth Avenue and Mills Avenue	2,172	2,432	2,432	2,359	49	24
Foothill Boulevard between Mills Avenue and Claremont Boulevard	1,861	2,065	2,065	2,003	41	21
Foothill Boulevard between Claremont Boulevard and Monte Vista/Padua Ave	1,543	1,958	1,958	1,899	39	20
Foothill Boulevard between Monte Vista/Padua Ave and Central Avenue	1,721	2,114	2,114	2,051	42	21
6th Street between Indian Hill Boulevard and College Avenue	252	259	259	251	5	3
6th Street between College Avenue and Mills Avenue	439	454	454	440	9	5
6th Street between Mills Avenue and Claremont Boulevard	399	541	541	525	11	5
6th Street/Arrow Route between Claremont Boulevard and Monte Vista/Padua Ave	582	728	728	706	15	7
1st Street between Indian Hill Boulevard and College Avenue	341	438	438	425	9	4
1st Street between College Avenue and Claremont Boulevard	366	372	372	361	7	4
1st Street between Claremont Boulevard and Monte Vista Avenue	8	13	13	13	0	0
Arrow Highway between Indian Hill Boulevard and College Avenue	1,659	2,003	2,003	1,943	40	20
Arrow Highway between College Avenue and Claremont Boulevard/Mills Avenue	1,609	1,935	1,935	1,877	39	19
Base Line Road e/o I-210 Ramps	2,240	2,697	2,697	2,616	54	27
Foothill Boulevard e/o Central Avenue	1,827	2,411	2,411	2,339	48	24
1st Street e/o Monte Vista Avenue	258	273	273	265	5	3
Arrow Highway e/o Claremont Boulevard/Mills Avenue	1,298	1,689	1,689	1,638	34	17
Base Line Road w/o Indian Hill Boulevard	2,245	1,951	2,245	2,178	45	22
Foothill Boulevard w/o Indian Hill Boulevard	1,370	1,304	1,370	1,329	27	14
Claremont Boulevard w/o Monte Vista/Padua Ave	741	664	741	719	15	7

Exhibit D

**Operational
Noise
Modeling**

Claremont Mckenna Campus Sport Bowl at Receiver R1
Weekday Practice

Baseball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	30						
	15	8	3	65	74.0	1925	17.9
	15	8	3	65	74.0	1925	17.9
Total	30	16	-	-	77.0	-	20.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	20						
	10	5	3	65	72.0	2225	14.6
	10	5	3	65	72.0	2225	14.6
Total	20	10	-	-	75.0	-	17.6

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	2575	20.3
	50	25	3	65	79.0	2575	20.3
Total	100	50	-	-	82.0	-	23.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	1626	20.3
	20	10	3	65	75.0	1626	20.3
Total	40	20	-	-	78.0	-	23.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	950	22.8
	13	7	3	65	73.5	950	23.4
Total	25	13	-	-	76.1	-	26.1

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Practice			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	215		
	215	96	30.1
Total w/o Shielding	215	96	30.1
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at Receiver R1
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
	140	70	3	65	83.5	1925	27.3
	140	70	3	65	83.5	1925	27.3
Total	280	140	-	-	86.5	-	30.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
	135	68	3	65	83.3	2225	25.9
	135	68	3	65	83.3	2225	25.9
Total	270	136	-	-	86.3	-	28.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	2575	20.3
	50	25	3	65	79.0	2575	20.3
Total	100	50	-	-	82.0	-	23.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	1626	20.3
	20	10	3	65	75.0	1626	20.3
Total	40	20	-	-	78.0	-	23.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	950	22.8
	13	7	3	65	73.5	950	23.4
Total	25	13	-	-	76.1	-	26.1

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	715		
	715	346	34.3
Total w/o Shielding	715	346	34.3
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at Receiver R1							
Weekend Gameday Fall							

Football or Track and Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	2000						
	1000	500	3	65	92.0	2790	32.6
	1000	500	3	65	92.0	2790	32.6
Total	2000	1000	-	-	95.0	-	35.6

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
	70	35	3	65	80.4	1626	25.8
	70	35	3	65	80.4	1626	25.8
Total	140	70	-	-	83.5	-	28.8

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekend Gameday Fall			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	2140		
	2140	1070	36.4
Total w/o Shielding	2140	1070	36.4
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at Receiver R1
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
	140	70	3	65	83.5	1925	27.3
	140	70	3	65	83.5	1925	27.3
Total	280	140	-	-	86.5	-	30.3

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
	135	68	3	65	83.3	2225	25.9
	135	68	3	65	83.3	2225	25.9
Total	270	136	-	-	86.3	-	28.9

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
	70	35	3	65	80.4	1626	25.8
	70	35	3	65	80.4	1626	25.8
Total	140	70	-	-	83.5	-	28.8

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	690		
	690	346	34.2
Total w/o Shielding	690	346	34.2
Reduction provided by shielding			

Claremont Mckenna Roberts Sports Bowl at R1
Speaker Noise Levels
Weekday Gameday Scenario

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R1	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	1,930	48.3	5.0	43.3		
Speaker 2 @ Softball Field	5	100	2,250	46.9	5.0	41.9		
Total	5	100	-	50.7	5.0	45.7	46.0	66.8

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957

5
0
1

Weekend Game in Fall

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R1	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Western Football Bleacher	5	100	2,525	45.9	5.0	40.9		
Speaker 2 @ Western Football Bleacher	5	100	2,600	45.7	5.0	40.7		
Speaker 3 @ Eastern Football Bleacher	5	100	2,725	45.3	5.0	40.3		
Speaker 4 @ Eastern Football Bleacher	5	100	2,800	45.0	5.0	40.0		
Speaker 5 @ Soccer Field	5	100	1,630	49.7	5.0	44.7		
Total	5	100	-	53.7	5.0	48.7	49.0	66.9

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591
4 106.021 1.249387366
5 106.99 0.96910013

4
3
2
1
0
1

Weekend Game in Spring

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R1	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	1,930	48.3	5.0	43.3		
Speaker 2 @ Softball Field	5	100	2,250	46.9	5.0	41.9		
Speaker 3 @ Soccer Field	5	100	3,630	40.7	5.0	35.7		
Total	5	100	-	53.2	5.0	48.2	48.4	66.9

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591

4
2
0
1

Claremont Mckenna Campus Sport Bowl at R2
Weekday Practice

Baseball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	30						
	15	8	3	65	74.0	640	27.4
	15	8	3	65	74.0	640	27.4
Total	30	16	-	-	77.0	-	30.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	20						
	10	5	3	65	72.0	1000	21.5
	10	5	3	65	72.0	1000	21.5
Total	20	10	-	-	75.0	-	24.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	920	29.2
	50	25	3	65	79.0	920	29.2
Total	100	50	-	-	82.0	-	32.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	640	28.4
	20	10	3	65	75.0	640	28.4
Total	40	20	-	-	78.0	-	31.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	370	31.0
	13	7	3	65	73.5	370	31.6
Total	25	13	-	-	76.1	-	34.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Practice			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	215		
	215	96	38.6
Total w/o Shielding	215	96	38.6
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R2
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
	140	70	3	65	83.5	640	36.9
	140	70	3	65	83.5	640	36.9
Total	280	140	-	-	86.5	-	39.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
	135	68	3	65	83.3	1000	32.9
	135	68	3	65	83.3	1000	32.9
Total	270	136	-	-	86.3	-	35.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	920	29.2
	50	25	3	65	79.0	920	29.2
Total	100	50	-	-	82.0	-	32.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	640	28.4
	20	10	3	65	75.0	640	28.4
Total	40	20	-	-	78.0	-	31.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	370	31.0
	13	7	3	65	73.5	370	31.6
Total	25	13	-	-	76.1	-	34.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	715		
	715	346	42.9
Total w/o Shielding	715	346	42.9
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R2							
Weekend Gameday Fall							

Football or Track and Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	2000						
Females (Adult)	1000	500	3	65	92.0	920	42.3
Males (Adult)	1000	500	3	65	92.0	920	42.3
Total	2000	1000	-	-	95.0	-	45.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
Females (Adult)	70	35	3	65	80.4	640	33.9
Males (Adult)	70	35	3	65	80.4	640	33.9
Total	140	70	-	-	83.5	-	36.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekend Gameday Fall			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	2140		
	2140	1070	45.9
Total w/o Shielding	2140	1070	45.9
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R2
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
	140	70	3	65	83.5	640	36.9
	140	70	3	65	83.5	640	36.9
Total	280	140	-	-	86.5	-	39.9

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
	135	68	3	65	83.3	1000	32.9
	135	68	3	65	83.3	1000	32.9
Total	270	136	-	-	86.3	-	35.9

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
	70	35	3	65	80.4	640	33.9
	70	35	3	65	80.4	640	33.9
Total	140	70	-	-	83.5	-	36.9

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	690		
	690	346	42.7
Total w/o Shielding	690	346	42.7
Reduction provided by shielding			

Claremont Mckenna Roberts Sports Bowl at R2

Speaker Noise Levels

Weekday Gameday Scenario

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R2	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	950	59.3	5.0	54.3		
Speaker 2 @ Softball Field	5	100	950	54.4	5.0	49.4		
Total	5	100	-	60.4	5.0	55.4	55.7	65.0

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3587664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957

5

0

1

Weekend Gameday Fall

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R2	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Western Football Bleacher	5	100	915	54.7	5.0	49.7		
Speaker 2 @ Western Football Bleacher	5	100	1,000	54.0	5.0	49.0		
Speaker 3 @ Eastern Football Bleacher	5	100	1,375	51.2	5.0	46.2		
Speaker 4 @ Eastern Football Bleacher	5	100	1,450	50.8	5.0	45.8		
Speaker 5 @ Soccer Field	5	100	690	57.3	5.0	52.3		
Total	5	100	-	61.2	5.0	56.2	56.6	65.2

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3587664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591
4 106.021 1.249187366
5 106.99 0.96910013

4

3

2

1

0

1

Weekend Gameday Spring

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R2	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	950	59.3	5.0	54.3		
Speaker 2 @ Softball Field	5	100	950	54.4	5.0	49.4		
Speaker 3 @ Soccer Field	5	100	690	57.3	5.0	52.3		
Total	5	100	-	62.4	5.0	57.4	57.3	65.3

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3587664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591

4

2

0

1

Claremont Mckenna Campus Sport Bowl at R3
Weekday Practice

Baseball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	30						
	15	8	3	65	74.0	690	26.8
	15	8	3	65	74.0	690	26.8
Total	30	16	-	-	77.0	-	29.8

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	20						
	10	5	3	65	72.0	460	28.3
	10	5	3	65	72.0	460	28.3
Total	20	10	-	-	75.0	-	31.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	800	30.5
	50	25	3	65	79.0	800	30.5
Total	100	50	-	-	82.0	-	33.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	540	29.9
	20	10	3	65	75.0	540	29.9
Total	40	20	-	-	78.0	-	32.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	190	36.7
	13	7	3	65	73.5	190	37.4
Total	25	13	-	-	76.1	-	40.1

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Practice			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	215		
	215	96	42.2
Total w/o Shielding	215	96	42.2
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R3
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
	140	70	3	65	83.5	690	36.2
	140	70	3	65	83.5	690	36.2
Total	280	140	-	-	86.5	-	39.2

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
	135	68	3	65	83.3	460	39.6
	135	68	3	65	83.3	460	39.6
Total	270	136	-	-	86.3	-	42.6

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
	50	25	3	65	79.0	800	30.5
	50	25	3	65	79.0	800	30.5
Total	100	50	-	-	82.0	-	33.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
	20	10	3	65	75.0	540	29.9
	20	10	3	65	75.0	540	29.9
Total	40	20	-	-	78.0	-	32.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
	12	6	3	65	72.8	190	36.7
	13	7	3	65	73.5	190	37.4
Total	25	13	-	-	76.1	-	40.1

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	715		
	715	346	46.1
Total w/o Shielding	715	346	46.1
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R3
Weekend Gameday Fall

Football or Track and Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	2000						
	1000	500	3	65	92.0	800	43.5
	1000	500	3	65	92.0	800	43.5
Total	2000	1000	-	-	95.0	-	46.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
	70	35	3	65	80.4	540	35.3
	70	35	3	65	80.4	540	35.3
Total	140	70	-	-	83.5	-	38.3

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekend Gameday Fall			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	2140		
	2140	1070	47.1
Total w/o Shielding	2140	1070	47.1
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R3
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
Females (Adult)	140	70	3	65	83.5	690	36.2
Males (Adult)	140	70	3	65	83.5	690	36.2
Total	280	140	-	-	86.5	-	39.2

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
Females (Adult)	135	68	3	65	83.3	460	39.6
Males (Adult)	135	68	3	65	83.3	460	39.6
Total	270	136	-	-	86.3	-	42.6

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
Females (Adult)	70	35	3	65	80.4	540	35.3
Males (Adult)	70	35	3	65	80.4	540	35.3
Total	140	70	-	-	83.5	-	38.3

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	690		
	690	346	45.2
Total w/o Shielding	690	346	45.2
Reduction provided by shielding			

Claremont Mckenna Roberts Sports Bowl at R3

Speaker Noise Levels

Weekday Gameday Scenario

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R3	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	700	57.3	5.0	52.1		
Speaker 2 @ Softball Field	5	100	475	60.4	5.0	55.4		
Total	5	100	-	62.1	5.0	57.1	57.4	70.8

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957

5

0

1

Weekend Gameday Fall

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R3	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Western Football Bleacher	5	100	1,120	52.0	5.0	47.0		
Speaker 2 @ Western Football Bleacher	5	100	1,125	51.5	5.0	46.5		
Speaker 3 @ Eastern Football Bleacher	5	100	800	55.9	5.0	50.9		
Speaker 4 @ Eastern Football Bleacher	5	100	875	55.1	5.0	50.1		
Speaker 5 @ Soccer Field	5	100	175	58.8	5.0	53.8		
Total	5	100	-	62.3	5.0	57.3	57.9	70.4

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591
4 106.021 1.249187366
5 106.99 0.96910013

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Weekend Gameday Spring

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor R3	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	700	57.3	5.0	52.1		
Speaker 2 @ Softball Field	5	100	475	60.4	5.0	55.4		
Speaker 3 @ Soccer Field	5	100	-	68.8	5.0	58.8	58.9	68.3

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directivity at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591

4

3

2

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1

Claremont Mckenna Campus Sport Bowl at R4
Weekday Practice

Baseball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	30						
Females (Adult)	15	8	3	65	74.0	960	23.9
Males (Adult)	15	8	3	65	74.0	960	23.9
Total	30	16	-	-	77.0	-	26.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	20						
Females (Adult)	10	5	3	65	72.0	1060	21.0
Males (Adult)	10	5	3	65	72.0	1060	21.0
Total	20	10	-	-	75.0	-	24.0

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
Females (Adult)	50	25	3	65	79.0	640	32.4
Males (Adult)	50	25	3	65	79.0	640	32.4
Total	100	50	-	-	82.0	-	35.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
Females (Adult)	20	10	3	65	75.0	1540	20.8
Males (Adult)	20	10	3	65	75.0	1540	20.8
Total	40	20	-	-	78.0	-	23.8

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
Females (Adult)	12	6	3	65	72.8	470	28.9
Males (Adult)	13	7	3	65	73.5	470	29.6
Total	25	13	-	-	76.1	-	32.2

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Practice			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	215		
	215	96	37.9
Total w/o Shielding	215	96	37.9
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R4
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
Females (Adult)	140	70	3	65	83.5	960	33.3
Males (Adult)	140	70	3	65	83.5	960	33.3
Total	280	140	-	-	86.5	-	36.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
Females (Adult)	135	68	3	65	83.3	1060	32.4
Males (Adult)	135	68	3	65	83.3	1060	32.4
Total	270	136	-	-	86.3	-	35.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Football or Track and Field Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	100						
Females (Adult)	50	25	3	65	79.0	640	32.4
Males (Adult)	50	25	3	65	79.0	640	32.4
Total	100	50	-	-	82.0	-	35.4

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	40						
Females (Adult)	20	10	3	65	75.0	1540	20.8
Males (Adult)	20	10	3	65	75.0	1540	20.8
Total	40	20	-	-	78.0	-	23.8

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Golf Practice Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	25						
Females (Adult)	12	6	3	65	72.8	470	28.9
Males (Adult)	13	7	3	65	73.5	470	29.6
Total	25	13	-	-	76.1	-	32.2

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	715		
	715	346	41.2
Total w/o Shielding	715	346	41.2
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R4							
Weekend Gameday Fall							

Football or Track and Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	2000						
Females (Adult)	1000	500	3	65	92.0	800	43.5
Males (Adult)	1000	500	3	65	92.0	800	43.5
Total	2000	1000	-	-	95.0	-	46.5

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
Females (Adult)	70	35	3	65	80.4	1800	24.9
Males (Adult)	70	35	3	65	80.4	1800	24.9
Total	140	70	-	-	83.5	-	27.9

Source:

¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekend Gameday Fall			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	2140		
	2140	1070	46.5
Total w/o Shielding	2140	1070	46.5
Reduction provided by shielding			

Claremont Mckenna Campus Sport Bowl at R4
Weekday Gameday

Baseball Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	280						
Females (Adult)	140	70	3	65	83.5	690	36.2
Males (Adult)	140	70	3	65	83.5	690	36.2
Total	280	140	-	-	86.5	-	39.2

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Softball Field Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	270						
Females (Adult)	135	68	3	65	83.3	460	39.6
Males (Adult)	135	68	3	65	83.3	460	39.6
Total	270	136	-	-	86.3	-	42.6

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Soccer/Rugby Spectators + Participants							
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Reference Distance (ft) ¹	Reference Noise Level (dBA) ¹	Combined Noise Level (dBA)	Distance to Receptor (ft)	Noise Level at Receptor (dBA)
Total Capacity	140						
Females (Adult)	70	35	3	65	80.4	540	35.3
Males (Adult)	70	35	3	65	80.4	540	35.3
Total	140	70	-	-	83.5	-	38.3

Source:
¹ American Journal of Audiology Vol. 7, p. 3 (1998)

Weekday Gameday			
Category	# of Individuals (estimated capacity)	# of Individuals Speaking (half of estimated capacity)	Noise Level at Receptor (dBA)
	690		
	690	346	45.2
Total w/o Shielding	690	346	45.2
Reduction provided by shielding			

Claremont Mckenna Roberts Sports Bowl at R4
Speaker Noise Levels
Weekday Gameday Scenario

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor ft	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	950	54.8	5.0	49.4		
Speaker 2 @ Softball Field	5	100	1,025	53.8	5.0	48.8		
Total	5	100	-	57.1	5.0	52.1	52.5	61.7

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directly at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957

5

0

1

Weekend Gameday Fall

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor ft	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Western Football Bleacher	5	100	650	57.7	5.0	52.7		
Speaker 2 @ Western Football Bleacher	5	100	725	56.8	5.0	51.8		
Speaker 3 @ Eastern Football Bleacher	5	100	800	55.9	5.0	50.9		
Speaker 4 @ Eastern Football Bleacher	5	100	875	55.1	5.0	50.1		
Speaker 5 @ Soccer Field	5	100	1,750	49.3	5.0	44.3		
Total	5	100	-	62.7	5.0	57.7	58.0	62.2

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directly at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591
4 106.021 1.249187366
5 106.99 0.96910013

4

3

2

1

0

1

Weekend Gameday Spring

Point Source	Reference Distance (ft)	Reference Noise Level (dBA) ¹	Distance to Sensitive Receptor ft	Noise Level at Receptor (dBA)	Attenuation (dBA) ²	Noise Level at Receptor with Attenuation (dBA)	Combined Crowd and Speaker Noise Level at Receptor	Combined Ambient and Operational
Speaker 1 @ Baseball Field	5	100	950	54.8	5.0	49.4		
Speaker 2 @ Softball Field	5	100	1,025	53.8	5.0	48.8		
Speaker 3 @ Soccer Field	5	100	1,750	49.3	5.0	44.3		
Total	5	100	-	57.8	5.0	52.8	53.5	57.9

¹ World Health Organization recommends a limit of 100 dBA for outdoor concerts and festivals. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187664/>

² Attenuation accounts for speaker directly at a lower elevation than the surrounding sensitive receptors

1 100
2 103.01 3.010299957
3 104.771 1.760912591

4

3

2

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1

Appendix J

Transportation Impact Analysis

CLAREMONT MCKENNA COLLEGE ROBERTS CAMPUS SPORTS BOWL/ ROBERTS CAMPUS EAST: TRANSPORTATION IMPACT ANALYSIS CLAREMONT & UPLAND, CALIFORNIA

MAY 2024

Presented to:

Claremont-McKenna College

742 Amherst Avenue
Claremont, CA 91711

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EXECUTIVE SUMMARY

Introduction

This Traffic Impact Analysis report addresses the potential traffic effects and circulation needs associated with the proposed development (hereinafter referred to as the Project) on the Claremont McKenna College Roberts Campus East (formerly known as the Claremont Colleges East Campus). The Project is a revision of a project previously approved for the site by the cities of Upland and Claremont in 2016. This Traffic Impact Analysis analyzes the Project in accordance with the Traffic Analysis – Memorandum of Understanding (MOU) dated February 14, 2024, with the cities of Claremont and Upland (Appendix J) and in compliance with the California Environmental Quality Act (CEQA) guidelines (California Code of Regulations, Title 14, Section 15000 and following).

The CEQA-related analysis was conducted in accordance with State of California Senate Bill 743 (Steinberg, 2013) (SB 743), which required a change in the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of the CEQA transportation analysis shifted from vehicular delay, as measured by Level of Service (LOS) or similar measures of vehicular capacity or traffic congestion, to vehicle miles traveled (VMT). The CEQA-related analysis also includes evaluation of active transportation and transit (consistency with program, plan, ordinance or policy addressing the circulation system).

A non-CEQA transportation analysis of the Project was also conducted in accordance with the MOU and includes analysis of the anticipated LOS at the study intersections and roadway segments as per the City of Upland's Traffic Impact Analysis Guidelines (July 2020) and the City of Claremont's Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment (August 2020). The non-CEQA transportation analysis is not required for determination of potential CEQA impacts.

Project Description

The Claremont McKenna College Roberts Campus East (formerly known as the Claremont Colleges East Campus) (Project site) is approximately 74.44 acres of land that is bound by Foothill Boulevard on the north, Arrow Route (also known as Sixth Street in the City of Claremont) on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west.¹ The site is a Class III landfill for inert materials and was formerly used as a sand and gravel quarry. Landfill maintenance, and construction staging and construction-worker-related parking (providing when-needed support for campus construction activities) currently continue on the Project site. The site does not contain permanent structures except for a previously established archery range, which is not currently in use. The Project's primary objective is to provide for the construction of collegiate sports facilities, known as the Roberts Campus Sports Bowl. Those facilities will be used by students participating in Claremont McKenna College's collegiate athletic programs and are depicted in the Conceptual Site Plan as presented in Figure 2.1. Additional objectives include the following:

¹ The area within the approximately 74-acre Project site that is proposed for development consists of approximately 66.5 acres. The Project site also includes an approximately 0.4 acre area underneath and west of Claremont Boulevard where the proposed tunnel would be located. The approximately 7.6 acres at the southern end of the Project site are not proposed for development as part of the Project.

- Reclaim the Project site while minimizing environmental impacts;
- Enhance the visual quality of the site and neighborhood;
- Provide additional parking; and
- Provide improved and expanded sports facilities.

Project Study Area

This traffic report includes an analysis of twenty-nine (29) study intersections and eleven (11) study roadway segments that are located in the project vicinity, consistent with the MOU with the cities of Claremont and Upland. The study locations are listed below:

Study Intersections		Intersection Control Type
1	Base Line Rd & Indian Hill Blvd	Signalized
2	Base Line Rd & Mills Ave	Signalized
3	Base Line Rd & Monte Vista Ave/Padua Ave	Signalized
4	Base Line Rd & I-210 Ramps	Signalized
5	Claremont Blvd & Monte Vista Ave	Signalized
6	Foothill Blvd & Indian Hill Blvd	Signalized
7	Foothill Blvd & College Ave	Signalized
8	Foothill Blvd & Dartmouth Ave	Signalized
9	Foothill Blvd & Mills Ave	Signalized
10	Foothill Blvd & Claremont Blvd	Signalized
11	Foothill Blvd & Monte Vista Ave	Signalized
12*	Foothill Blvd & Central Ave	Signalized
13	6 th St & Indian Hill Blvd	Unsignalized
14	6 th St & College Ave	Unsignalized
15	6 th St & Mills Ave	Unsignalized
16	6 th St/Arrow Rt & Claremont Blvd	Signalized
17	Arrow Rt & Monte Vista Ave	Signalized
18	Harrison Ave/5 th St & Indian Hill Blvd	Signalized
19	1 st St & Indian Hill Blvd	Signalized
20	1 st St & College Ave	Unsignalized
21	1 st St & Claremont Blvd	Signalized
22	Arrow Hwy & Indian Hill Blvd	Signalized
23	Arrow Hwy & College Ave	Signalized
24	Arrow Hwy & Claremont Blvd/Mills Ave	Signalized
25	Claremont Blvd & 9 th St	Unsignalized (proposed signal)
26	Foothill Blvd & Project Dwy N	Unsignalized (proposed driveway)
27	Claremont Blvd & Project Dwy SW	Unsignalized (proposed driveway)
28	Monte Vista Ave & Project Dwy SE	Unsignalized
29	Monte Vista Ave & 1 st St/Richton St	Signalized

No.	Roadway Segments
1	Foothill Boulevard East of Monte Vista Avenue
2	Monte Vista Avenue south of Foothill Boulevard
3	Claremont Boulevard between Arrow and Foothill Boulevard
4	Arrow Route between College Park and Monte Vista Avenue
5	Huntington Drive East of Claremont Boulevard
6	6 th Street West of Mills Avenue
7	Arrow Route Between Claremont Boulevard and Apartment Driveway
8	9 th Street East of Mills Avenue
9	9 th Street West of Claremont Boulevard
10	Claremont Boulevard North of 9 th Street
11	Claremont Boulevard South of 6 th Street

Study Periods

AM and PM peak hour intersection capacity analyses for the twenty-nine (29) key study intersections (including four Project driveways) were conducted under the following scenarios:

- Existing Year 2023 Traffic Conditions (weekday)
- Existing Year 2023 Traffic Conditions (weekend)
- Opening Year 2027 Without Project Traffic Conditions (Weekday)
- Opening Year 2027 Without Project Traffic (weekend)
- Opening Year 2027 Plus Project Traffic Conditions (weekday)
- Opening Year 2027 Plus Project Traffic Conditions (weekend)
- Horizon Year 2045 Without Project Traffic Conditions (weekday)
- Horizon Year 2045 Without Project Traffic Conditions (weekend)
- Horizon Year 2045 Plus Project Traffic Conditions (weekday)
- Horizon Year 2045 Plus Project Traffic Conditions (weekend)

Project Trip Generation

- The “Weekday: Practice Day” trip forecasts result in 1 added Project trip during the weekday AM peak hour, and a total of 160 added vehicle trips during the weekday PM peak commuter hour. Over a 24-hour period, this scenario is forecast to add 359 daily trips during a typical weekday.
- The “Weekday: Game Day” scenario addresses Project traffic activity on the fifth weekday of that illustrative week. Substitution of a “full-house” baseball, and softball game, with a spring football practice or track and field, or soccer practice on the four spectator fields, would increase the weekday PM peak hour Project trip generation to 260 trips, and the daily generation to 559 trips. These trip totals are also consistent with occasional simultaneous baseball and softball games with a combined attendance of 500 spectators, and a home as well as a visitor team on each of those two fields. This scenario illustrates the “worst case” weekday condition for the proposed Project.
- The defining “worst case” weekend scenario (occurring roughly five Fall Saturdays per year) is that of a “full house” home football game (“Weekend: Game Day-Fall). On such days, the 24-hour trip generation total would grow to a forecast of 947 trips (evenly divided between inbound and outbound movements), with 377 trips occurring in the hour before the start of the game, and 535 trips in the hour following it.
- The more frequent weekend scenario, but with trip generation potential less than one-half of its fall counterpart, is that of the “Weekend: Game Day (Spring)” scenario. Its 24-hour trip-making

potential would total 593 trips (one-half arriving and one-half departing), with 237 trips forecast for the peak arrival hour, and 321 trips forecast for the peak departure hour.

- It is important to note that in order to provide a conservative analysis, it was assumed that no trip credits were assumed resulting from the relocation of the athletic fields.

Cumulative Project Trip Generation

A total of thirty-three (33) cumulative development projects within a two-mile radius of the Project site were identified by the Cities of Claremont and Upland. Most of the cumulative developments are anticipated to be built and occupied by the Project's Opening Year of 2027. Combined, the 33 cumulative projects are forecast to generate a total of 38,801 daily trips on a "typical" weekday, with 2,969 trips (1,664 inbound and 2,876 outbound) occurring during the AM peak hour and 3,262 trips (2,963 inbound and 2,023 outbound) occurring during the PM peak hour.

The cumulative projects are forecast to generate a combined total of 43,838 daily trips on a "typical" weekend, with 4,369 trips (3,965 inbound and 3,321 outbound), occurring during the AM peak hour and 4,210 trips (3,486 inbound and 3,658 outbound) occurring during the PM peak hour.

Non-CEQA Traffic Analysis Findings

- Under the Existing (Weekday) traffic conditions, only one (1) key study intersection operates at an unacceptable level of service (LOS). The remaining study intersections currently operate at acceptable LOS during the AM and PM peak hours. The intersection operating at an adverse LOS is as follows:

Intersection	Peak Hour	Existing Year 2023 – Weekday Conditions	
		LOS	Delay (sec/veh)
3. Base Line Road and Monte Vista Ave	AM	F	97.7
	PM	F	97.4

- Under the Existing Year (Weekend) traffic conditions, all study intersections currently operate at an acceptable LOS during the AM and PM peak hours.
- To forecast the Opening Year (2027) With Project conditions, the Existing Year 2023 traffic volumes were growth-factored up by a total of four percent to account for annual ambient traffic growth in the Project vicinity. Cumulative development and Project traffic volumes were then added to the Opening Year baseline traffic volumes to derive the Opening Year With Project traffic volumes.
- Under the Opening Year (2027) With Project conditions, all the study intersections are expected to operate at acceptable LOS "D" or better during the weekday AM and PM peak hours. Based on the Cities' traffic deficiency criteria, the proposed Project traffic would not result in a traffic deficiency at any of the study intersections, except at Base Line Road and the I-210 Ramps.
- Under the Horizon Year (2045) With Project conditions, four (4) key study intersections are forecast to operate at an unacceptable level of service with the addition of Project traffic, based on the applicable LOS deficiency criteria. The remaining key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours for the Year 2045 Cumulative Plus Project condition, under all event scenarios: Weekday – Practice Day; Weekday – Game Day; Weekend – Game Day [Fall]; and Weekend – Game Day [Spring] traffic conditions. The intersections forecast to operate at an unacceptable LOS during the Horizon Year (2045) With

Project conditions are listed below:

Intersection	Weekday: Practice Day		
	Peak Hour	LOS	Delay (sec/veh)
13. 6 th St & Indian Hill Blvd	AM	E	54.9
	PM	F	77.1
14. 6 th St & College Ave	AM	-	-
	PM	E	42.5
20. 1 st St & College Ave	AM	-	-
	PM	F	80.5

Intersection	Weekday: Game Day		
	Peak Hour	LOS	Delay (sec/veh)
13. 6 th St & Indian Hill Blvd	AM	E	54.9
	PM	E	85.3
14. 6 th St & College Ave	AM	-	-
	PM	E	44.1
20. 1 st St & College Ave	AM	-	-
	PM	F	81.3

Intersection	Weekend: Game Day [Fall]		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Road & I-210 Ramps	AM	F	86.7
	PM	-	-
13. 6 th St & Indian Hill Blvd	AM	E	74.5
	PM	E	148.3
14. 6 th St & College Ave	AM	-	-
	PM	E	45.2
20. 1 st St & College Ave	AM	-	-
	PM	E	45.4

Intersection	Weekend: Game Day [Spring]		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Road & I-210 Ramps	AM	F	85.7
	PM	-	-
13. 6 th St & Indian Hill Blvd	AM	E	73.1
	PM	F	127.8
14. 6 th St & College Ave	AM	-	-
	PM	E	42.3
20. 1 st St & College Ave	AM	-	-
	PM	E	44.3

The intersections listed above are forecast to operate at a deficient level of service during the Year 2045 Cumulative Plus Project traffic conditions under the (non-CEQA) LOS criteria identified in this report. The implementation of recommended improvements outlined in this report would offset the Year 2045 Cumulative Plus Project traffic conditions, and restore the affected intersections to acceptable traffic conditions in accordance with applicable (non-CEQA) LOS criteria.

Recommended Improvements (Non-CEQA)

The results of the Opening Year 2027 and Horizon Year 2045 Cumulative Plus Project traffic LOS analyses indicate that the proposed Project traffic would result in unacceptable traffic conditions at four (4) out of the thirty-three (33) key study intersections. The following off-site improvements are recommended to offset conditions under each "With Project" analysis scenario. Claremont McKenna College will coordinate with the appropriate municipality and regulatory agency having jurisdiction over the roadways and public right-of-way where the recommended off-site improvements are located.

- Intersection #4 – Base Line Road & I-210 Ramps (Claremont): Widen and/or restripe and reconfigure the southbound off-ramp approach to provide a second (dual) southbound right-turn lane. Install traffic signal modifications to accommodate the additional lane and volumes.
- Intersection #13 – 6th Street & Indian Hill Boulevard: Implement active traffic management measures during Game Day events to divert westbound (outbound) event traffic away from the Indian Hill Boulevard/6th Street intersection, to travel south along Yale Avenue toward the traffic signal at 5th Street and Indian Hill Boulevard. Reconfigure the northbound approach lanes by adding a dedicated right-turn (curbside) lane. Restripe the westbound approach lanes from a single shared left/through/right-turn lane to one (1) left and one (1) shared through/right lane.
- Intersection #14 – 6th Street & College Avenue: Modify the southbound, westbound and eastbound approaches on 6th Street and College Avenue to provide a shared through-right turn while maintaining one left-turn lane.
- Intersection #20 – 1st Street & College Avenue: Restripe the northbound and southbound approach lanes provide a dedicated left-turn lane, through lane, and shared through/right-turn lane, as well as two receiving lanes. Adjust the existing bicycle lanes to accommodate the proposed geometry.

Applying the (non-CEQA) recommended improvements described above to the affected intersections would result in an acceptable peak-hour intersection LOS, as shown in the summary tables below:

Intersection	Weekday: Practice Day		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Rd & I-210 Ramps	AM	C	27.6
	PM	C	30.0
13. 6 th St & Indian Hill Blvd	AM	D	33.3
	PM	C	20.9
14. 6 th St & College Ave	AM	C	19.4
	PM	D	27.7
20. 1 st St & College Ave	AM	C	16.3
	PM	D	29.8

Intersection	Weekday: Game Day		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Rd & I-210 Ramps	AM	C	27.6
	PM	C	30.0
13. 6 th St & Indian Hill Blvd	AM	D	33.3
	PM	C	20.9
14. 6 th St & College Ave	AM	C	19.4
	PM	D	28.2
20. 1 st St & College Ave	AM	C	16.3
	PM	D	30.2

Intersection	Weekday: Game Day [Fall]		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Rd & I-210 Ramps	AM	C	25.9
	PM	C	25.9
13. 6 th St & Indian Hill Blvd	AM	C	19.1
	PM	D	31.7
14. 6 th St & College Ave	AM	C	21.0
	PM	D	29.8
20. 1 st St & College Ave	AM	B	11.9
	PM	C	23.1

Intersection	Weekday: Game Day [Spring]		
	Peak Hour	LOS	Delay (sec/veh)
4. Base Line Rd & I-210 Ramps	AM	C	25.9
	PM	C	25.6
13. 6 th St & Indian Hill Blvd	AM	D	18.9
	PM	C	31.7
14. 6 th St & College Ave	AM	C	20.2
	PM	C	29.1
20. 1 st St & College Ave	AM	C	11.8
	PM	D	22.4

VTM Analysis Conclusions

The Project will primarily serve the student and faculty population of the adjacent Claremont McKenna College campus. The proposed Project uses can be considered to be local-serving and will reduce VMT within the surrounding community. Thus, based on the proposed project type, the Project meets the City of Claremont's and the City of Upland's VMT screening requirements and is not required to prepare additional VMT analysis. Most of the proposed Project athletic facilities will replace existing facilities at other locations on the CMC campus and the trips generated by the proposed Project facilities will primarily shift from these existing facilities. Nonetheless, to provide a comprehensive VMT analysis for the Project, a quantitative VMT analysis has been prepared for the proposed Project uses to demonstrate that the Project will generate VMT below the region average.

Estimates for daily VMT and VMT per service population were calculated for the Project uses based on the SCAG Travel Model (for Claremont) and SBTAM (for Upland) average trip length data. Based on data from the SCAG Travel Model, the Project is estimated to generate VMT at a rate between 2.28 and 4.76 VMT per service population for the four trip generation scenarios analyzed for the Project. This rate is much lower than the City of Claremont VMT threshold of 30.61 VMT per service population. Thus, the Project is not expected to result in a significant VMT impact per the City of Claremont Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment. Additionally, based on data from the SBTAM, the Project is estimated to generate VMT at a rate between 2.48 and 5.18 VMT per service population for the four trip generation scenarios analyzed for the Project. This rate is much lower than the City of Upland VMT threshold of 24.60 VMT per service population. Thus, the Project is not expected to result in a significant VMT impact per the City of Upland Traffic Impact Analysis Guidelines.

Jurisdiction	Worst-Case VMT per Service Population	Jurisdiction VMT Baseline	Jurisdiction VMT Threshold	Significant?
Claremont	4.76	36.02	30.61 (15% below)	No
Upland	5.18	24.60	24.60	No

Guidelines for both cities provide that a project has no cumulative VMT impact if it is consistent with the local RTP/SCS. The Project is an infill project that reduces the urban heat island effect and is in close proximity to most of its users on the adjacent college campus. As a result, the Project has no significant cumulative project generated VMT impact.

Thus, the Project is expected to generate VMT well below the thresholds set by the Cities of Claremont and Upland. Therefore, the Project will not result in a significant VMT impact.

PART 1 – INTRODUCTION

1.0 PROJECT INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic effects and circulation needs associated with the development (hereinafter referred to as the Project) on the Claremont McKenna College Roberts Campus East (formerly known as the Claremont Colleges East Campus). The Project site is approximately 74.44 acres of land that is generally located south of Foothill Boulevard and east of Claremont Boulevard in the Cities of Claremont and Upland, California.² Elements of the Project are collegiate sports venues (including soccer/rugby, baseball, softball, football/track/lacrosse), golf practice and multi-purpose fields, related support facilities, and on-site surface and covered structure parking. These elements are generally upgraded and replacement facilities for existing sports venues and parking that have or will be removed on the Claremont McKenna College (CMC) campus. The Project also adds some additional parking for the campus. The Project is a revision of a project previously approved for the site by the cities of Upland and Claremont in 2016.

This Traffic Impact Analysis analyzes the Project in accordance with the Traffic Analysis – Memorandum of Understanding (MOU) dated February 14, 2024, with the cities of Claremont and Upland (Appendix J) and in compliance with the California Environmental Quality Act (CEQA) guidelines (California Code of Regulations, Title 14, Section 15000 and following). The CEQA-related analysis was conducted in accordance with State of California Senate Bill 743 (Steinberg, 2013) (SB 743), which required a change in the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of the CEQA transportation analysis shifted from vehicular delay, as measured by Level of Service or similar measures of vehicular capacity or traffic congestion, to vehicle miles traveled (VMT). A non-CEQA transportation analysis of the Project was also conducted in accordance with the MOU and includes analysis of the anticipated LOS at the study intersections and roadway segments as per the City of Upland's Traffic Impact Analysis Guidelines (July 2020) and the City of Claremont's Draft Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment (August 2020). The non-CEQA transportation analysis is not required for the determination of potential CEQA impacts.

The non-CEQA portion of this traffic analysis evaluates the existing and future operating conditions at twenty-nine (29) key intersections within the Project vicinity and along the site's periphery, inclusive of 26 existing street intersections (one of which will become a signalized project driveway), and 3 proposed unsignalized site access driveways. Estimates of the proposed Project's trip generation potential were studied for four different scenarios: Weekday – Practice Day; Weekday – Game Day; Weekend – Fall Game Day; and Weekend – Spring Game Day. Future traffic forecasts both without and with the Project, as well as the cumulative inclusion of other planned development projects in the area, were compared to assess the potential impacts of the Project on the local circulation network spanning the Cities of Claremont and Upland. This evaluation focuses on key intersections and driveways that will directly serve traffic accessing

² The area within the approximately 74-acre Project site that is proposed for development consists of approximately 66.5 acres. The Project site also includes an approximately 0.4 acre area underneath and west of Claremont Boulevard where the proposed tunnel would be located. The approximately 7.6 acres at the southern end of the Project site are not proposed for development as part of the Project.

the site, and where applicable, identifies intersection-level improvements to maintain an acceptable level of service.

The Project site and study areas were visited, and an inventory of the surrounding transportation network was completed to document the existing traffic and roadway conditions. Existing turning movement traffic volume count information was collected and compiled to support detailed intersection capacity analyses. This effort was supported by the collection of 24-hour machine traffic counts on key roadways, to illustrate the daily profile of traffic volumes in the study area. The work program for this traffic study was developed in conjunction with the Cities of Claremont and Upland staff as documented in the MOU and includes the most current and available list of related development projects and any future roadway improvement projects.

The non-CEQA traffic analysis evaluates the existing and future AM and PM peak hour traffic conditions at the key study intersections, specifically under the “Existing Base Line” Year (2023), Project Opening Year (2027), and Horizon Year (2045) traffic settings, both without and with the proposed Project. Cumulative traffic growth estimates were calculated using a 1% annual ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of other auxiliary projects outside of the study area.

1.1 STUDY AREA

Non-CEQA Project impacts on the surrounding street network were determined by evaluating twenty-nine (29) key intersections, inclusive of four (4) proposed Project driveways. Study intersections were selected for evaluation based on the previously approved 2016 traffic study for the project, as well as staff input and consultant peer reviews provided by both the Cities of Claremont and Upland. The intersections listed below were included in the scope of the study as documented in the MOU, provide local and regional access to the study area, and generally define the extent and boundaries for the traffic impact assessment:

**List of Study Intersections
(By Study Intersection ID #, Intersection Cross Streets, and Jurisdiction)**

1. Base Line Road at Indian Hill Boulevard	(Claremont)
2. Base Line Road at Mills Avenue	(Claremont)
3. Base Line Road at Monte Vista Avenue/Padua Avenue	(Claremont)
4. Base Line Road at I-210 Ramps	(Claremont/Caltrans)
5. Claremont Boulevard at Monte Vista Avenue	(Claremont)
6. Foothill Boulevard at Indian Hill Boulevard	(Claremont)
7. Foothill Boulevard at College Avenue	(Claremont)
8. Foothill Boulevard at Dartmouth Avenue	(Claremont)
9. Foothill Boulevard at Mills Avenue	(Claremont)
10. Foothill Boulevard at Claremont Boulevard	(Claremont)
11. Foothill Boulevard at Monte Vista Avenue	(Upland)
12. Foothill Boulevard at Central Avenue	(Upland)
13. 6 th Street at Indian Hill Boulevard	(Claremont)
14. 6 th Street at College Avenue	(Claremont)
15. 6 th Street at Mills Avenue	(Claremont)
16. 6 th Street/Arrow Route at Claremont Boulevard	(Upland)
17. Arrow Route at Monte Vista Avenue	(Upland)
18. Harrison Avenue/5 th Street at Indian Hill Boulevard	(Claremont)
19. 1 st Street at Indian Hill Boulevard	(Claremont)
20. 1 st Street at College Avenue	(Claremont)
21. 1 st Street/Huntington Drive at Claremont Boulevard	(Claremont)
22. Arrow Highway at Indian Hill Boulevard	(Claremont)
23. Arrow Highway at College Avenue	(Claremont)
24. Arrow Highway at Claremont Boulevard/Mills Avenue	(Claremont)
25. Claremont Boulevard at 9 th Street	(Claremont)
26. Foothill Boulevard at Project Driveway N	(Claremont)
27. Claremont Boulevard at Project Driveway SW	(Claremont)
28. Monte Vista Avenue at Project Driveway SE	(Upland)
29. Monte Vista Avenue at 1 st Street/Richton Street	(Upland/Montclair)

All twenty-nine (29) intersections and driveways were analyzed under both future weekday and weekend traffic conditions. This analysis recognizes and confirms that the weekday (versus weekend) traffic volume and level of service evaluation govern isolating the greatest non-CEQA impact potential of the Project. This aspect is discussed in more detail later in this report.

Figure 1.1 presents a Vicinity Map, which illustrates the general location of the Project, and locations of the key study intersection and depicts the surrounding street system.

1.2 NON-CEQA TRAFFIC IMPACT ANALYSIS SCENARIOS

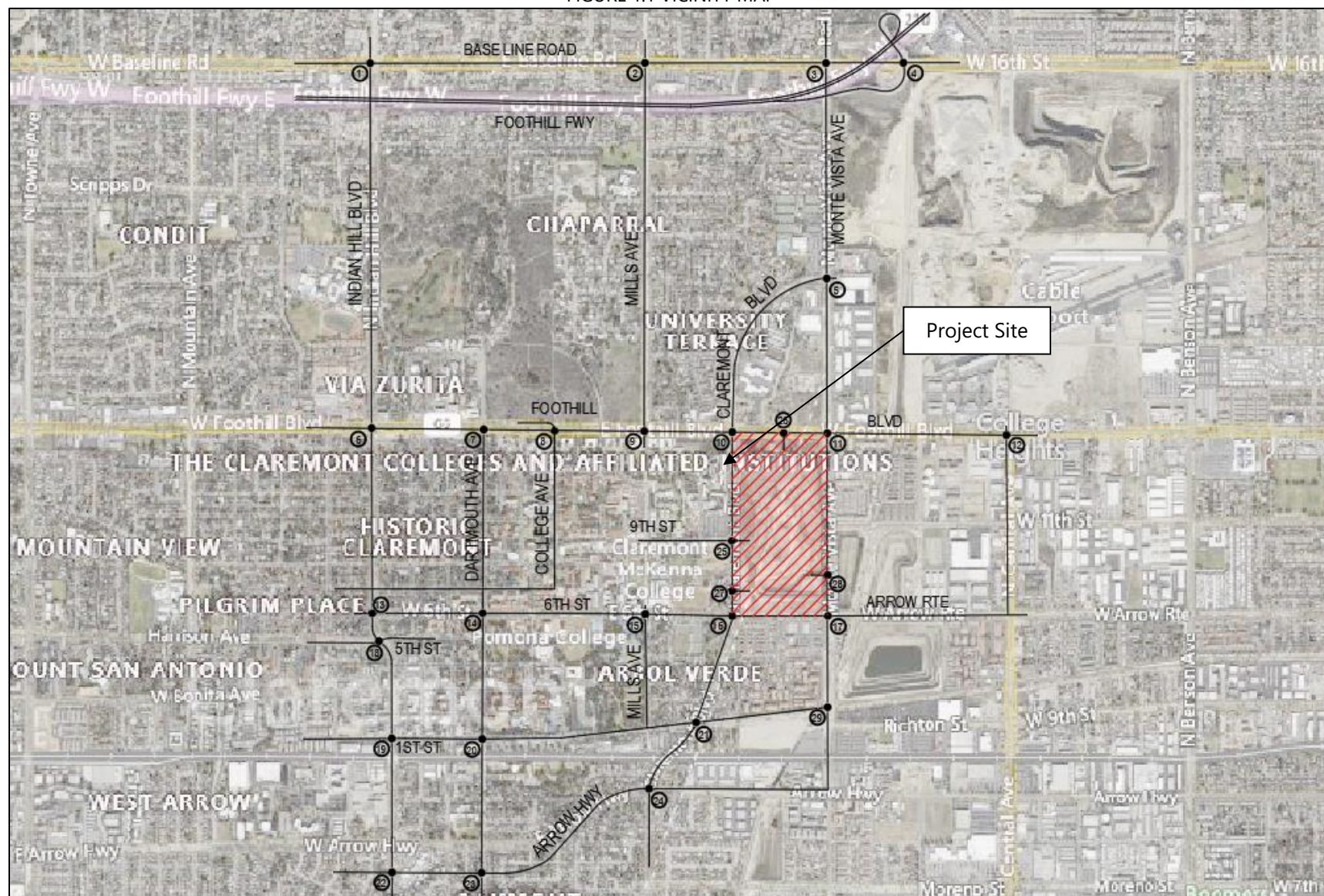
AM and PM peak hour intersection capacity analysis for the twenty-nine (29) key study intersections (including four Project driveways) have been conducted for the following scenarios:

- Existing Year 2023 Traffic Conditions (weekday)
- Existing Year 2023 Traffic Conditions (weekend)
- Opening Year 2027 Without Project Traffic Conditions (Weekday)
- Opening Year 2027 Without Project Traffic (weekend)
- Opening Year 2027 Plus Project Traffic Conditions (weekday)
- Opening Year 2027 Plus Project Traffic Conditions (weekend)
- Horizon Year 2045 Without Project Traffic Conditions (weekday)
- Horizon Year 2045 Without Project Traffic Conditions (weekend)
- Horizon Year 2045 Plus Project Traffic Conditions (weekday)
- Horizon Year 2045 Plus Project Traffic Conditions (weekend)

It should be noted that the weekend scenarios are based on Saturday AM and PM peak-hour traffic counts. The weekend AM peak hour is the sum of the peak consecutive 15 minutes between 10:00 AM and 1:00 PM and coincides with the arrival pattern of scheduled games on the weekend. The weekend PM peak hour is the sum of the peak consecutive 15 minutes between 3:00 PM and 5:00 PM and coincides with the departure pattern of those same games. Twenty-nine intersections around the perimeter of the Project site were analyzed for weekend traffic conditions as discussed in more detail later in this report.

The peak hour Delay/LOS calculations were based on the Highway Capacity Manual (HCM) 6th methodology for signalized and unsignalized intersections and are consistent with the Cities of Claremont and Upland as well as Caltrans capacity analysis methodology. It should be noted that the HCM 6th edition methodology does not support turning movements with shared and exclusive lanes; therefore, the HCM 2000 methodology was used for certain signalized intersections as indicated in this report. The Project's potential for "Non-CEQA traffic impacts" was determined based on the Cities of Claremont and Upland's level of service (LOS) criteria.

FIGURE 1.1 VICINITY MAP



2.0 PROJECT DESCRIPTION AND UTILIZATION

The Roberts Campus East site is bound by Foothill Boulevard on the north, Arrow Route (also known as Sixth Street in the City of Claremont) on the south, Monte Vista Avenue on the east, and Claremont Boulevard on the west. The site is a Class III landfill for inert materials and was formerly (1920 – 1972) used as a sand and gravel quarry. Landfill maintenance, and construction staging and construction-worker-related parking (providing when-needed support for campus construction activities) currently continue on the Project site. The site does not contain permanent structures except for a previously established archery range, which is not currently in use. The Project's primary objective is to provide for the construction of collegiate sports facilities. These facilities will be used by students participating in Claremont McKenna College's collegiate athletic programs. Additional objectives include the following:

- Reclaim the Project site while minimizing environmental impacts;
- Enhance the visual quality of the site and neighborhood;
- Provide additional parking; and
- Provide improved and expanded sports facilities

Figure 2.1 presents the proposed conceptual Site Plan for the Project, which is a revision to the conceptual site plan previously approved for the site in 2016. The proposed conceptual site plan also includes an alternative configuration for certain field house structures. The proposed conceptual site plan (both the primary site plan and the alternate field house configuration) will include fields for baseball, softball, soccer/rugby, football/track/lacrosse, as well three multi-purpose fields for practice activities only, and an area for golf practice. The majority of these fields would be relocated to the Project site from their existing (or former) locations on the CMC campus on the west side of Claremont Boulevard. The southern portion of the proposed development (i.e., Phase 1)—including the baseball, softball, golf, and football/track/lacrosse fields and associated support structures, as well as the surface and structure parking along Claremont Boulevard and tunnel beneath Claremont Boulevard—is slated for completion in December 2025, and potentially in use by June 2026. The northern portion (i.e., Phase 2), which includes the soccer/rugby field and multi-purpose practice fields, is anticipated to be completed by the Year 2027.

As shown in Figure 2.1, the Claremont-Upland city boundary line extends diagonally through the Project site in a northeast/southwest direction, from approximately 220 feet west of Monte Vista Avenue on Foothill Boulevard, to the northeast corner of the intersection of Claremont Boulevard and Arrow Route. This boundary also forms the Los Angeles County-San Bernardino County line, with Los Angeles County and the City of Claremont (29.14 acres) lying to the west, and San Bernardino County and the City of Upland (45.30 acres) lying to the east. The play fields and related facilities shown in the Site Plan Figure 2.1 will provide facilities for Claremont-McKenna College's collegiate athletic programs (Claremont-Mudd-Scripps (CMS) Athletics and Claremont College Club Sports Programs), including practice as well as intercollegiate team play/game venues.

Table 2.1 summarizes the typical characteristics of existing CMS practice or gameplay anticipated to be relocated from the main CMC campus to the Project site. This table reflects information provided by CMS Athletics. As indicated, these are generally all replacement venues. The table also offers insight into the relative schedule, participant totals, and historical spectator levels for each venue based on the empirical experience of CMC and CMS Athletics. From Table 2.1, the indicated weekday CMS event times are universally in the 3:00 – 6:30 PM period or involve limited night play (7:30 PM) start time. Night play is more likely to be in the form of practice, and not involving spectator traffic. These characteristics were carried over to the framing of trip generation analyses for the Project.

FIGURE 2.1 PROPOSED CONCEPTUAL SITE PLAN

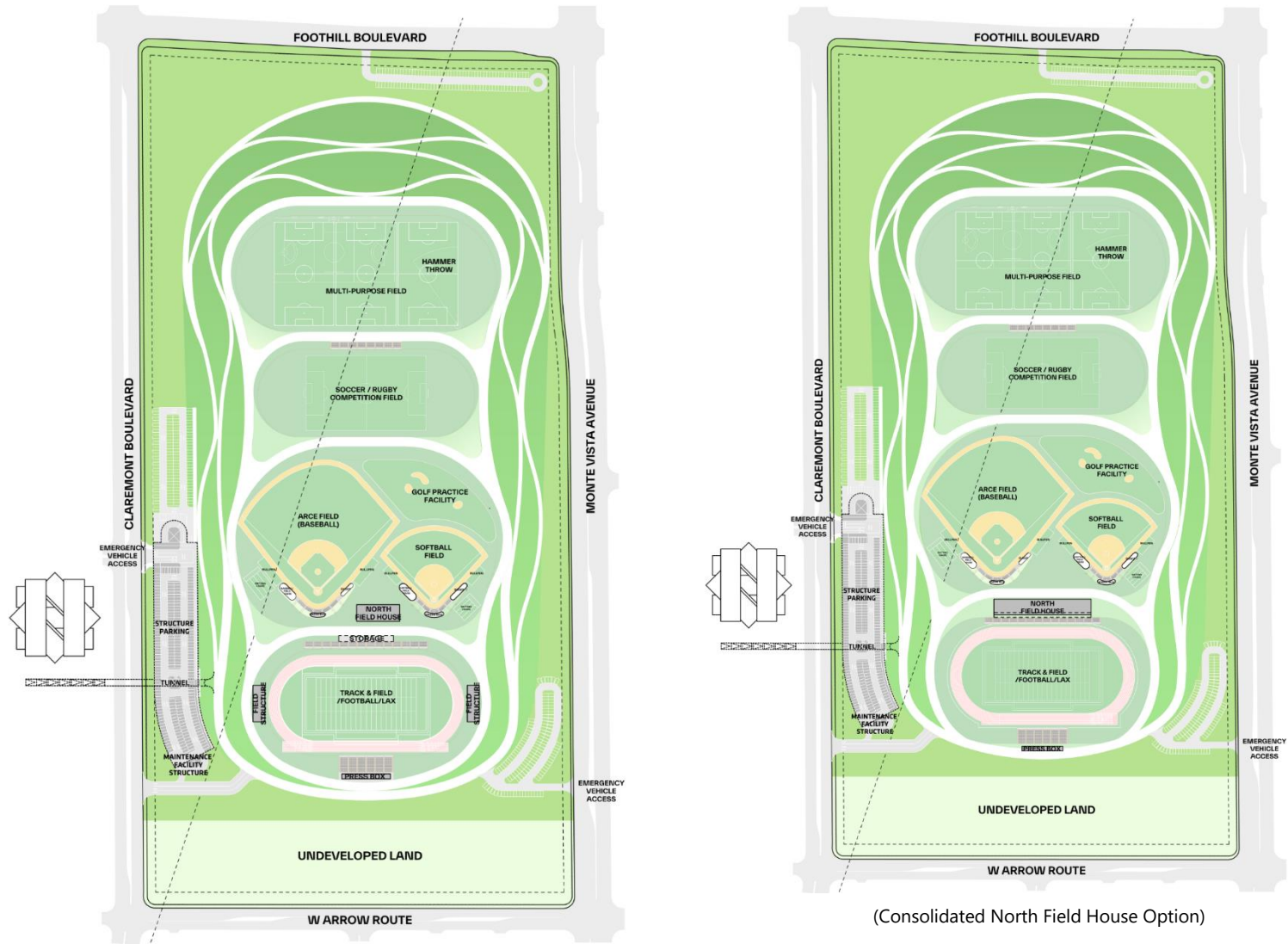


TABLE 2.1 TYPICAL UTILIZATION FOR KEY CMC SPORTS FACILITY VENUES

Facility	Replacement Facility?	Sport Characteristics	Daily Use	Competition Use	Traffic activity
Baseball Facility	Yes. From the west side of Claremont Blvd.	Approximately 19 weeks of practice and competition primarily in the spring. Field lights necessary to support proper practice and game scheduling.	Small group (2-8 SAs) training sessions throughout the day plus 2-3 hour team practices Monday – Thursday. Team practice schedule may vary between “afternoon” 3-6pm and “evening” 6-9pm depending on SA Class Schedules.	Friday afternoon/evening games and/or Saturday double headers February through May. Limited mid-week and Sunday play.	Limited daily driving to practice by staff and students (5-10 vehicles). Spectators - ~ 100 normally, 20-30 cars. Visiting teams travel in buses and Vans, adding another 35 players and coaches.
Softball Facility	Yes. From the west side of Claremont Blvd.	Approximately 19 weeks of practice and competition primarily in the spring. Field lights necessary to support proper practice and game scheduling	Small group (2-8 SAs) training sessions throughout the day plus 2-3 hour team practices Monday – Thursday. Team practice schedule may vary between “morning” 6-9am, “afternoon” 3-6pm, and “evening” 6-9pm depending on SA Class Schedules.	Friday afternoon/evening games and/or Saturday double headers February through May. Limited mid-week and Sunday play.	Limited daily driving to practice by staff and students (4-8 vehicles). Spectators - ~ 100 normally, 20-30 cars. Visiting teams travel in buses and Vans, adding another 25 players and coaches.
Soccer/Rugby Facility	Yes. From the west side of Claremont Blvd.	Approximately 19 weeks of practice and competition primarily in the Fall. Two teams. 30 players and coaches for each gender. Field lights necessary to support proper practice and game scheduling.	Daily 3-10pm to cover both genders practices and competitions.	Wednesday evening games and Saturday day or evening games; occasional double headers with both genders at home.	Limited daily driving to practice by staff and students (4-8 vehicles). Spectators - ~ 100-200 on average; up to 500 for big games, 20-30 cars. Visiting teams travel in buses and Vans, adding another 30 players and coaches.

Multi-Purpose Fields	Yes	To be utilized by varsity teams (LAX, FB, Soccer) during their non-traditional seasons and Club Rugby during the Fall. Some LAX Spring practice based on Track & Field practice schedule to alleviate conflicts there. Football might occasionally utilize grass field to prep for a game on grass.	High usage M-F from 3-10pm—possible morning usage as well.	Could be utilized for club sport competition as well as varsity non-traditional competition.	Limited daily driving to practice by staff and students (10-15 vehicles).
Golf Practice Area	Yes	19 weeks spread between the fall and spring for official team practices and competitions. Individual students will practice and train year round. 10-15 SAs and coaches per gender Lighting preferred to accommodate SA training opportunities.	Small group (2-3 SAs) training sessions throughout the week.	None.	Limited daily driving to practice by staff and students (1-2 cars)
Football/Track & Field	Yes. Current facilities are adjacent to Roberts Pavilion.	<u>Football</u> - Approximately 19 weeks of practice and competition primarily in the Fall. 100 players, coaches, and support staff. Field lights necessary to support proper practice and game scheduling. <u>Track & Field</u> - Approximately 24 weeks of practice and competition in both fall and spring. 100 coaches and staff across both genders Lights necessary to support proper practice and meet scheduling	<u>Football</u> - Team practice Monday – Thursday from 6am – 10am with walk-thrus on Fridays. <u>Track & Field</u> - Event group practices from 6am to 9pm. Event groups range from 5 – 50 student-athletes across both genders.	<u>Football</u> - 4-5 home games on Saturdays in either the afternoon or evening.; game setup begins 4 hours prior to kickoff <u>Track & Field</u> - 4-5 home events per spring season. These are the largest events we host in any year. As many as 400-1000 competitors from a variety of institutions. As many as 50 event staff are required to conduct a large meet.	Limited daily driving to practice by staff and students (10-15 vehicles). Spectators – 800-1000 on average; up to 1500 (T&F: 500-1000 on average; up to 2000 for a very large meet. Most fans do not stay for the entire day but watch specific events.) Visiting teams travel in 3-5 buses, adding another 100-150 players and coaches (T&F: Visiting teams travel in 2-3 buses per teams plus individuals in vans, 150 players & coaches; for Large meets, 8-10 buses plus 25 participant vehicles.) Visiting team support staff will need vehicle access to the field level for equipment and supplies. Need access for on-field ambulance.

PART 2 – NON-CEQA TRANSPORTATION ASSESSMENT

3.0 METHODOLOGY AND THRESHOLDS

3.1 CAPACITY ANALYSIS METHODOLOGIES

3.1.1 Highway Capacity Manual (HCM) Method of Analysis – Signalized Intersections

In conformance with the Cities of Claremont and Upland as well as Caltrans non-CEQA requirements, morning (AM) and afternoon/evening (PM) operating conditions for the key study intersection were evaluated using the Highway Capacity Manual (HCM) 6th methodology for signalized intersections. Based on the HCM operations method of analysis, the level of service for signalized intersections is defined in terms of control delay (in seconds per vehicle), which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of several factors that relate to control, geometries, traffic and incidents. Total delay is the difference between the travel time experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In Chapter 16 of the HCM, only the portion of total delay attributed to the control facility (study intersection) is quantified. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. This is a weighted average in that it considers the individual delay for each movement or group of movements at the intersection and the total traffic volume on each of those movements. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay (seconds per vehicle) value range for signalized intersections are shown in **Table 3.1**.

3.1.2 Highway Capacity Manual (HCM) Method of Analysis – Unsignalized Intersections

The Highway Capacity Manual (HCM) 6th methodology for unsignalized intersections was utilized in the analysis of stop-controlled intersections. For all-way stop-controlled intersections, this methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. The overall average control delay measured in seconds per vehicle and level of service is then calculated for the entire intersection. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance.

For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle, and determines the level of service for that approach. The HCM delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in **Table 3.2**.

3.2 NON-CEQA IMPACT CRITERIA AND THRESHOLD

The LOS standards and impact criteria described below were applied according to each intersection's jurisdiction.

3.2.1 City of Claremont Standards

According to the City of Claremont LOS criteria, LOS D and E are the minimum acceptable conditions that should be maintained during the peak commute hours for secondary and major arterials, respectively.

Based on the City of Claremont's General Plan, Monte Vista Avenue, Foothill Boulevard, Base Line Road, and Arrow Highway are designated as Major Arterials, indicating that the minimum LOS at the intersections located along each of these four roadways must be LOS E or better. Indian Hill Boulevard, Mills Avenue, Claremont Boulevard, First Street/Huntington Drive are designated as Secondary Arterials, indicating that the minimum LOS at the intersections located along these roadways must be LOS D or better. In addition, Sixth Street (east of Harvard Avenue), Harrison Avenue/Fifth Street (west of Harvard Avenue) and College Avenue are designated as a Collector Roadway, indicating that the minimum LOS at the intersections located along these roadways must be LOS D or better.

On that basis, the following Claremont intersections must operate at Level of Service E or better with the inclusion of Project trips:

- | | |
|---|------------------------------------|
| 1. Base Line Road at Indian Hill Boulevard | (Claremont) |
| 2. Base Line Road at Mills Avenue | (Claremont) |
| 3. Base Line Road at Monte Vista Avenue/Padua Avenue | (Claremont) |
| 4. Base Line Road at I-210 Ramps | (Claremont/Caltrans ³) |
| 6. Foothill Boulevard at Indian Hill Boulevard | (Claremont) |
| 7. Foothill Boulevard at College Avenue | (Claremont) |
| 8. Foothill Boulevard at Dartmouth Avenue | (Claremont) |
| 9. Foothill Boulevard at Mills Avenue | (Claremont) |
| 10. Foothill Boulevard at Claremont Boulevard | (Claremont) |
| 22. Arrow Highway at Indian Hill Boulevard | (Claremont) |
| 23. Arrow Highway at College Avenue | (Claremont) |
| 24. Arrow Highway at Claremont Boulevard/Mills Avenue | (Claremont) |

Further, the following Claremont intersections must operate at Level of Service D or better with the inclusion of Project trips:

- | | |
|---|-------------|
| 7. Foothill Boulevard at College Avenue | (Claremont) |
| 8. Foothill Boulevard at Dartmouth Avenue | (Claremont) |
| 13. 6 th Street at Indian Hill Boulevard | (Claremont) |
| 14. 6 th Street at College Avenue | (Claremont) |
| 15. 6 th Street at Mills Avenue | (Claremont) |
| 18. Harrison Avenue/5 th Street at Indian Hill Boulevard | (Claremont) |
| 19. 1 st Street at Indian Hill Boulevard | (Claremont) |
| 20. 1 st Street at College Avenue | (Claremont) |
| 25. Claremont Boulevard at 9 th Street | (Claremont) |

³ Refer to Section 3.2.3 for more information regarding jurisdictional requirements

The City of Claremont's performance criteria⁴ further stipulates that:

- If the intersection currently operates at a deficient LOS, the existing LOS shall be maintained.
- When an acceptable LOS cannot be maintained with a proposed development, improvements or other measures should be required to meet the City's standards. Such improvements or measures could include traffic signal improvements, additional turning, and merging lanes, and/or changes to the Project.

3.2.2 City of Upland Standards

For the study intersections in the City of Upland, LOS D is the minimum acceptable condition that should be maintained during peak commute hours. Hence any of the study intersections within the City of Upland's jurisdiction operating at LOS E or F is considered deficient/unsatisfactory. The following locations are subject to this standard:

11. Foothill Boulevard at Monte Vista Avenue	(Upland)
12. Foothill Boulevard at Central Avenue	(Upland)
16. 6 th Street/Arrow Route at Claremont Boulevard	(Upland)
17. Arrow Route at Monte Vista Avenue	(Upland)
28. Monte Vista Avenue at Project Driveway SE	(Upland)
29. Monte Vista Avenue at 1 st Street/Richton Street	(Upland/Montclair)

The City of Upland standards are silent on those situations where the background (no Project) condition exceeds the LOS D standard, and where the Project adds measurable traffic resulting in no change in the background LOS, but where the delay calculation may be affected. In those instances, consistent with other professional practices, the following interpretation has been applied:

- A measurable increase in intersection delay of less than one second/vehicle, at locations where the background condition exceeds LOS D, is not considered unacceptable and is consistent with the applicable standard.
- An increase in delay of one second/vehicle or more, at locations where the background condition exceeds LOS D, is considered unacceptable and inconsistent with the applicable cumulative standard.

In either case, as long as LOS D is exceeded, and a measurable change in the delay is forecast, a fair-share Project contribution has been calculated.

3.2.3 Regional and State Regulatory Standards

Southern California Association of Governments (SCAG)

The Southern California Association of Governments (SCAG) develops the Regional Transportation Plan (RTP), which presents the transportation vision for Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura Counties. Senate Bill 375 (SB 375) was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing and

⁴ Source: Claremont General Plan, Chapter 4: Community Mobility Plan

environmental planning. Under the law, SCAG is tasked with developing a Sustainable Communities Strategy (SCS), a newly required element of the Regional Transportation Plan (RTP) that provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board.

The governing RTP/SCS (2020-2045) applicable to the Project, known as the "Connect SoCal 2020" Plan, was finalized and approved in September 2020. The Connect SoCal Plan presents the land use and transportation vision for the region through the year 2045, providing a long-term investment framework for addressing the region's challenges.

Connect SoCal 2020 also served as an update its predecessor, the 2016 RTP/SCS, to identify priorities for transportation planning within the Southern California region, set goals and policies, and identify performance measures for transportation improvements to ensure that future projects are consistent with other planning goals for the area. The RTIP, also prepared by SCAG based on the RTP, lists all of the regional funded/programmed improvements within a seven-year look-ahead timeframe.

County of San Bernardino Congestion Management Program (CMP) (for City of Upland facilities)

To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, Proposition 111 created the Congestion Management Program (CMP) in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. Included with the provision for additional transportation funding was a requirement to undertake a Congestion Management Program (CMP) within each county with an urbanized area having a population of 50,000 or more, to be developed and adopted by a designated Congestion Management Agency (CMA). In 1990 the San Bernardino Associated Governments (SANBAG) was designated the CMA for San Bernardino County.

Although implementation of the CMP was made voluntary by the passage of AB 2419 (Bowler, 1996), the CMP requirement has been retained in all five urban counties within the SCAG region. In addition to its value as a transportation management tool, CMPs have been retained in these counties because of the Federal Congestion Management Process requirement that applies to all large urban areas that are not in attainment of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the Regional Agency (SCAG).

The LOS at each CMP location is monitored by local jurisdictions in order to implement the statutory requirements of the CMP. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan to meet conformance standards outlined by the countywide plan. The local CMP requires that a TIA report be prepared when a project's trip generation exceeds 250 two-way peak-hour trips. For the CMP roadway system, the LOS standard shall be E for all segments and intersections except those designated LOS F, as listed in Table 2-1 of the CMP (SANBAG 2016). However, per SB 743, LOS is no longer considered an environmental impact under CEQA.

County of Los Angeles Congestion Management Program (for City of Claremont facilities)

In Los Angeles County, the Los Angeles County Metropolitan Transportation Authority (Metro) is the designated CMA and is responsible for implementing the CMP. In 2018, Metro's Board approved to opt

out of the state's CMP program due to its framework that is grounded to the idea that congestion can be mitigated by continuing to add capacity to roadways. This is evidenced by the primary metric that drives the CMP program, which is LOS. Recent state laws and rulemaking, namely AB 32 (California Global Warming Solutions Act of 2006), SB 375 (Sustainable Communities and Climate Protection Act of 2008), SB 743 (Environmental quality: transit oriented infill projects, judicial review streamlining for environmental leadership development projects) and SB 32 (California Global Warming Solutions Act of 2006), all move away from LOS directly or indirectly.

Therefore, as the CMP primarily uses the LOS performance metric and these key state policies move towards other metrics such as VMT, the CMP contradicts these key state policies and Metro's own efforts to promote a more sustainable and equitable region. As stated in the June 25, 2019, Congestion Management Program Opt-Out Status Report, the decision to opt out of the CMP is not a unilateral decision made by Metro but a collective, majority decision of Metro and all 89 local jurisdictions in Los Angeles County (METRO 2019). The opting out of the CMP applies to Metro and all Los Angeles County local jurisdictions.

County of Los Angeles Public Works Department

Additionally, the County of Los Angeles Department of Public Works Board of Supervisors elected to be exempt from the CMP, pursuant to the California Code Section 65088.3. The resolution was adopted on July 16, 2019 and allows "the region to use different performance measures consistent with State-mandates to determine roadway deficiencies and ensure adequate planning" (County of Los Angeles 2019).

California Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which created a process to change the way that transportation impacts are analyzed under California Environmental Quality Act (CEQA). SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. Under the new guidelines, VMT has been adopted as the most appropriate measure of transportation impacts under CEQA. The OPR's regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by July 1, 2020.

California Department of Transportation (Caltrans)

As the owner and operator of the State Highway System, the State of California Department of Transportation (Caltrans) implements established state planning priorities in all functional plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. Pursuant to Section 21092.4 of the Public Resources Code (PRC), for projects of statewide, regional, or area-wide significance, the lead agency shall consult with transportation planning agencies and public agencies that have transportation facilities which could be affected by the project.

In anticipation of SB 743 implementation, Caltrans released the Draft Transportation Impact Study Guide (TISG) in February 2020, replacing the 2002 Guide for the Preparation of Traffic Impact Studies. Under the former 2002 guidance, a traffic impact study was required by Caltrans when a project generates and assigns over 100 peak hour trips to a state highway facility; or if the project generates and assigns 50 to 100 peak hours trips to a state highway facility causing the facility to approach LOS C or D; or 1 to 49 peak hour trips are generated and assigned to a state highway facility causing it to experience significant congestion (LOS E or F), increased risk for traffic collisions, or affect access to the facility (Caltrans 2002).

Per the 2020 TISG, Caltrans' primary review focus is now VMT, replacing LOS as the metric used in CEQA transportation analyses. Caltrans recommends use of OPR's recommended thresholds for land use projects and recommends following the guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018). Refer to Section 9 of this Traffic Impact Analysis for an impact analysis and summary of the applicable VMT thresholds pertaining to the Project.

In addition to VMT, the 2020 TISG also states that Caltrans may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the State Highway System and connections with the State Highway System. Caltrans also notes that a future update of the TISG will include the basis for requesting transportation impact analysis not based on VMT and define elements to be included in non-VMT analysis. At the time of this study, this update has not been released; however, in order to provide a reasonable evaluation of the Project's potential traffic volume effects on State highway facilities in anticipation of Caltrans' forthcoming input, the I-210 interchange intersection with Baseline Road (i.e., Study Intersection #4) was added to the study area.

As detailed in latter sections of this report, the analysis included queuing and (non-CEQA) level of service (LOS) analyses for the intersection of Base Line Road at the I-210 On/Off-Ramps, and an evaluation of potential operational issues to address through recommended transportation improvements. Based on the Project volume forecasts presented in Figures 5.4 and 5.5, those impacts for the critical Weekday–Game Day condition represent no more than 26 vehicles travelling the SR-210 interchange intersection at Baseline Road during the weekday (Game Day) peak hour. Other more distant locations, including those in the I-10 corridor, would experience similar or lesser volume additions and impacts, and thus were not included in the key intersection locations listed in the traffic analysis scoping agreement (MOU).

TABLE 3.1 LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS⁵

Level of Service (LOS)	Control Delay Per Vehicle (seconds per vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35.0 and ≤ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

TABLE 3.2 LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS⁶

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Value (seconds per vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

⁵ Source: Highway Capacity Manual 6th Edition, Chapter 16 (Signalized Intersections).

⁶ Source: Highway Capacity Manual 6th Edition, Chapter 17 (Unsignalized Intersections).

4.0 EXISTING CONDITIONS

Regional access to the Project site is provided by the San Bernardino/Foothill Freeway (I-10) on the North and the State Route 210 (SR-210) Freeway on the South. Brief descriptions of these highways and other roadways within the study area are provided below.

4.1 EXISTING STREET NETWORK

4.1.1 Freeways

State Route 210 (SR-210) is an east/west oriented freeway, extending through Los Angeles and San Bernardino Counties, connecting Claremont with the neighboring communities. In the Project vicinity, four mainline travel lanes are provided in the eastbound direction and three mainline travel lanes are provided in the westbound direction. HOV lanes are also provided adjoining the median of SR-210 Freeway. In the Project vicinity, eastbound and westbound ramps are provided on the SR-210 Freeway at Baseline Road (east of Monte Vista Avenue/Padua Avenue) and at Towne Avenue. These are located approximately one-mile northeast of the Project and three miles northwest of the Project site, respectively.

4.1.2 Roadways

1. Claremont Boulevard

Claremont Boulevard is a four-lane, divided roadway oriented in the north/south direction. According to the City of Claremont's General Plan, Claremont Boulevard is classified as a secondary arterial. Parking is generally permitted on both sides of Claremont Boulevard. Claremont Boulevard is posted with a speed limit of 45 miles per hour in the Project vicinity. Claremont Boulevard provides Class II bicycle facilities. On-street parking is permitted within or adjoining bike lanes, depending on the location along Claremont Boulevard. It should be noted that in the future the City of Claremont may remove the on-street parking that is currently located within the bike lanes along Claremont Boulevard since the street lacks sufficient right of way for separate parking and bike lanes, particularly north of Ninth Street.

2. Monte Vista Avenue

Monte Vista Avenue is a six-lane public roadway, divided by a raised median, which extends in the north/south direction. According to the City of Upland's General Plan, Monte Vista Avenue is classified as a secondary arterial. Parking is not permitted on either side of this roadway. North of Arrow Route, the posted speed limit is 45 miles per hour. South of Arrow Route, the speed limit is 35 miles per hour. Monte Vista Avenue provides Class II bicycle facilities.

3. Foothill Boulevard

Foothill Boulevard is a four-lane, divided public roadway, oriented in the east/west direction. It is located north of the Project site. According to the City of Claremont's General Plan, Foothill Boulevard is classified as a major arterial. Parking is typically restricted on either side of this roadway within the vicinity of the Project but is permitted adjoining Harvey Mudd College. West of Monte Vista Avenue, the posted speed limit on Foothill Boulevard is 40 mph. East of Monte Vista Avenue, the speed limit is 45 mph. It should be noted that with a unanimous vote of approval by the Claremont City Council in May 2012, Foothill Boulevard, from Towne Avenue to the County line (near Monte Vista Avenue), has been acquired from Caltrans and is now under the jurisdiction of the City of Claremont.

4. Ninth (9th) Street

Ninth Street in the Project area extends westward from Claremont Boulevard to Mills Avenue as a two-lane public roadway. It primarily serves the eastern campuses of Claremont Colleges. The Project will construct and align an east intersection leg (Driveway 3) to the Claremont Boulevard at Ninth Street intersection as its Project access and install a traffic signal at this location as part of the Project's development.

5. Sixth (6th) Street

Sixth Street west of Claremont Boulevard and within the City of Claremont is a public two-lane, undivided roadway oriented in the east/west direction. East of Claremont Boulevard, Sixth Street is known as Arrow Route, a four-lane roadway divided by a raised median. According to the City of Claremont's General Plan, Sixth Street is classified as a collector roadway. West of College Avenue, parking is permitted on both sides of the roadway. East of College Avenue, parking is not permitted on either side of the roadway and Class II (on-street) bike lanes are provided instead. The speed limit is 35 miles per hour between Mills Avenue and Claremont Boulevard, and 30 miles per hour between College Avenue and Mills Avenue.

6. Arrow Route

The Arrow Route is oriented in an east/west direction. West of Monte Vista Avenue, Arrow Route has been improved to a four-lane section by the adjoining College Park commercial center along the roadway's south edge, and a signal installed at the center's access intersection (College Park Drive). A westbound left-turn pocket provides for entry to the College Park project. The College Park project also implemented intersection improvements at the Claremont Boulevard and Monte Vista Avenue intersections with Arrow Route. Those improvements are reflected in the inventories and analyses of this study. The posted speed limit on Arrow Route is 45 mph. West of Claremont Boulevard, Arrow Route becomes Sixth Street. The Upland General Plan Circulation Element and the Upland Bicycle and Pedestrian Facilities Master Plan designate Arrow Route as a Class II/III bike route.

7. First (1st) Street

First (1st) Street is oriented in the east/west direction. First Street, east of College Avenue, consists of two travel lanes with Class II bike lanes, which are part of the Citrus Regional Bikeway, and a two-way left-turn lane. Parking is permitted on the north side of First Street, east of College Avenue, and on the south side of First Street east of Columbia Avenue. Parking is not permitted on the south side of First Street, between College Avenue and Columbia Avenue. According to the City of Claremont's General Plan, First Street is classified as a secondary arterial roadway east of Indian Hill Boulevard. The posted speed limit on First Street is 40 mph.

8. Indian Hill Boulevard

Indian Hill is a two-lane, divided public roadway oriented in the north/south direction. According to the City of Claremont's General Plan, Indian Hill Boulevard is classified as a secondary arterial. Indian Hill Boulevard provides Class II bicycle facilities between Baseline Road and Butler Court. Class II bicycle facilities include a striped bike lane within the roadway cross-section. Parking is prohibited on both sides of Indian Hill Boulevard at the Foothill Boulevard intersection. Indian Hill Boulevard is posted for a speed limit of 30 miles per hour in the Project vicinity.

9. College Avenue

College Avenue is a two-lane, undivided public roadway oriented in a north/south direction. Parking is typically permitted on both the sides of College Avenue. The posted speed limit on College Avenue is 30 miles per hour north of Sixth Street and 25 miles per hour south of Sixth Street. With the exception of a Class III "sharrow" (indicating a shared lane for vehicles and bikes) between Sixth Street and Bonita Avenue, College Avenue provides Class II bicycle facilities. According to the City of Claremont's General Plan College Avenue is classified as a collector roadway.

10. Mills Avenue

Mills Avenue is a two-lane, divided roadway oriented in the north/south direction. It extends from Foothill Boulevard northward, where the City of Claremont's General Plan designates it as a secondary arterial. On-street parking is permitted on both sides, and the posted speed limit is 40 miles per hour. Mills Avenue provides Class II bicycle facilities. Parallel parking is provided at both curbs in that segment.

11. Central Avenue

Central Avenue is a four-lane, divided roadway, which extends in the north/south direction. It is located east of the Project site in the City of Upland. Parking is not permitted on either side of this roadway within the vicinity of the Project. The posted speed limit is 40 miles per hour.

12. Baseline Road

Baseline Road is a four-lane public roadway which extends in an east/west direction. It is located north of the Project site. According to the City of Claremont's General Plan, Baseline Road is classified as a major arterial. Parking is not permitted on either side of this roadway within the vicinity of the Project. The posted speed limit on Baseline Road is 40 mph. Baseline Road provides Class II bicycle facilities.

13. Harrison Avenue / Fifth Street

Harrison Avenue/Fifth (5th) Street is a two-lane, undivided public roadway oriented in the west/east direction. According to the City of Claremont's General Plan, Harrison Avenue/Fifth Street is classified as a collector roadway. Parking is generally permitted on both sides of this roadway within the vicinity of the Project. The prima facie speed limit on Harrison Avenue/Fifth Street is 25 mph.

14. Arrow Highway

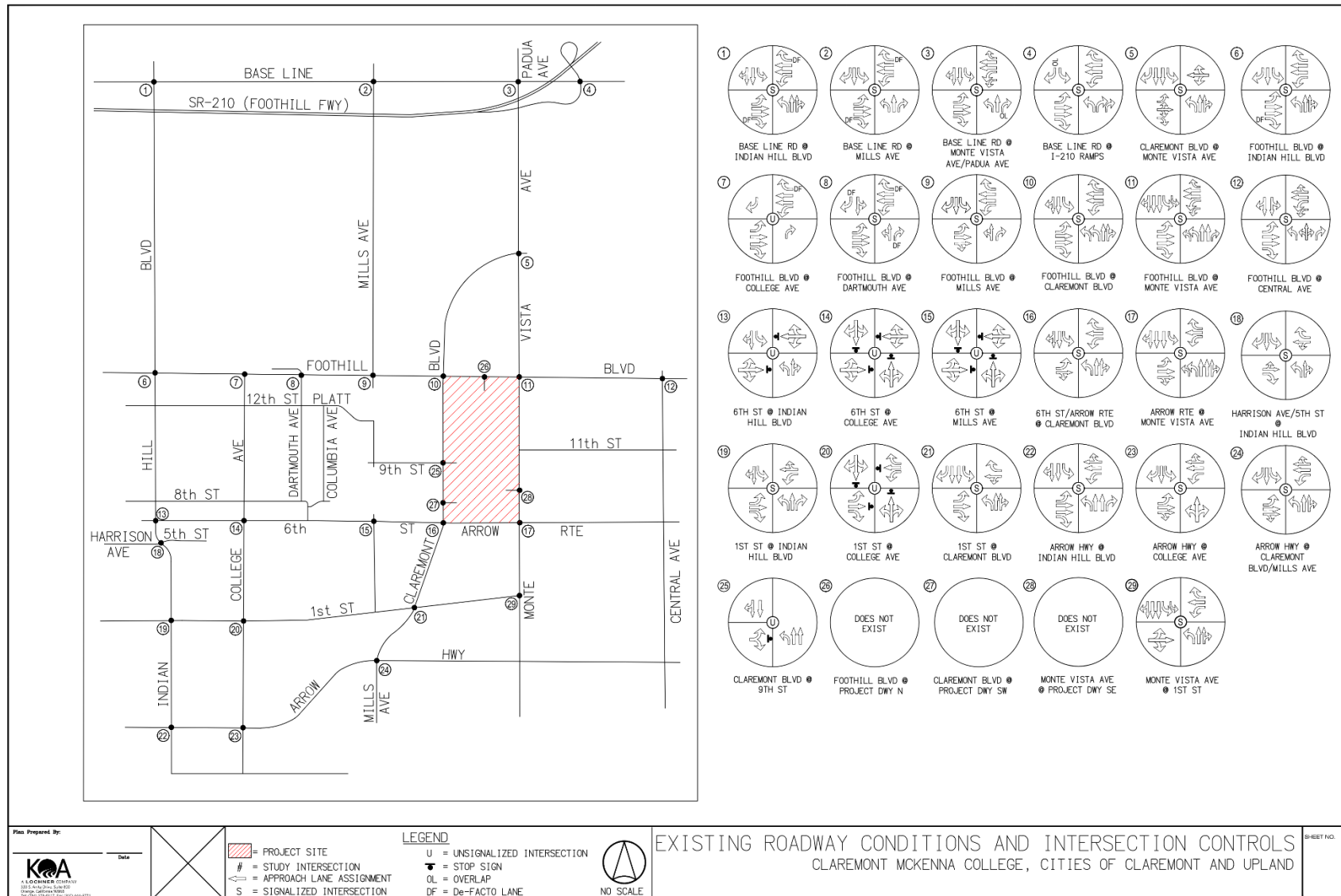
Arrow Highway is oriented in the east/west direction. According to the City of Claremont's General Plan, Arrow Highway is classified as a secondary arterial roadway. Parking is generally permitted on both sides of this roadway within the vicinity of the Project. The posted speed limit on Arrow Highway is 40 mph.

15. Dartmouth Avenue

Dartmouth Avenue is a two-lane, undivided public roadway oriented in the north/south direction. According to the City of Claremont's General Plan, Dartmouth Avenue is classified as a local roadway. Parking is not permitted on both side of Dartmouth Avenue within the vicinity of the Project. The prima facie speed limit on Dartmouth Avenue is 25 mph.

Figure 4.1 illustrates the existing traffic controls and approach lane geometries at the study intersections.

FIGURE 4.1 EXISTING INTERSECTION GEOMETRY



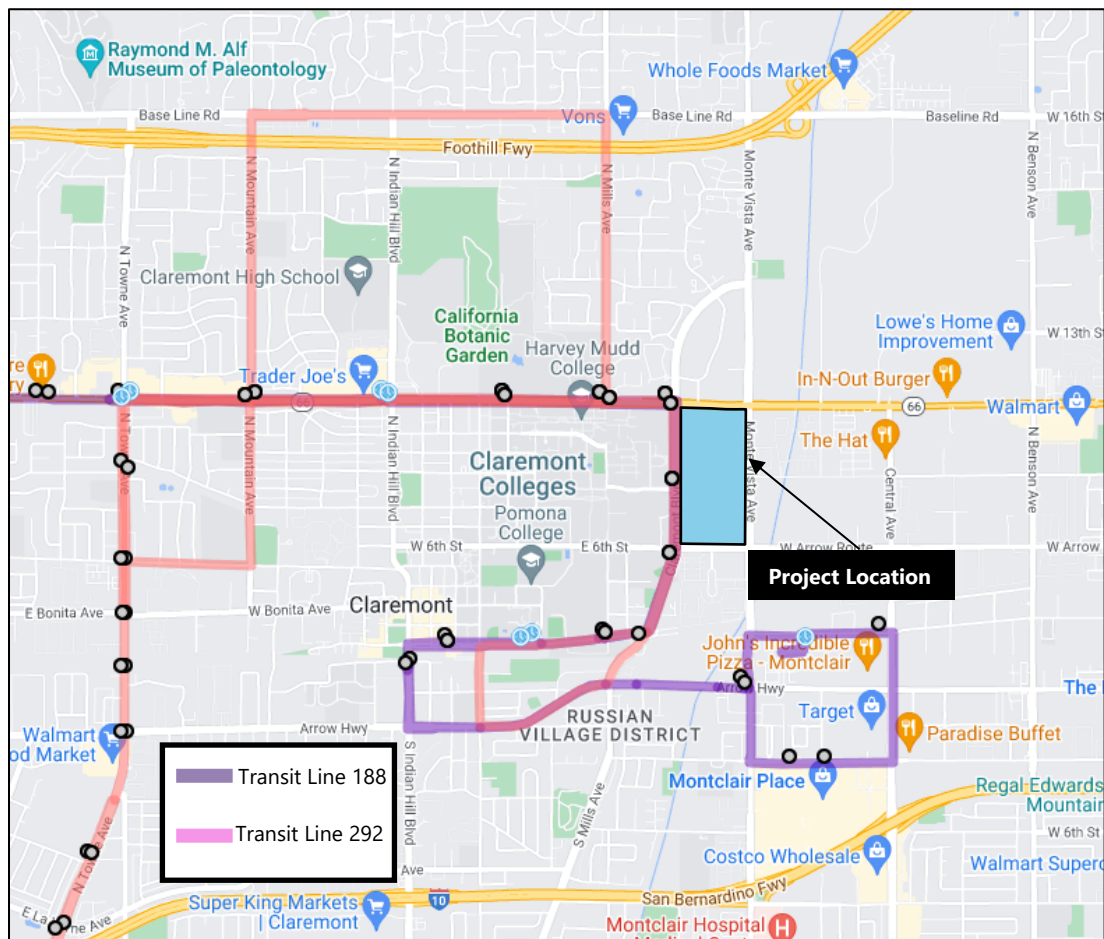
4.2 EXISTING PUBLIC TRANSIT

Table 4.1 provides a description of the public transit lines that operate within the study area. These bus lines are those that are within a “reasonable walking distance” (approximately one-half mile) of the Project site. The existing transit service serving the study area is depicted in **Figure 4.2**.

TABLE 4.1 EXISTING TRANSIT SERVICE SUMMARY

Agency	Line	From	To	Via	Peak-Hour Frequency
Foothill Transit	188	Azusa	Montclair Transit Center	Claremont Blvd	20 min
Foothill Transit	292	Claremont Transit Center	Pomona Transit Center	Foothill Blvd / Claremont Blvd	60 min

FIGURE 4.2 EXISTING TRANSIT



4.3 EXISTING TRAFFIC VOLUMES

4.3.1 Peak Hour Intersection Traffic Counts

Eight-hour turning movement traffic volumes were collected at twenty-one (21) existing signalized intersections and five (5) unsignalized intersections. The data was collected on Tuesday, October 22, 2022 (Weekdays) between the hours of 7 AM-9 AM (AM peak period), and 4 PM-6 PM (PM peak period) for only perimeter intersections of the Project. The other intersection data was collected on Thursday, April 13, 2023 (Weekdays) and Thursday, January 25, 2024, between the same time duration as mentioned above. The data was collected on Saturday, October 1, 2022 (Weekend) between the hours of 11 AM-1:30 PM (AM peak period), and 3 PM-5 PM (PM peak period) for only perimeter intersections of the Project. The other intersection data was collected on Saturday, April 15, 2023 (Weekend), and Saturday, January 27, 2024, between the same duration as mentioned above. The counts were performed to gain insight as to the existing variation in daily weekday versus weekend traffic due to the presence (and number) or lack of scheduled events. All traffic volume data was adjusted to reflect an "Existing Year" baseline Year of 2023.

Intersection turning movement traffic counts (TMCs) at key intersections focus on the peak hours of the street system, and cover a minimum continuous four-hour period per day (i.e., 2 hours in the AM, and 2 hours in the PM). TMCs are counted for each through-moving and turning maneuver, on each approach of the intersection. This data is used to identify the peak 60-minute traffic volume demand at each intersection location, and is further isolated in the traffic model by 15-minute peak factors to identify the critical volume combinations that travel through that intersection in a single hour. The manual TMC counts were collected on typical Tuesdays, Wednesdays and Thursdays during normal non-holiday weeks, when the local colleges were in session, and during times when no construction activities were present which could otherwise skew the traffic volume data. Monday and Friday counts are typically avoided since they tend to be "less normal", and are probably subject to variations in motorist individual schedules, including 4-day work weeks, "Work From Home" schedules, flextime, etc.

The 26 key study intersections were identified for evaluation based on the Cities of Claremont and Upland criteria, discussions with each City's staff and their peer review traffic consultants, and overall knowledge of the area-wide circulation system. It should be noted that additional intersections located within the City of Montclair were originally considered for analysis; however, those candidate intersections were ultimately not included in the TIA because they failed to meet or exceed the practiced 50-trip analysis threshold. The Existing Year weekday AM and PM peak hour traffic turn movement volumes are illustrated in **Figures 4.3 and 4.4**. These volumes represent the highest consecutive four 15-minute count volumes from the collected morning and afternoon/evening count periods.

Since the Project's Game Day activities are anticipated to also occur during the weekend, existing traffic volumes at each of the signalized and unsignalized study intersections were collected on typical mid-day (MD) and PM peak-hour Saturday periods. **Figures 4.5 and 4.6** present the existing MD and PM turning movement traffic volumes for each study intersection during the anticipated Game Day hours for Saturday games.

Appendix A contains detailed intersection traffic count data.

FIGURE 4.3 EXISTING YEAR 2023 (WEEKDAY) TRAFFIC VOLUMES – AM PEAK HOUR

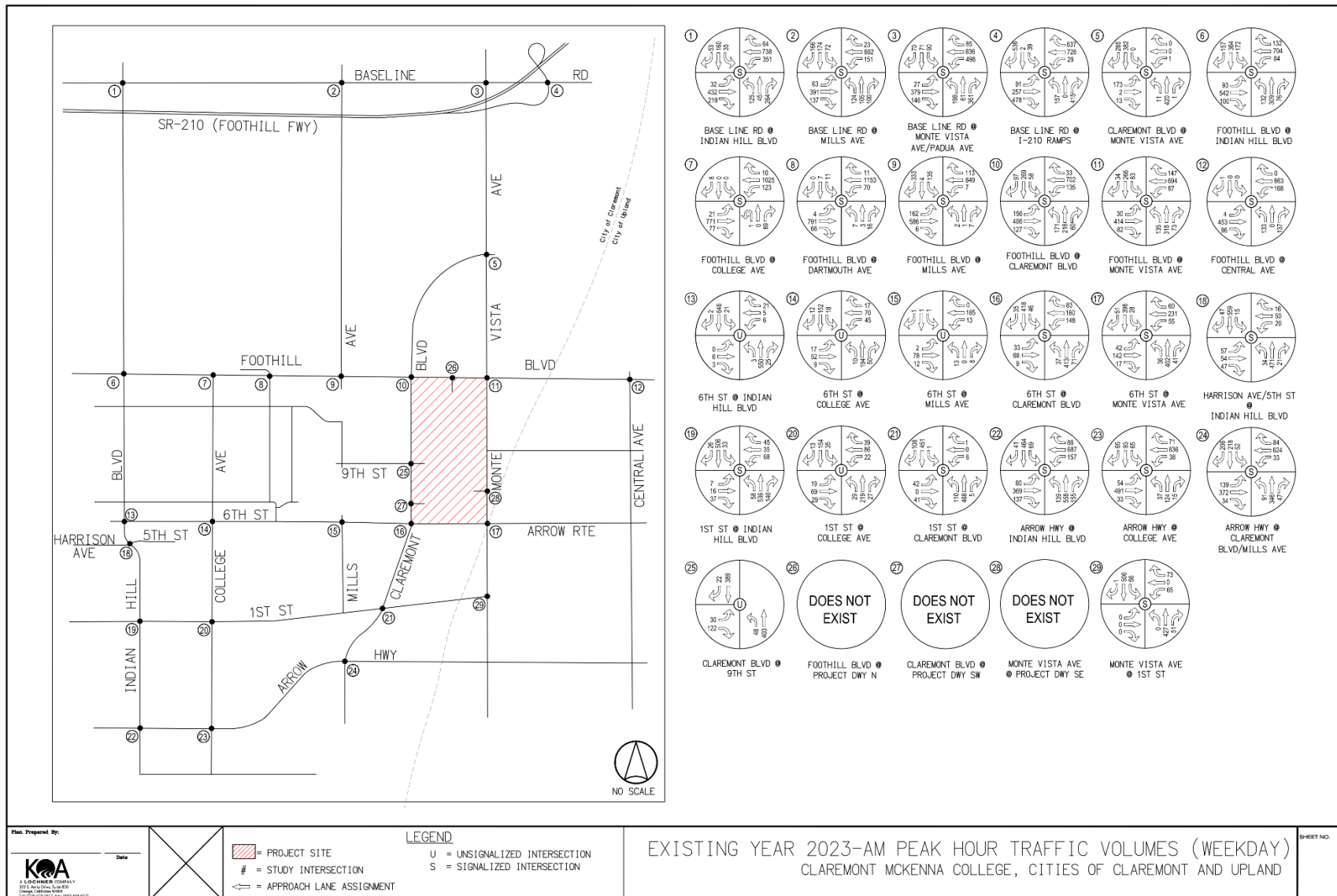


FIGURE 4.4 EXISTING YEAR 2023 (WEEKDAY) TRAFFIC VOLUMES – PM PEAK HOUR

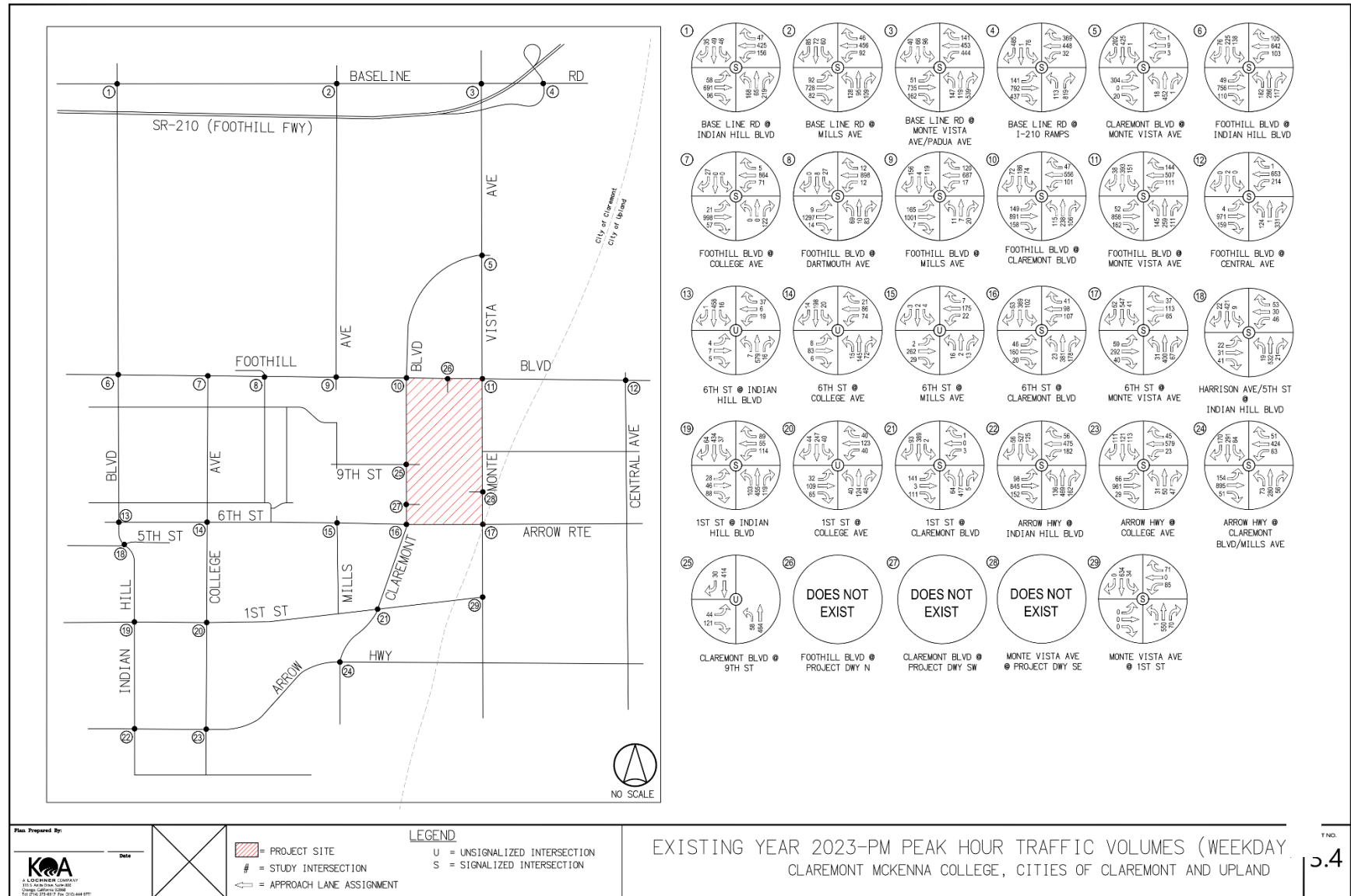


FIGURE 4.5 EXISTING YEAR 2023 (WEEKEND) TRAFFIC VOLUMES – MID-DAY PEAK HOUR

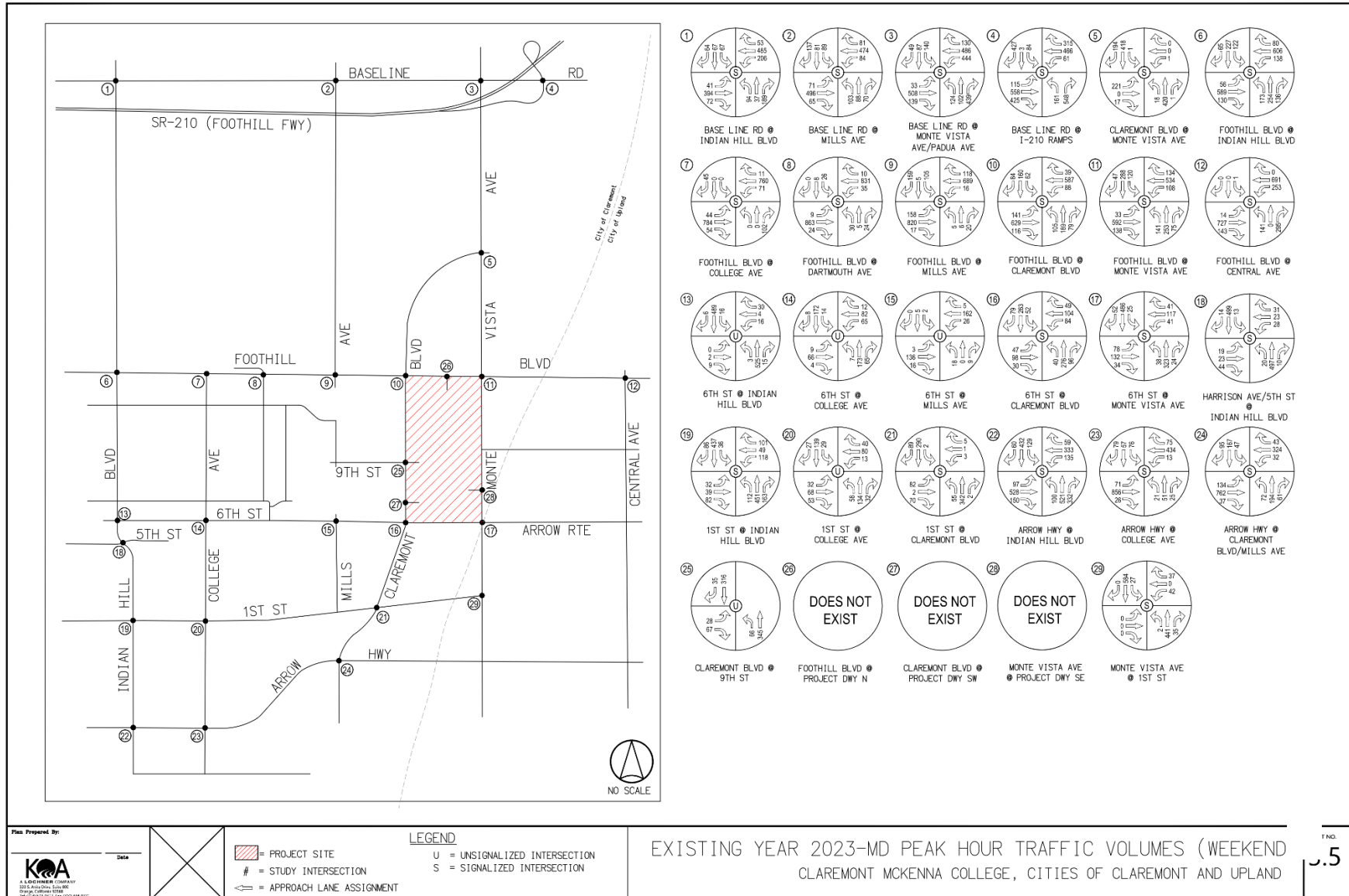
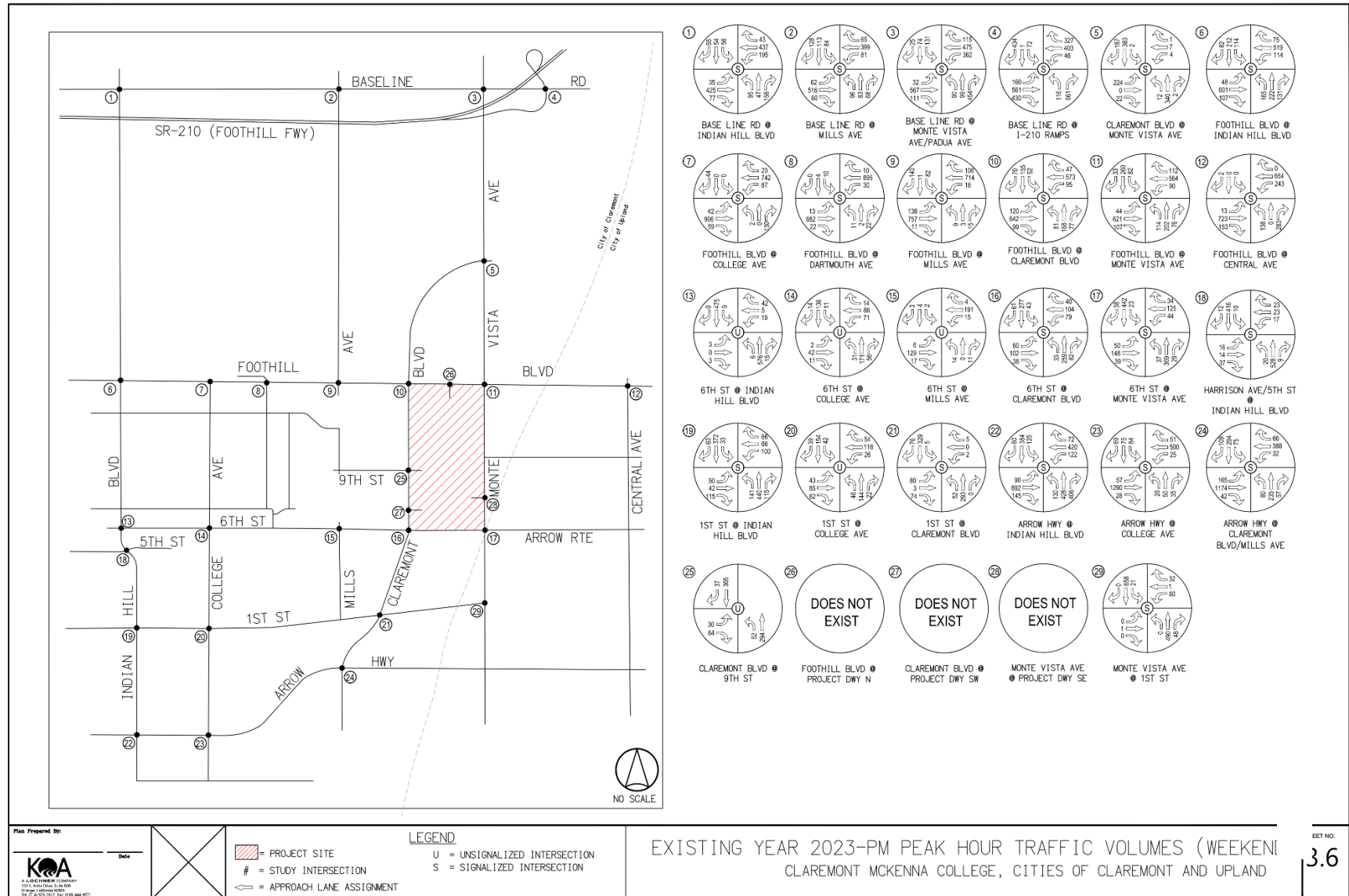


FIGURE 4.6 EXISTING YEAR 2023 (WEEKEND) TRAFFIC VOLUMES – PM PEAK HOUR



4.3.2 Existing Roadway Segment Volumes

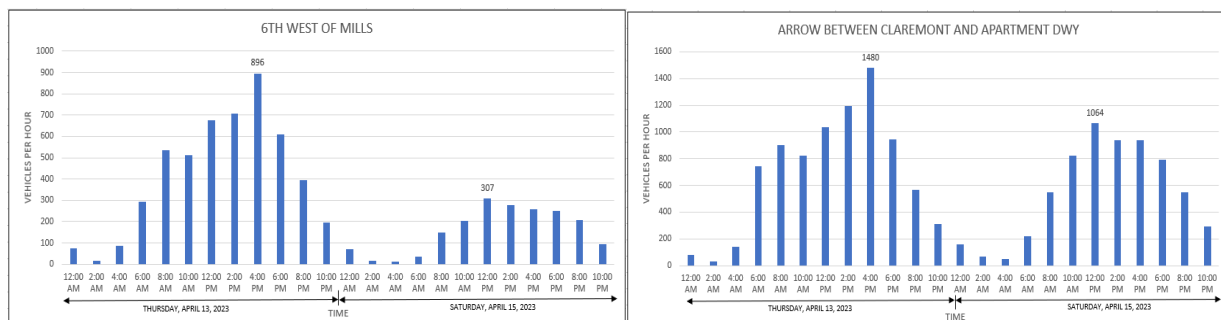
24-hour (daily) roadway traffic volume counts were collected at eleven (11) mid-block locations within close proximity to the Project site, as listed in **Figure 4.7.1** below. The daily roadway traffic volume counts were collected on Thursday, April 13, 2023; Saturday, April 15, 2023; Thursday, January 25, 2024; and Saturday, January 27, 2024. The counts were performed to gain insight as to the existing variation in daily weekday versus weekend traffic due to the presence or lack of scheduled events.

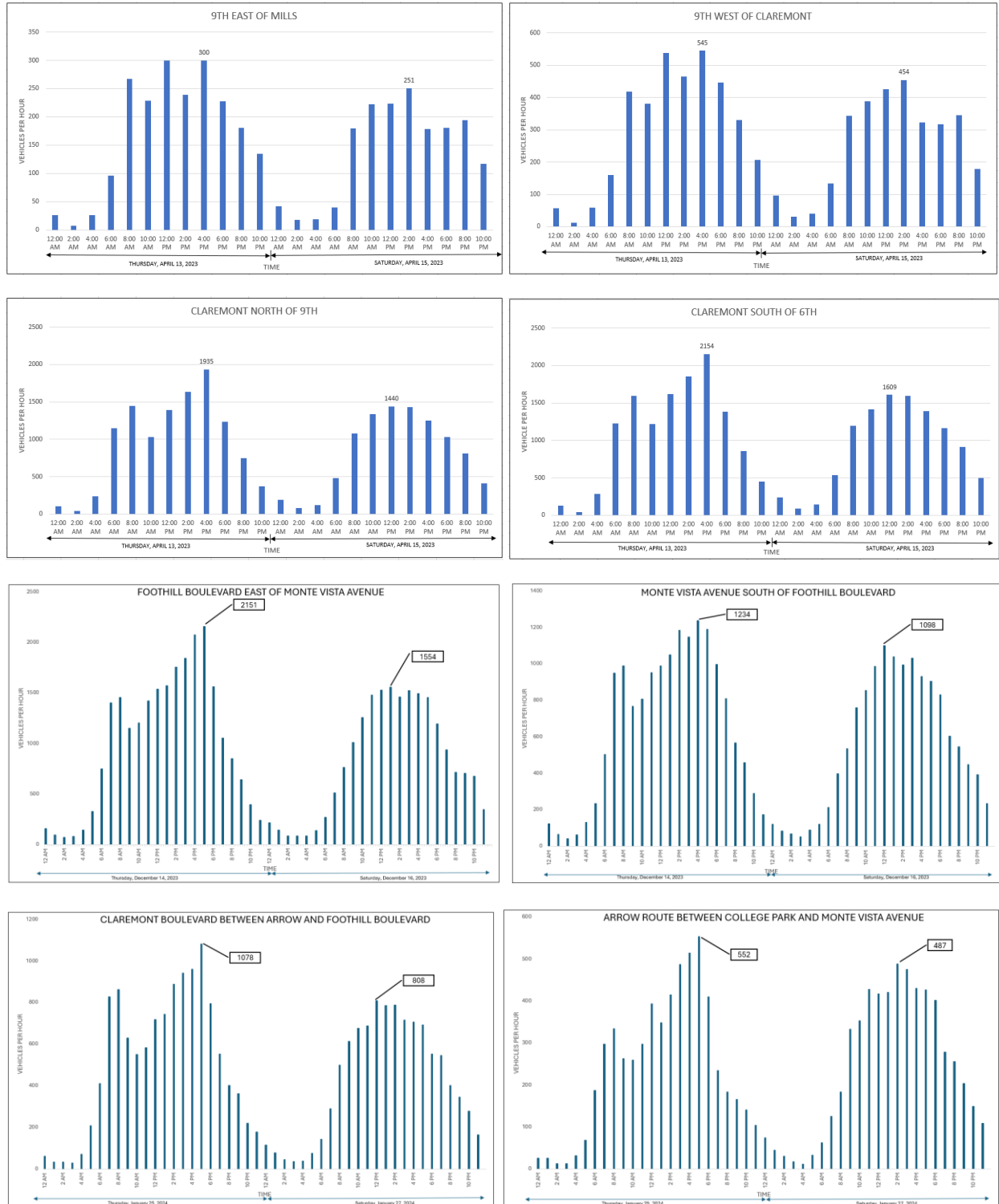
FIGURE 4.7.1 ROADWAY SEGMENT 24-HOUR TRAFFIC VOLUME COUNTS

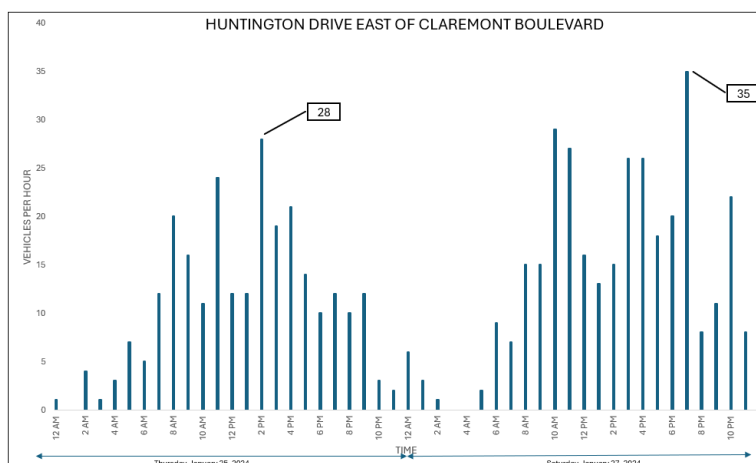
Study Roadway Segment ID, Location and Local Jurisdiction*					
A.) Foothill Boulevard east of Monte Vista Avenue	U	E.) 9th Street west of Claremont Boulevard	C	I.) Arrow Route between College Park Dr. & Monte Vista Ave.	U
B.) Monte Vista Ave between Foothill Boulevard & 11th Street	U	F.) Claremont Boulevard between 9th Street & 6th St./Arrow Rt.	C	J.) Claremont Boulevard south of 6th Street / Arrow Route	C
C.) Claremont Boulevard between Foothill Boulevard & 9th Street	C	G.) 6th Street west of Mills Avenue	C	K.) 1st Street between Claremont Blvd. & Monte Vista Ave. (future segment)	U
D.) 9th Street east of Mills Avenue	C	H.) Arrow Route between Claremont Bl. & College Park Dr.	U	* C = City of Claremont; U = City of Upland	

Figure 4.7.2 presents the existing hour-by-hour and daily traffic volume profiles for each study roadway segment. A review of this data further isolates the existing weekend AM peak hour and PM peak hour traffic volumes representative of the peak arrival and departure hours for Saturday games. Comparing these weekend peak hour to their weekday counterparts (i.e., left side of chart vs. right side) confirms that the weekend volumes are meaningfully to substantially less. Figure 4.7.2 also confirms the dominance of the weekday commuter PM peak hour (generally around 4:00pm or 5:00pm) versus the weekday commuter AM peak hour (generally between 8:00-9:00am).

FIGURE 4.7.2 EXISTING ROADWAYS AVERAGE DAILY TRAFFIC PROFILE







4.4 EXISTING INTERSECTION LEVEL OF SERVICE (WEEKDAY)

Table 4.2 summarizes the existing peak hour level of service of the key study intersections during the weekday, based on the field-collected weekday traffic volumes and current street geometry. A review of Table 4.2 indicates that based on the HCM method of analysis and the LOS criteria outlined in this report, one (1) key existing study intersection currently operates at an unacceptable level of service (LOS) during the AM and PM peak hours, while the remaining intersections operate at acceptable LOS.

Figure 4.8 graphically illustrates the existing weekday LOS results for the AM and PM peak hours.

TABLE 4.2 EXISTING (WEEKDAY) INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY

Study Intersections		Minimum Acceptable LOS	AM Peak Hour		PM Peak Hour	
			LOS	Delay in Seconds	LOS	Delay in Seconds
1	Base Line Rd & Indian Hill Blvd	E	C	20.6	C	21.1
2	Base Line Rd & Mills Ave	E	C	21.0	B	16.8
3	Base Line Rd & Monte Vista Ave/Padua Ave	E	F	97.7	F	97.4
4	Base Line Rd & I-210 Ramp	E	B	17.7	A	9.9
5	Claremont Blvd & Monte Vista Ave	E	A	9.4	B	12.9
6	Foothill Blvd & Indian Hill Blvd	E	D	40.1	D	51.5
7	Foothill Blvd & College Ave	E	A	1.3	A	1.5
8	Foothill Blvd & Dartmouth Ave	E	B	18.5	C	24.9
9	Foothill Blvd & Mills Ave	E	D	43.8	D	46.9
10	Foothill Blvd & Claremont Blvd	E	C	22.0	C	21.7
11	Foothill Blvd & Monte Vista Ave	D	C	20.3	C	24.5
12	Foothill Blvd & Central Ave	D	B	18.8	C	22.3
13	6 th St & Indian Hill Blvd	D	A	0.9	A	1.7
14	6 th St & College Ave	D	A	9.8	B	10.7
15	6 th St & Mills Ave	D	A	8.1	A	9.3
16	6 th St/Arrow Rt & Claremont Blvd	D	B	16.1	B	17.8
17	Arrow Rt & Monte Vista Ave	D	B	15.7	B	15.9
18	Harrison Ave/5 th St & Indian Hill Blvd	D	C	28.2	B	15.5
19	1 st St & Indian Hill Blvd	D	B	11.2	B	13.5
20	1 st St & College Ave	D	B	11.6	B	14.3

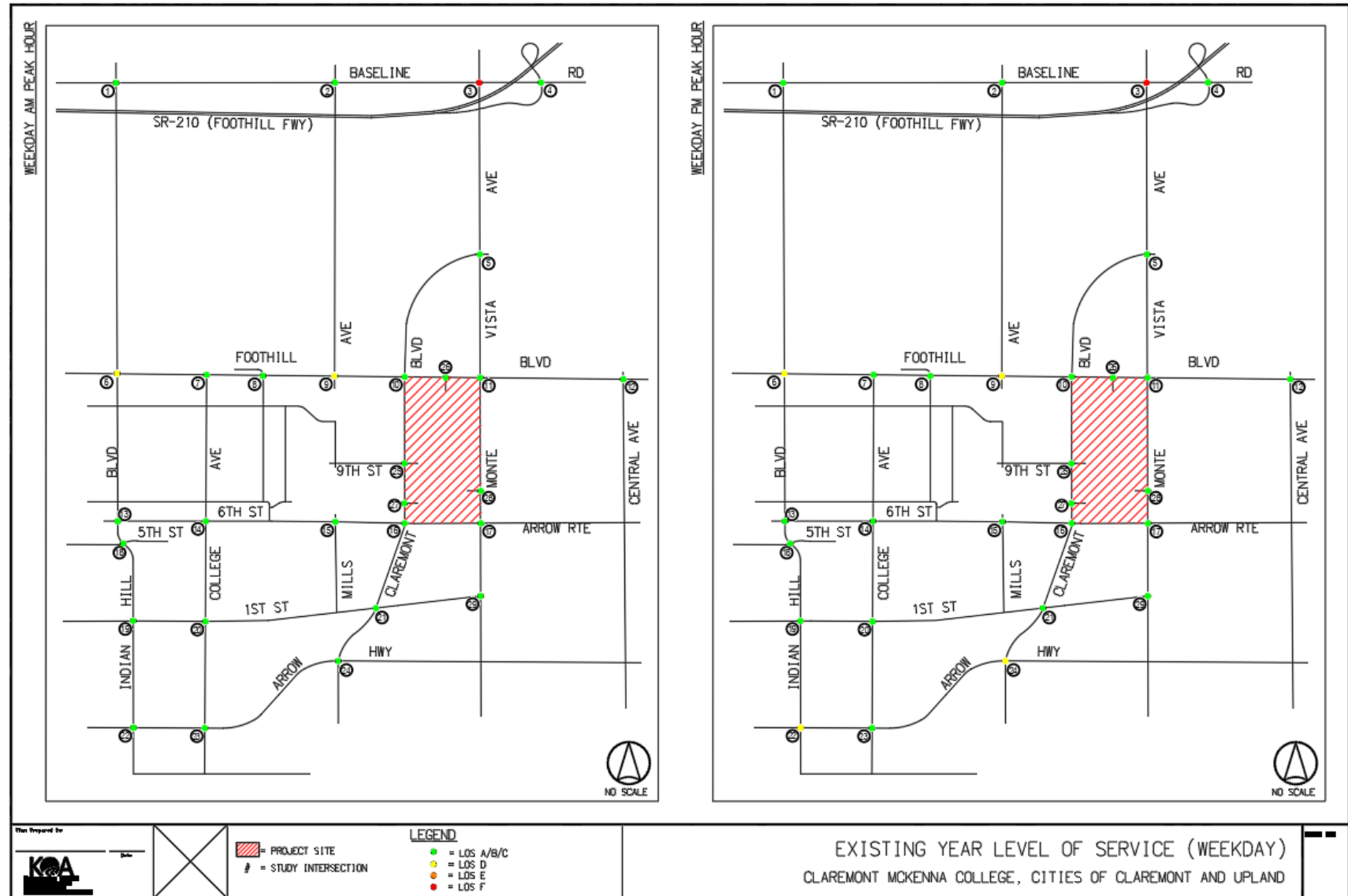
21	1 st St & Claremont Blvd	D	A	6.3	A	8.4
22	Arrow Hwy & Indian Hill Blvd	E	C	33.5	D	46.5
23	Arrow Hwy & College Ave	E	B	12.1	B	13.3
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	C	30.4	D	41.9
25	Claremont Blvd & 9 th St	D	A	2.3	A	2.7
26	Foothill Blvd & Project Dwy N	-	-	-	-	-
27	Claremont Blvd & Project Dwy SW	-	-	-	-	-
28	Monte Vista Ave & Project Dwy SE	-	-	-	-	-
29	Monte Vista Ave & 1 st St/Richton St	D	A	7.0	A	7.8

"-" Denotes that the proposed driveway intersection currently does not exist; therefore no LOS is reported.

Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

Appendix B contains the Existing Year Weekday Delay/LOS calculation worksheets for each key study intersection.

FIGURE 4.8 EXISTING (WEEKDAY) INTERSECTION LEVEL OF SERVICE – AM & PM PEAK HOURS



4.5 EXISTING (WEEKEND) LEVEL OF SERVICE RESULTS

Table 4.3 summarizes the existing weekend peak hour service level calculations for the existing study intersections selected for focused analysis. These results are based on existing weekend traffic volumes and current street geometry. A review of Table 4.3 indicates that based on the HCM method of analysis and the LOS criteria mentioned in this report, some of the key existing study intersections currently operate at acceptable LOS during the AM and PM peak hours.

TABLE 4.3 EXISTING (WEEKEND) INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY

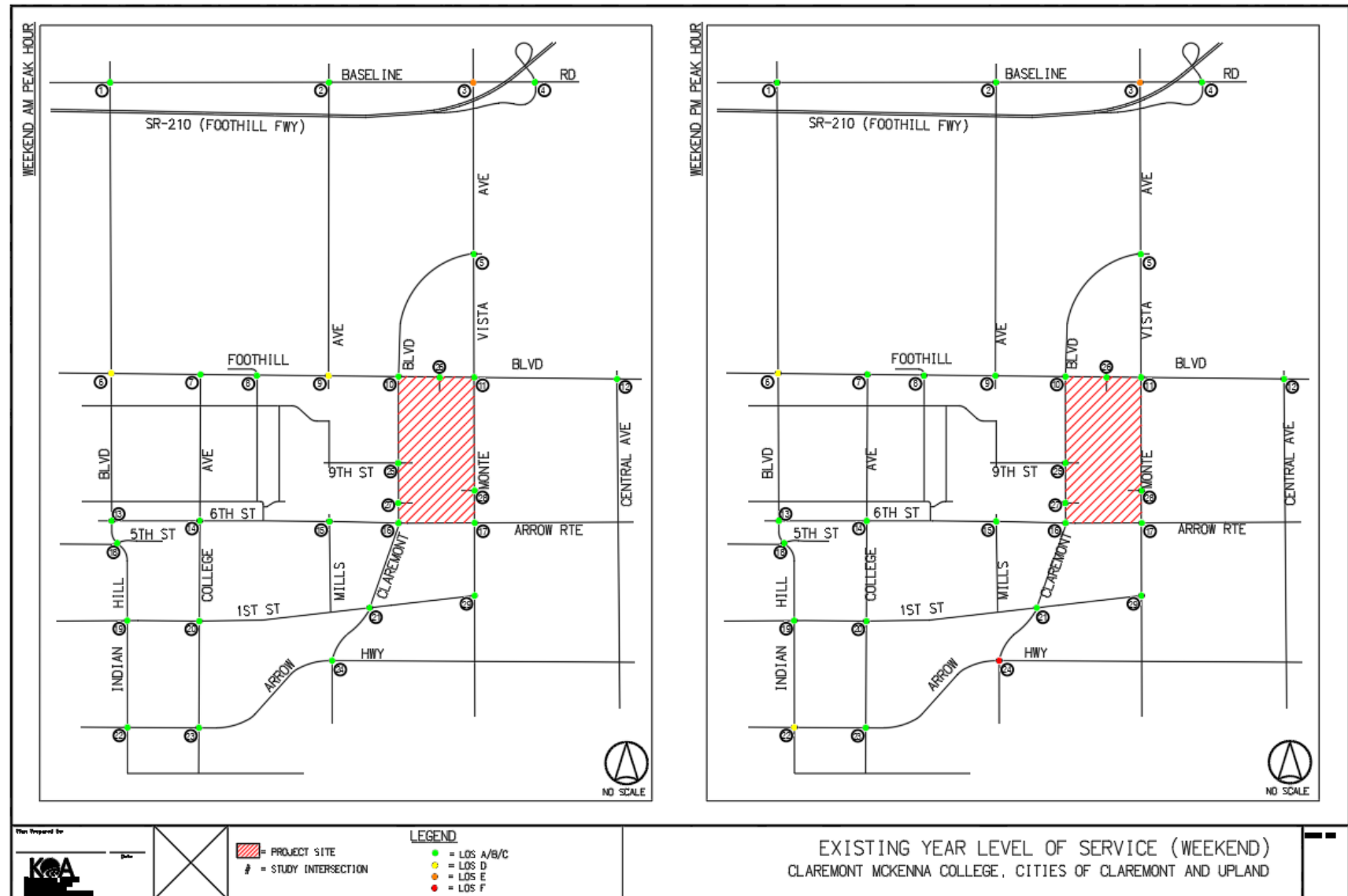
Study Intersections		Minimum Acceptable LOS	AM Peak Hour		PM Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
1	Base Line Rd & Indian Hill Blvd	E	C	28.1	C	26.1
2	Base Line Rd & Mills Ave	E	B	15.0	B	14.7
3	Base Line Rd & Monte Vista Ave/Padua Ave	E	E	76.5	E	55.1
4	Base Line Rd & I-210 Ramp	E	B	11.2	B	10.6
5	Claremont Blvd & Monte Vista Ave	E	B	11.2	B	10.5
6	Foothill Blvd & Indian Hill Blvd	E	D	45.3	D	39.4
7	Foothill Blvd & College Ave	E	A	1.6	A	1.6
8	Foothill Blvd & Dartmouth Ave	E	B	12.8	B	13.6
9	Foothill Blvd & Mills Ave	E	D	36.5	C	29.6
10	Foothill Blvd & Claremont Blvd	E	B	17.9	B	17.2
11	Foothill Blvd & Monte Vista Ave	D	C	20.5	C	20.5
12	Foothill Blvd & Central Ave	D	C	24.2	C	22.9
13	6 th St & Indian Hill Blvd	D	A	1.2	A	1.5
14	6 th St & College Ave	D	A	10.0	A	9.9
15	6 th St & Mills Ave	D	A	8.3	A	8.4
16	6 th St/Arrow Rt & Claremont Blvd	D	B	15.7	B	15.9
17	Arrow Rt & Monte Vista Ave	D	B	14.6	B	14.3
18	Harrison Ave/5 th St & Indian Hill Blvd	D	B	10.6	A	9.9
19	1 st St & Indian Hill Blvd	D	B	13.9	B	12.6
20	1 st St & College Ave	D	B	10.7	B	11.8
21	1 st St & Claremont Blvd	D	A	7.3	A	7.3
22	Arrow Hwy & Indian Hill Blvd	E	C	29.5	D	42.2
23	Arrow Hwy & College Ave	E	B	12.4	C	29.1
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	C	28.8	F	83.3
25	Claremont Blvd & 9 th St	D	A	2.0	A	2.0
26	Foothill Blvd & Project Dwy N	-	-	-	-	-
27	Claremont Blvd & Project Dwy SW	-	-	-	-	-
28	Monte Vista Ave & Project Dwy SE	-	-	-	-	-
29	Monte Vista Ave & 1 st St/Richton St	D	A	6.4	A	7.9

"-" Denotes that the proposed driveway intersection currently does not exist; therefore no LOS is reported.

Bold Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

Figure 4.9 graphically illustrates the existing weekend traffic conditions level of service results for AM and PM peak hours. **Appendix B** contains the Existing (Weekend) Traffic Conditions Delay/LOS calculation worksheets for the key existing study intersections.

FIGURE 4.9 EXISTING (WEEKEND) INTERSECTION LEVEL OF SERVICE – AM & PM PEAK HOURS



5.0 FUTURE CONDITIONS

This section defines the traffic that is expected to be generated by the proposed Project. The estimation of traffic volumes is completed through a three-step process, which includes trip generation, trip distribution, and trip assignment.

5.1 FUTURE TRAFFIC CONDITIONS

5.1.1 Ambient Traffic Growth

The ambient traffic growth factor is intended to account for unknown traffic-generating developments in the study area, as well as reflect regular socioeconomic growth the sub-region resulting in an increase in traffic volumes due to the development of projects outside the study area. A one percent (1%) annual growth rate was applied to the Existing Year 2023 traffic volumes to generate the base line Opening Year 2027 traffic volume conditions.

5.1.2 Cumulative Development Projects

Cumulative projects are defined as the collection of other related planned, approved, or otherwise pending trip-making development projects, which due to their close proximity within the study area, would constitute a shared impact on local traffic which must be accounted for in the analysis. Based on research and concurrence with the Cities of Claremont and Upland, there are thirty-three (33) such cumulative projects located within a two-mile radius of the project study area, in the Cities of Claremont and Upland. Thirty-two (32) of these projects were concluded to have the potential for adding measurable traffic to the area street system, and would do so in a timeframe after the performance of the “existing” traffic counts used in this study.

This traffic impact analysis assumes that the predominant majority of the cumulative projects will be developed and operational when the proposed Project is operational. As described in further detail below, some of the cumulative developments shown on the approved project list were identified as having a longer development timeframe, and were therefore included in the Horizon Year 2045 base line analysis. In addition, it should be noted that traffic impacts for these cumulative projects are likely to be, or have been, subject to mitigation measures or improvements or other measures were required, which could reduce their net potential impacts. Under this analysis, however, any such measures or improvements are conservatively not considered. The locations of the thirty-two (32) cumulative projects with measurable added traffic potential are presented in **Figure 5.1**.

Eighteen (18) out of 32 cumulative projects are located within the City of Claremont, while the remaining fourteen (14) cumulative projects are located in the City of Upland. All cumulative projects are divided between the Opening Year and Horizon Year based on the respective cumulative projects' opening year. Twenty-five (25) out of thirty-two cumulative projects were analyzed under the Opening Year scenario.

Table 5.1 identifies the locations and development totals of the thirty-two (32) cumulative projects. **Table 5.2** represents the resultant trip generation for all cumulative projects. As shown in Table 5.2, the cumulative projects are expected to generate a combined total of 38,801 daily trips on a typical weekday, with 2,969 trips (1,184 inbound and 1,786 outbound) forecast during the AM peak hour and 3,262 trips (1,871 inbound and 1,394 outbound) forecast during the PM peak hour. Table 5.2 also shows a total of 43,838 daily trips on a typical weekend, with 4,369 trips (2,358 inbound and 2,009 outbound) forecast

during the AM peak hour and 4,248 trips (2,093 inbound and 2,154 outbound) forecast during the PM peak hour.

It should be noted that the specific land uses, project descriptions and trip forecasts for many of the cumulative projects shown in Table 5.2 were, to the extent possible, extracted from the each project's formal traffic study report. As such, these cumulative trips reflect a combination of project trip generation forecasts determined using the Trip Generation Manual, 10th or 11th Editions, as well as approved traffic studies on file with each respective City, as listed in Table 5.1. Further, for projects without documented trip generation forecasts, those forecasts were prepared as part of this study using the cumulative project descriptions as presented in Table 5.1.

TABLE 5.1 LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS

No.	Project Name	Address	City	Description
1	Arbor Pointe SFRs	210 @ Monte Vista (SWC)	Claremont	Tentative Tract Map and Design Review for 13 lot subdivision consisting of 13 SFRs, 13 JADUs, and 11 detached ADUs.
2	CGU Master Plan	Generally bounded by Foothill Blvd., Dartmouth Avenue, Seventh Street, and College Avenue	Claremont	Potential addition of up to 475 regularly enrolled students, and 99 faculty and staff, and expansion, remodeling, and replacement of campus facilities, resulting in a potential increase in building area of approximately 170,000 assignable square feet
3	Doubletree Hotel/Old School House Specific Plan	North of Foothill Blvd. and west of Indian Hill Blvd.	Claremont	126-unit residential condominiums/townhomes (30 in building with new 240-space parking structure and 96 on Colby Circle)
4	Harvey Mudd College 2015 Master Plan Amendment	South of E. Foothill Blvd. and north of Platt Blvd, between N. Dartmouth Avenue and N. Claremont Blvd.	Claremont	Proposed HMC 2015 Master Plan Amendment includes increasing current building floor area from 738,079 GSF to 902,411 903,911 GSF, and increasing HMC enrollment entitlement from 800 students to 900 students.
5	Keck Science Center Expansion	925 N Mills Avenue (to the west of existing KSC at NW intersection of Ninth Ave and Mills on Scripps campus	Claremont	70,000-square foot, three-story, semi detached ground up building for Keck Science Center labs and classrooms. Located on existing surface level parking lot. Connected to existing KSC.
6	Knight's Inn Redevelopment (formerly proposed as new Hampton Inn & Suites)	701 S Indian Hill Blvd	Claremont	Originally proposed to include renovation of the two-story, 65-unit motel and construction of a four-story, 121-unit hotel. Specific Plan has been adopted.
7	La Popular Restaurant & Drezner Lofts	235 N Yale Ave	Claremont	New 3,000-SF restaurant with 850-SF new outdoor dining area. The Mexican restaurant would occupy the former Rhino Records space. 1,660 s.f. Coffee Shop to occupy rear ground floor tenant space. 5 new studios apt to be constructed through conversion of existing mezzanine and two new stories above rear tenant space. Total square footage is 3,225-SF

8	Med Density Housing Per Gen Plan Housing Element Update.	Citywide	Claremont	1,711 New Housing Units Planned for through Oct 15, 2029
9	Olson 56 Unit Townhomes	1030 W Foothill Blvd.	Claremont	56 Attached Townhomes with 12 Live work units 350 sf each work live
10	Pomona College 2015 Master Plan	Campus-Wide	Claremont	Includes increase of 50 students, 60 staff and faculty, and 205,400 new square feet of campus building area
11	Senior Low Income Housing	956 W. Base Line Road	Claremont	15-unit low-income senior housing project
12	South Village Development Project	Indian Hill to Bucknell, Rail ROW to Arrow Highway.	Claremont	Mixed-Use, Transit-oriented Development designed to expand the Claremont Village. Project plans include: 610 Residential Apartments in Mixed-use buildings 103 Flat-style Residential condos 21 Townhome residences 34,000 sq.ft. restaurants 52,000 sq.ft. retail 26,000 sq.ft. office space 1,195 parking spaces in structures or garages.
13	Trumark Homes	2323 Forbes Ave	Claremont	56 SFR detached Units with 6 internal ADUs
14	City Ventures Townhomes	840 S Indian Hill Blvd	Claremont	65 townhomes. Proposed total Net SF is 92,880-SF
15	Larkin Place - Jamboree Permanent Supportive Housing	731 Harrison Ave	Claremont	33-unit permanent supportive housing development.
16	TCCS Student Services Building	800 N Dartmouth Ave	Claremont	New Student Services Building for Claremont Colleges students. Located at Mudd Quadrangle on Dartmouth south of 10th Street. Approx 30,000-SF
17	Mercy Housing Affordable Housing	1364 N Towne Avenue	Claremont	74-unit 100% Affordable Housing Development (Veteran Housing)
18	TTM62814	365 San Jose Ave	Claremont	13 new residential townhomes at 365 W. San Jose
20	Quick Quak Car Wash	950 Monte Vista Avenue	Upland	2,596 square foot automated drive-thru car wash with ancillary vacuum stations
21	Bridge Point Upland Project	NEC of Central/Foothill	Upland	A 201,096 square foot warehouse/parcel delivery service building
22	Lennar at the Enclave	W. Foothill Boulevard	Upland	Development of 192 residential units comprised of 116 detached condominium units and 76 attached condominium units on 15.6 acres.
23	Mixed Commercial/Industrial Development	1750-1780 W. Foothill Blvd	Upland	A 3,570 square foot retail building and four industrial condominium units within two multi-tenant industrial buildings 45,476 square feet and 55,616 square feet in size on 6.05 acres.
24	T & T Industrial	1701 W. 11th Street	Upland	2 office and warehouse buildings totaling 56,000 square feet

25	Yellow Iron	2068 W. 11th Street	Upland	5 building light industrial park totaling approximately 77,000 square feet, including a 6-lot subdivision
26	Rose Glen Specific Plan	1400 E. Arrow Hwy	Upland	64 two-story single family detached residential homes
27	Bullwinkle's Family Fun Center	1500 W. 7th Street	Upland	Remodel of existing amusement park, including façade, parking lot, and interior improvements.
28	Citrus Village Senior Living	911 W. Arrow Highway	Upland	Potential senior housing development with 62 affordable housing units, 98 independent living units, 74 assisted living units, and a 30-bed facility for memory care residents.
29	The Courtyard at Upland (Rebuild)	968 W. 7th Street	Upland	The partial reconstruction of 36 apartment units within an existing legally non-conforming multi-family apartment complex, damaged by fire
30	Huntington Drive Apartments	1910 Huntington Drive	Upland	An 84-units, 3-story, multi-family residential apartment development on 1.38 acres. The developer proposes that 14 units are to be designated at the low-income affordability level
31	Upland Reliability Project	1975 N. Benson Ave	Upland	Construction and operation of a new battery energy storage system facility. The project includes the placement of battery energy storage enclosures and associated electrical equipment on concrete foundations, including medium voltage transformers and power conversation system, on an area approximately 12 acres in size
32	9th Street Apartments	1739 9th Street	Upland	A request to construct a 19-unit, 2-story apartment complex, with a density bonus, and 2 units made available at the low-income affordability level.
33	McDonalds	1590 W. Foothill Boulevard	Upland	Demolition of an existing 1,471 square foot McDonald's restaurant and construction of a new 4,266 square foot McDonald's restaurant with indoor dining and dual order point drive-through

FIGURE 5.1 LOCATION OF CUMULATIVE PROJECTS

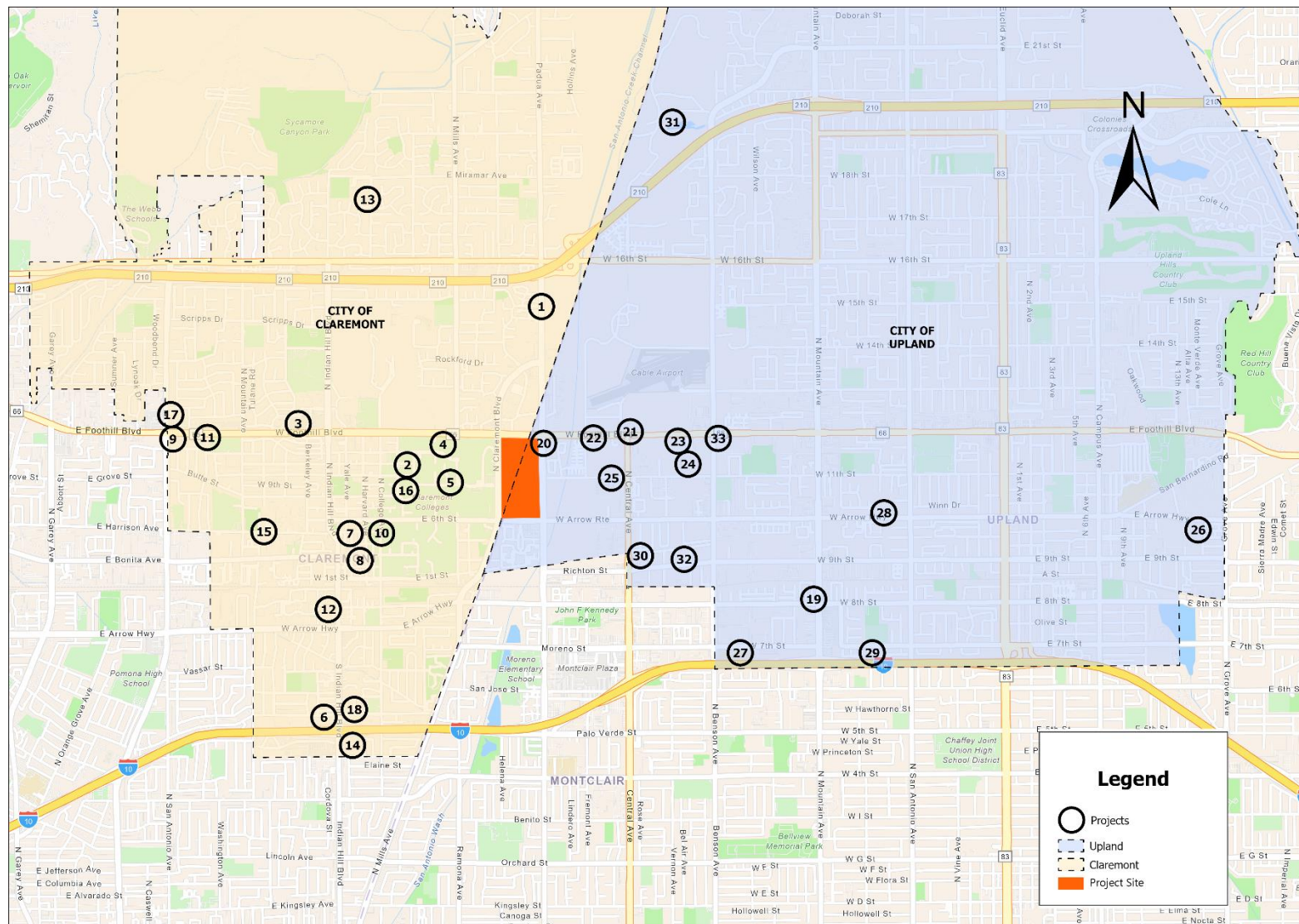


TABLE 5.2 CUMULATIVE PROJECTS TRIP GENERATION FORECAST

Project Name	Weekday Trip Generation							Weekend Trip Generation ³						
	Daily 2-way	AM Peak Hour			PM Peak Hour			Daily 2-way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
1. Arbor Pointe SFRs	349	6	20	26	22	13	35	351	18	16	34	16	14	30
2. CGU Master Plan	741	57	14	71	24	48	72	0	0	0	0	0	0	0
3. Double Tree Hotel/Old School House	849	13	38	51	40	24	64	573	26	26	52	23	23	46
4. Harvey Mudd College 2015 Master Plan Amendment	156	12	3	15	5	10	15	0	0	0	0	0	0	0
5. Keck Science Center Expansion	1823	59	17	76	26	56	82	0	0	0	0	0	0	0
6. Knight's Inn Redevelopment	967	31	25	56	36	35	71	976	49	38	87	43	33	76
7. La Popular Restaurant & Drezner Lofts	346	17	14	31	6	11	17	395	18	18	36	16	16	32
8. Med density Housing Per gen Plan Housing Element Updat ¹	12133	274	751	1025	735	457	1192	18403	1074	812	1886	944	1083	2027
9. Olson 56 Unit Townhomes	358	8	19	27	17	12	29	385	12	13	25	11	11	22
10. Pomona College 2015 Master Plan	78	6	2	8	3	5	8	0	0	0	0	0	0	0
11. Senior Low Income Housing	49	1	2	3	2	2	4	41	3	2	5	3	2	5
12. South Village Development Project	7509	206	339	545	357	172	527	10534	533	500	1033	469	440	908
13. Trumark Homes	614	12	33	45	37	23	60	596	31	27	58	27	24	51
14. City Ventures Townhomes	438	6	20	26	21	12	33	296	13	13	26	11	11	22
15. Larkin Place - Jamboree Permanent Supportive Housing	73	2	1	3	3	3	6	0	0	0	0	0	0	0
16. TCCS Student Services Building	431	54	17	71	10	51	61	0	0	0	0	0	0	0
17. Mercy Housing Affordable Housing	356	8	19	27	20	14	34	888	56	39	95	49	34	84
18. TTM62814	95	1	5	6	4	3	7	59	3	3	6	3	3	6
20. Quick Quak Car Wash	610	0	0	0	31	30	61	1140	65	65	130	57	57	114
21. Bridge Point Upland Project	2583	102	100	202	131	71	202	0	0	0	0	0	0	0
22. Lennar at the Enclave	1294	19	58	77	61	36	97	1820	95	81	176	84	71	155

23. Mixed Commercial/Industrial Development	1050	57	47	104	41	38	79	2218	105	99	205	92	87	179
24. T & T Industrial	349	17	21	38	11	27	38	142	8	17	25	7	15	22
25. Yellow Iron	482	26	25	51	15	36	51	196	11	23	34	10	20	30
26. Rose Glen Specific Plan	604	12	33	45	38	22	60	607	32	27	59	28	24	52
27. Bullwinkle's Family Fun Center	653	29	15	44	27	30	57	206	13	11	24	11	10	21
28. Citrus Village Senior Living	1008	19	38	57	43	27	70	665	28	28	56	25	25	50
29. The Courtyard at Upland (Rebuild)	243	3	11	14	12	7	19	164	7	7	14	6	6	12
30. Huntington Drive Apartments	566	8	26	34	27	16	43	382	17	17	34	15	15	30
31. Upland Reliability Project	894	68	20	88	26	68	94	78	17	9	26	15	8	23
32. 9th Street Apartments	142	2	6	8	7	4	11	96	4	4	8	4	4	8
33. McDonalds ²	958	49	47	95	33	31	63	2628	120	115	235	105	101	206
Total	38801	1184	1786	2969	1871	1394	3262	43838	2358	2009	4369	2073	2136	4210

¹ Per Table 8-30 *City of Claremont 2021-2029 Housing Element Draft*, 1,711 new housing units are required for Claremont's Regional Housing Needs Allocation (RHNA) of which at least 50% (556 DU's) allocated to very low-income units. The City of Claremont intends to provide 548 dwelling units for Above Moderate-Income, 297 units for Moderate-Income, 310 units for Low-Income, 278 units for Very Low-Income, and 278 units for Extremely Low-Income. We have assumed that Above Moderate-Income and Moderate-Income units will be provided as Single-Family Residence and that Low-Income, Very Low-Income, and Extremely Low-Income units will be provided as affordable housing, for a conservative analysis.

² Pass-by rate of 50% was used for the a.m. peak hour and a pass-by rate of 55% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE Trip Generation Manual, the average of a.m. and p.m. pass-by rate was used as the daily pass-by rate.

³ Weekend PM trip calculated by roadway segments' Average Daily Traffic (ADTs) volumes between study intersections average ratio and multiplied by the weekdays PM trip generation to get weekend PM trip generation.

5.2 PROJECT TRIP FORECASTING

5.2.1 Project Trip Generation Methodology

The Project will be used to support the needs of an otherwise existing college community and population (recognizing further that approved or pending campus Master Plans may add incrementally to that population) for general recreation, physical education, team practice, and scheduled team play. With regard to the latter, the primary user group will be CMS Athletics (made up by Claremont McKenna College, Harvey Mudd College, and Scripps College) whose activities will be focused to the Project's venues as a replacement for other existing play fields. Additionally, the site will be utilized for other CMC collegiate athletic programs such as the Claremont Colleges Club Sports.

It should be noted that recurring team play schedules of CMS Athletics and Claremont Colleges Club sports are already in place with those activities now occurring in other fields on the CMC campus. On that basis, the forecasts that follow have been constructed to be conservative estimates of the traffic that will be directed to these new facilities. The Project football/track/lacrosse field, baseball, and softball fields will have additional seating capacity as compared to existing capacity, and the Project traffic forecasts consider those expanded capacities (rather than historical attendance levels) in their derivation.

The process to identify the trips for games during the weekday and weekend peak hours:

- The Project components with significant traffic generation potential are identified, including CMC spectator venues (soccer/football/track/lacrosse, baseball, and softball), and support facilities.
- The HCM 6th Edition of Trip Generation by the Institute of Transportation Engineers (ITE) is used to determine trip generation rates for the Project except at the intersection of Monte Vista Avenue at Claremont Boulevard and Central Avenue at Foothill Boulevard. HCM 6th Edition methodology does not support turning movements with shared and exclusive lanes. 'Soccer Complex' used HCM 6th Edition to generate weekday and weekend AM-PM peak hour trip rates.
- The football/track/lacrosse, baseball, and softball fields, are not specifically considered by ITE. Instead, trip forecasting for these components was carried out in a series of analysis permutations that considered historical practice schedules, combined current CMS Athletics game schedules for play on those fields, team, and coaching staff totals, increased game attendance with a further distinction between weekday versus weekend characteristics, walk-in versus vehicular traffic proportions.
- Due to relatively modest weekday spectator attendance, the existing weekday traffic volumes related to CMS and/or Claremont Colleges Club Sports games are also concluded to be small, particularly during the commuter peak hours. On that basis, and as a conservative measure, any potential "credit" due to the existing sports activity underway during the collection of traffic counts used in this study has been ignored.

Using the above methodology, four (4) trip generation scenarios emerged as best representing the range of traffic activity thresholds for the Project. These scenarios are framed around the usage patterns of the four primary CMS fields (football/track/lacrosse, soccer/rugby, baseball, and softball), and the multi-purpose fields. Those scenarios are listed below:

1. Weekday: Practice Day

Baseball and softball are Spring sports and taken together with Spring football practice, track and field as well as Club Sports (rugby) practice activity, these combined practice and

weekday play schedules in the presence of other Roberts Campus East activities would exceed that of other sports at other times of the year. As such, they have been used to define a "Practice Day" weekday scenario. That other activity would not include scheduled games with visiting teams, but as a worst case could include spring football practice or track and field practice (both have team and coaching squads totaling roughly 100 participants; other sport squad totals are much less). Practices start about mid-afternoon and typically end at or after 6 PM. As a conservative measure, this scenario assumes that all vehicular traffic related to practices throughout the complex will exit the site during the weekday PM commuter hour peak. Club Sports Rugby also has a spring game schedule. Practices occur on weekday afternoons, and available schedule information indicates that conference play is on weekends.

2. Weekday: Game Day

Building on the above weekday scenario, the "Game Day" scenario further includes additional traffic activity for visiting teams and a "full house" event on either the baseball or softball field. As a worst case, this scenario further assumes that the "full house" game will end, and its traffic will exit the site in the PM commuter peak hour. While the Weekday "Game Day" scenario assumes 500 spectators total for simultaneous baseball and softball games, it is worth noting that actual historical weekday attendance levels for these sports are on the order of one-fourth to one-eighth of this planned 500-seat capacity (250 capacity for each baseball and softball). Those actual attendance levels may be influenced by the weekday/workday character of the event as well as the reality that weekday afternoon games are underway when other Claremont College students are still in class, and thus not able to attend a game.

3. Weekend: Game Day (Fall)

On a weekend, traffic activity related to the approximately five home Saturday football games will dominate as the basis of a traffic impact analysis. This study assumes a "full house" of the 1,800-spectator seating capacity of that field. Games are typically at 1 PM and end around 4 PM. Some night games (7 PM start) may also occur, but since evening traffic on the surrounding street system is generally less than during the afternoon, the afternoon football game is the focal point of the Weekend Fall-based traffic impact analysis.

4. Weekend: Game Day (Spring)

Simultaneous baseball and softball games (both with a "full house" of 250 spectators each) will dominate the Saturday picture on a Spring weekend. The one soccer/rugby field is assumed to add 500 spectators with a combined attendance potential for these three fields of 1,000 spectators (250+250+500).

5.2.2 Project Trip Generation

The Project trip generation forecasts for the four (4) scenarios described above are summarized in **Table 5.3**. The trip-making components that make up each scenario are also shown. Table 5.3 presents the basis of the trip-making forecast for each component and includes the use of ITE trip factors as well as the sport, team, practice, and game parameters for each field.

Among the ITE factors are those from Land Use Code 488. The former is for a "Soccer Complex", but the description for this code is concluded to closely align with the included components of the CMC fields and facilities. In its application, a 50 percent overlap ("walk-in") factor has been applied, which converts the freestanding nature of the ITE field study site to the support nature of the proposed parking facilities.

5.2.2a Weekday: Practice Day

As presented in Table 5.3, the “Weekday: Practice Day” trip forecasts over a 24-hour period, this scenario is forecast to add 359 daily trips during a typical “Practice” weekday. As defined above, this scenario and its related trips reflect practice activities on all four spectator fields (but without any scheduled gameplay), as well as Club Sports (rugby) practice. Its frequency would be on the order of four weekdays per week.

5.2.2b Weekday: Game Day

The “Weekday: Game Day” scenario addresses Project traffic activity on the fifth weekday of that illustrative week. Substitution of a “full house” baseball or softball game, with a Spring football practice or track and field practice on the four spectator fields, would increase the weekday PM peak hour Project trip generation to 260 trips, and the daily generation to 559 trips. These trip totals are also consistent with occasional simultaneous baseball and softball games with a combined attendance of 500 spectators, and a home as well as a visitor team on each of those two fields. This scenario illustrated the “worst case” weekday condition for the proposed Project’s Game Day activities.

5.2.2c Weekend: Game Day [Fall]

Looking further at Table 5.3, the defining “worst case” weekend scenario (occurring roughly five Fall Saturdays per year) is that of a “full house” home football game (“Weekend: Game Day-Fall”). On such days, the 24-hour trip generation total would grow to a forecast of 947 trips (evenly divided between inbound and outbound movements), with 377 trips occurring in the hour before the start of the game, and 535 trips in the hour following it.

5.2.2d Weekend: Game Day [Spring]

The more frequent weekend scenario, but with trip generation potential less than one-half of its fall counterpart, is that of the “Weekend: Game Day (spring)” scenario. Its 24-hour trip-making potential would total 593 trips (one-half arriving and one-half departing), with 237 trips forecast for the peak arrival hour, and 321 trips forecast for the peak departure hour.

TABLE 5.3 PROJECT TRIP GENERATION FORECAST SUMMARY

Claremont-McKenna College Roberts Campus East / Roberts Campus Sports Bowl Trip Generation Rates and Forecast																
			Weekday							Weekend						
Description	Unit	ITE Land Use Code*	Daily 2-way	AM Peak Hour			PM Peak Hour			Daily 2-way	AM Peak Hour			PM Peak Hour		
				Trip Rates			Trip Rates				Trip Rates			Trip Rates		
				Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
			Weekday							Weekend						
Soccer Complex	Fields	488	71.33	0.99	1	0	16.43	11	5	109.17	37.48	18	19	37.48	6	31

*Source: Institute of Transportation Engineers Trip Generation, 11th Edition

Estimated 15% Inbound, 85% Outbound for PM peak hour (Weekend)

Description	Qty	Daily 2-way	Weekday						Daily 2-way	Weekend						Notes	
			AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour				
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out		
Weekday: Practice Day																	
Multi-Purpose Field	1	71	1	1	0	16	11	5	Not Applicable	ITE: Land use code 488: Soccer Complex, Weekday							
Baseball Field (Participants)	100	50	-	-	-	25	-	25		-Team size (Including coaches): Baseball @100, Softball @ 100, Football (or Track and Field) @ 250;							
Softball Field (Participants)	100	50	-	-	-	25	-	25		- 50% walk-in; 50% Drive-in @ 2.0/car							
Football/Track and Field/Lacrosse (Participants)	250	126	-	-	-	63	-	63		-Team size (Including coaches): Soccer/Rugby @ 100;							
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25		- 50% walk-in; 50% Drive-in @ 2.0/car							
Golf Practice (Participants)	25	12	-	-	-	6	-	6		-Team size (Including coaches): Golf Practice @ 25;							
Weekday: Practice Day Total		359	1	1	0	160	11	149	- 50% walk-in; 50% Drive-in @ 2.0/car								
Weekday: Game Day																	
Multi-Purpose Field (Participants)	1	71	1	1	0	16	11	5	Not Applicable	ITE: Land use code 488: Soccer Complex, Weekday							
Baseball (250 Spectators)	250	156	-	-	-	78	-	78		- 500 maximum weekday spectators for Baseball and/or Softball (could all be at one-field, or split among fields), 50% walk-in, 50% drive-in @ 2.5/car. 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 2.5 cars)							
Softball (250 Spectators)	250	156	-	-	-	78	-	78		- Football (or Track and Field) @ 250;							
Football/Track and Field/Lacrosse (Participants)	250	126	-	-	-	63	-	63		- 50% walk-in and 50% Drive-in @ 2.0/car							
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25		-Team size (Including coaches): Soccer/Rugby @ 100;							
Weekday: Game Day Total		559	1	1	0	260	11	249		- 50% walk-in; 50% Drive-in @ 2.0/car							
Weekend: Game Day (Fall)																	
Multi-Purpose Field (Participants)	1	[1] 1800	Not Applicable						109	37	18	19	37	6	31	ITE: Land use code 488: Soccer Complex, Weekend	
Football (1,800 Spectators)									610	240	240	-	370	-	370	- Weekend at full stadium capacity (1,800 seats), 50% walk-in, 50% drive-in @ 3.0/car, 80% arrive in hour before, 20% arrive 1-2 hours before, 100% depart the end of game. 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 3*2.5=7.5 cars)	
Soccer/Rugby (Spectators)	500								228	100	100	-	128	-	128	-500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car. 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 2.5 cars)	
Weekend: Game Day (Fall) Total									947	377	358	19	535	6	529		
Weekend: Game Day (Spring)																	
Multi-Purpose Field (Participants)	1	[2] 250 [2] 250 [2] 500	Not Applicable						109	37	18	19	37	6	31	ITE: Land use code 488: Soccer Complex, Weekend	
Baseball (250 Spectators)									128	50	50	-	78	-	78	-500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car. 1 bus (40 passenger=2.5 PCE) Visiting team traffic = 2.5 cars	
Softball (250 Spectators)									128	50	50	-	78	-	78	- 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car. 1 bus (40 passenger=2.5 PCE) Visiting team traffic = 2.5 cars	
Rugby Field (500 spectatorsX1 Field)									228	100	100	-	128	-	128	- 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car. 1 bus (40 passenger=2.5 PCE) Visiting team traffic = 2.5 cars	
Weekend: Game Day (Spring) Total		593	237	218	19	321	6	315									

[1] Based on maximum spectator occupancy of 1,800 seats

[2] Based on maximum spectator occupancy of 250 seats per field

5.2.3 Project Trip Distribution and Assignment

Trip distribution determines the inbound and outbound directional orientation of Project-related traffic. It is typically influenced by the location, intensity of use, and accessibility of existing and planned site users, population areas, employment centers, and other commercial activities. Traffic assignment is the determination of specific trip routes, given the previously developed traffic distribution pattern. Primary factors in route selection involve the generalized travel directions; quality, visibility and appropriateness of specific routes within the local street context; minimum travel times; and minimum distance paths.

Figure 5.1 presents the trip distribution pattern for the proposed Project, based on discussions and input from CMC and the Cities of Claremont and Upland. Project traffic volumes entering and exiting the Project site were distributed and assigned to the adjacent street system in the traffic model based on the following additional considerations:

- The site's proximity to key traffic carriers (i.e., Claremont Boulevard, Monte Vista Avenue, Foothill Boulevard, Arrow Route, Sixth Street and other arterial streets);
- An analysis of existing traffic volume patterns and distributions on the arterial street and neighborhood roadway-intersection network;
- Expected localized traffic flow patterns based on adjacent street channelization, presence of traffic signals (including the proposed main entrance traffic signal at Claremont/Ninth), and various turn restrictions at the study intersections;
- Driveway site access taken directly from Foothill Boulevard, Claremont Boulevard at Monte Vista Avenue; and
- Relative proximity of the site's proposed access driveways to on-site parking lot areas, and nearby athletics fields and facilities.

Figure 5.1 presents the approved trip distribution pattern for the proposed Project. The percentages illustrated in Figure 5.1 focus on the key intersection list of this study and show the percentage of forecast project trips expected to be added to each indicated movement. Percentage allocations to the "mid-block" locations adjoining each of the key intersections would be consistent with the indicated values.

5.2.3a Project Traffic (Weekday: Practice Day)

The anticipated AM and PM peak hour Project (Weekday: Practice Day) volumes at the key study intersections are presented in **Figures 5.2** and **5.3**, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic distribution characteristics shown in Figure 5.1 and the traffic generation forecast presented in Table 5.3.

FIGURE 5.1 PROJECT TRIP DISTRIBUTION

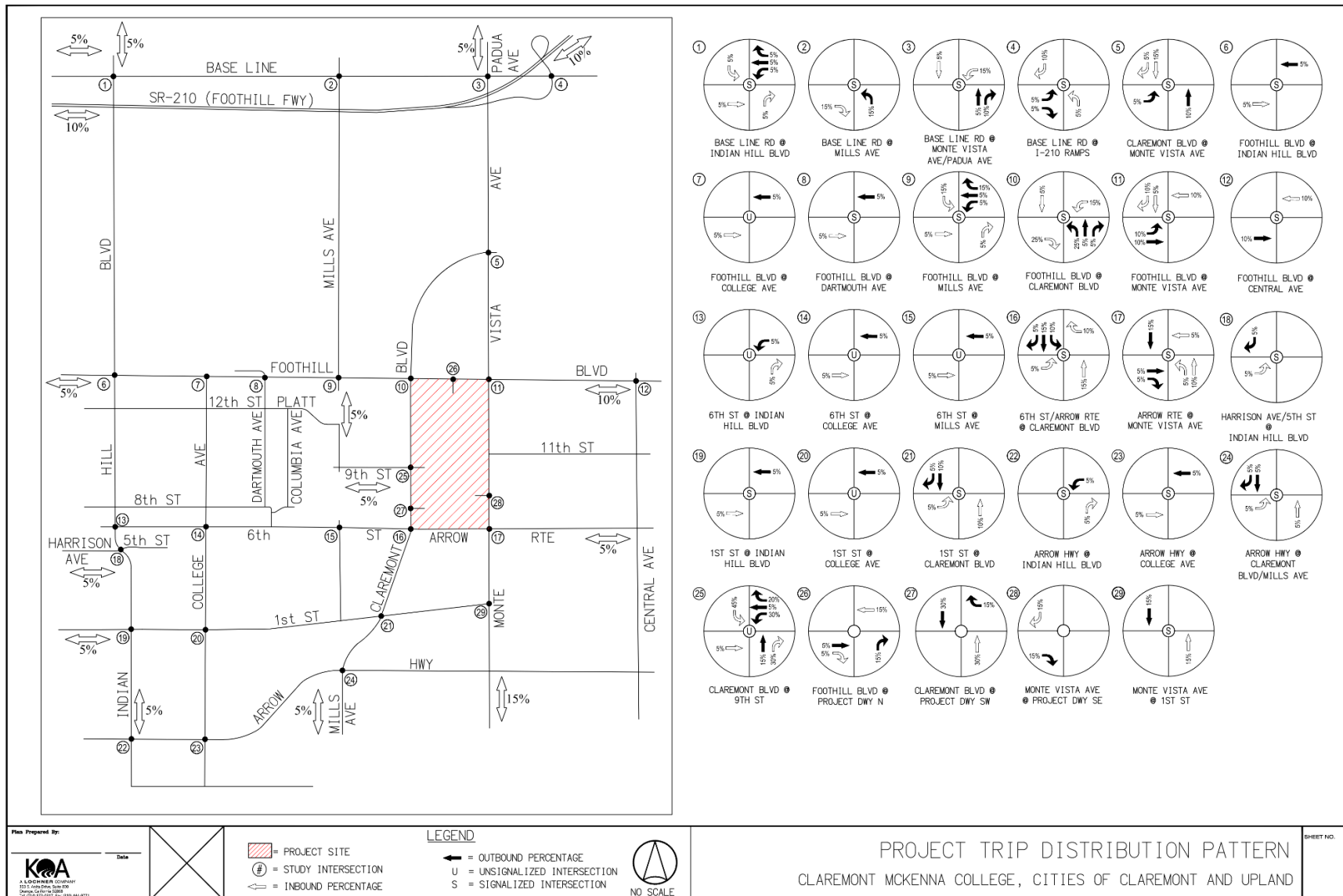


FIGURE 5.2 PROJECT TRIP ASSIGNMENT (WEEKDAY: PRACTICE DAY) – AM PEAK HOUR

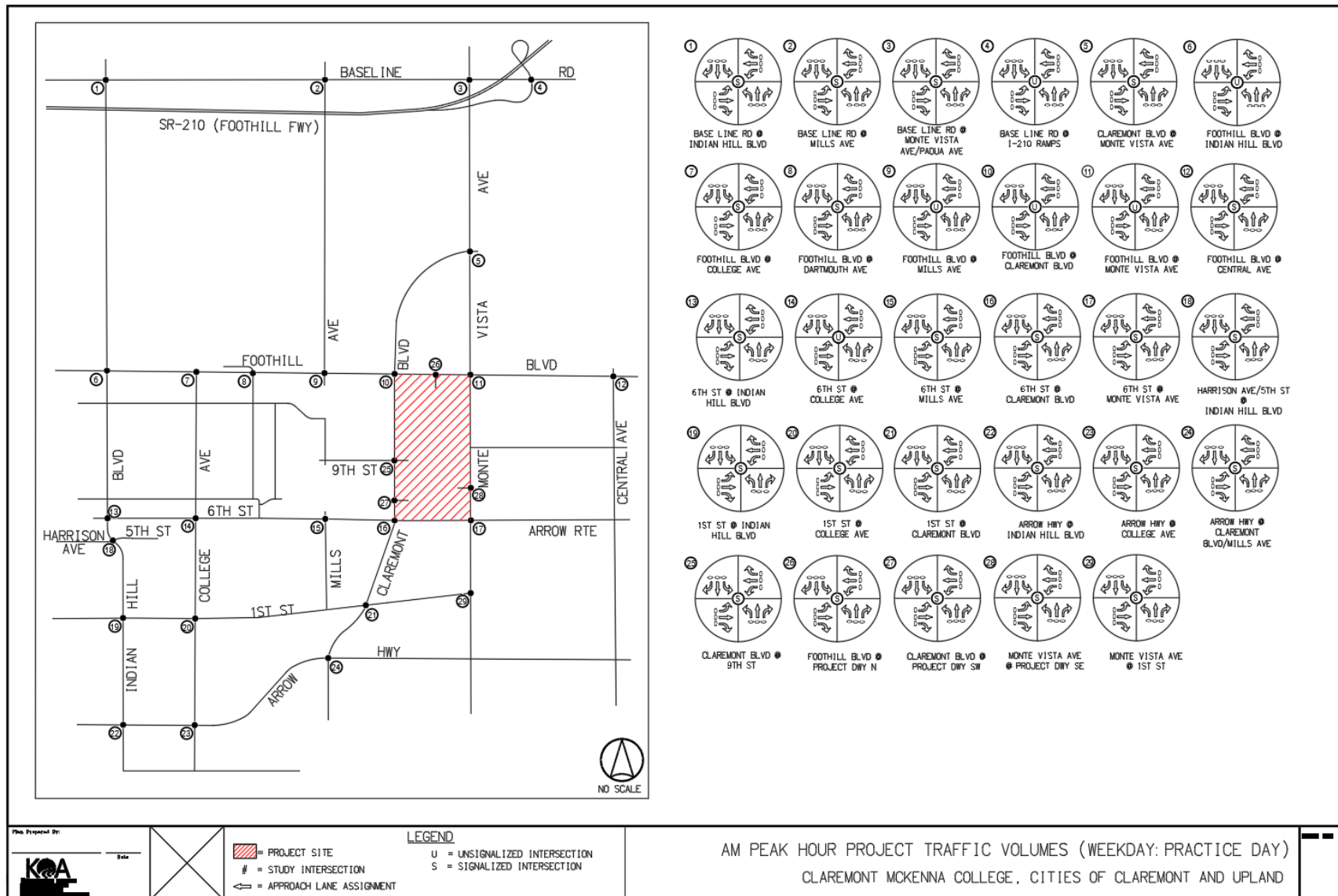
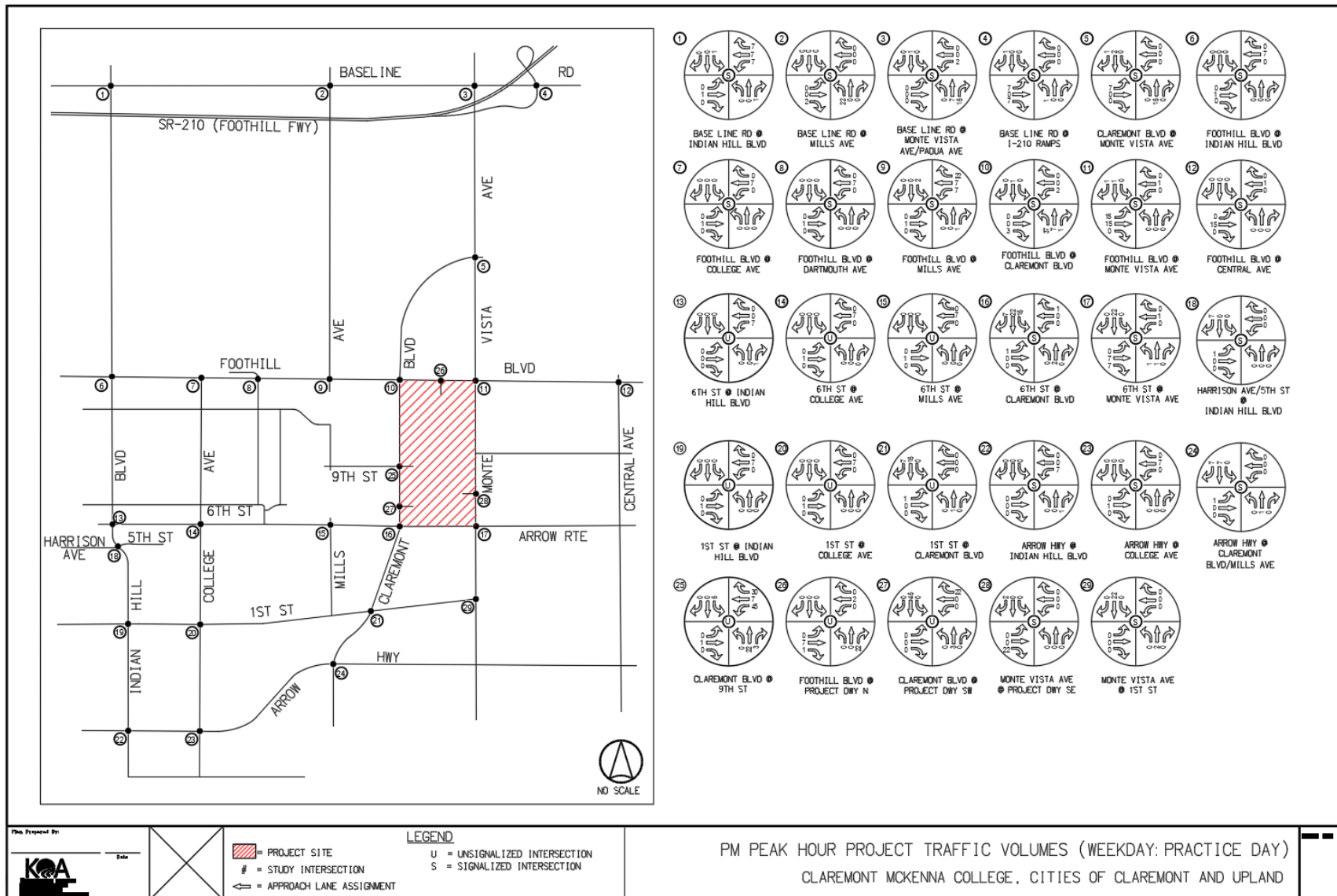


FIGURE 5.3 PROJECT TRIP ASSIGNMENT (WEEKDAY: PRACTICE DAY) – PM PEAK HOUR



5.2.3b Project Traffic (Weekday: Game Day)

The anticipated AM and PM peak hour Project (Weekday: Game Day) volumes at the key study intersections are presented in **Figures 5.4** and **5.5**, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic distribution characteristics shown in Figure 5.1 and the traffic generation forecast are presented in Table 5.3.

5.2.3c Project Traffic (Weekend: Game Day [Fall])

The anticipated AM and PM peak hour Project (Weekend: Game Day [Fall]) volumes at the key study intersections are presented in **Figures 5.6** and **5.7**, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic distribution characteristics shown in Figure 5.1 and the traffic generation forecast presented in Table 5.3.

5.2.3d Project Traffic (Weekend: Game Day [Spring])

The anticipated AM and PM peak hour Project (Weekend: Game Day [Spring]) volumes at the key study intersections are presented in **Figures 5.8** and **5.9**, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic distribution characteristics shown in Figure 5.1 and the traffic generation forecast presented in Table 5.3.

FIGURE 5.4 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY) – AM PEAK HOUR

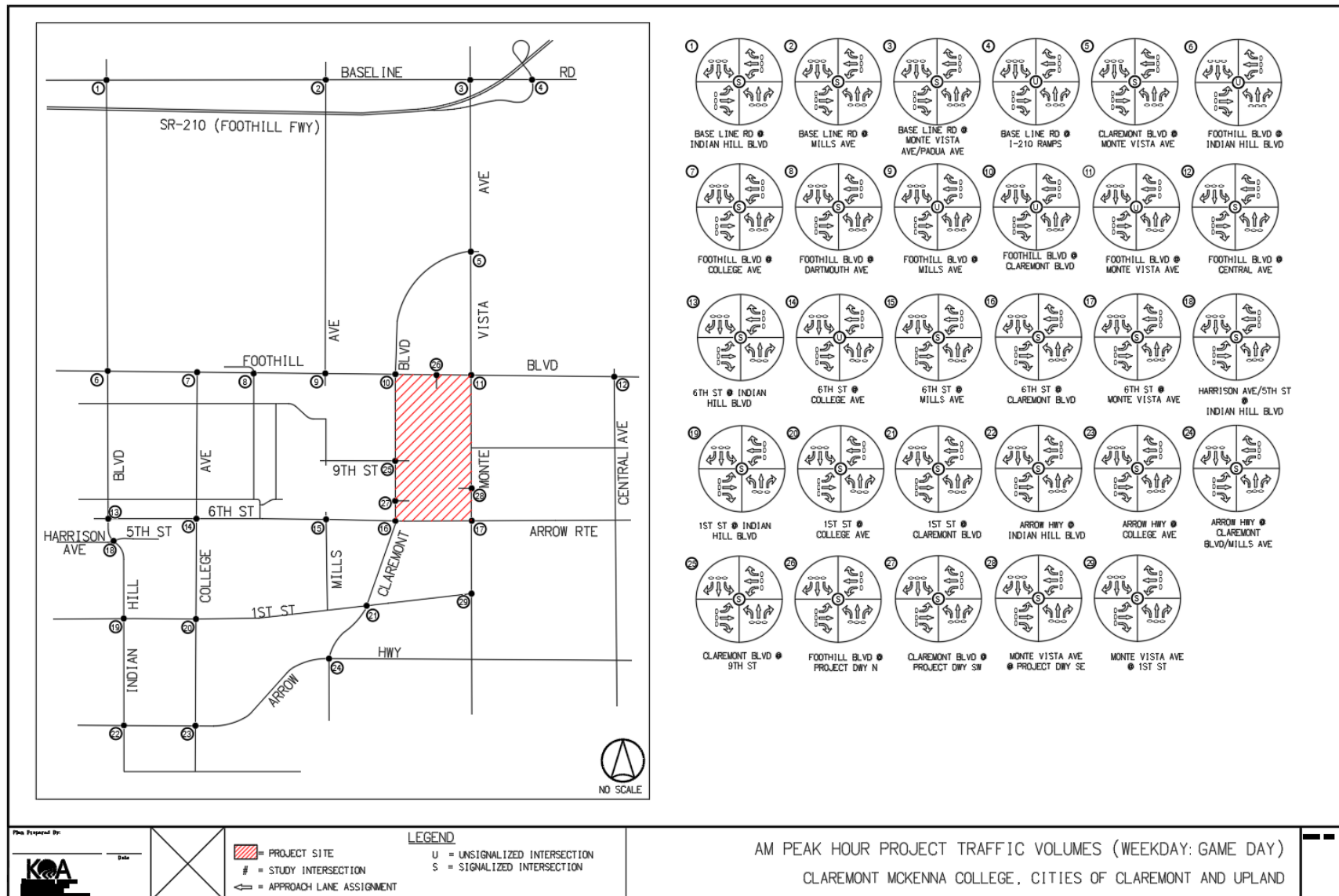


FIGURE 5.5 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY) – PM PEAK HOUR

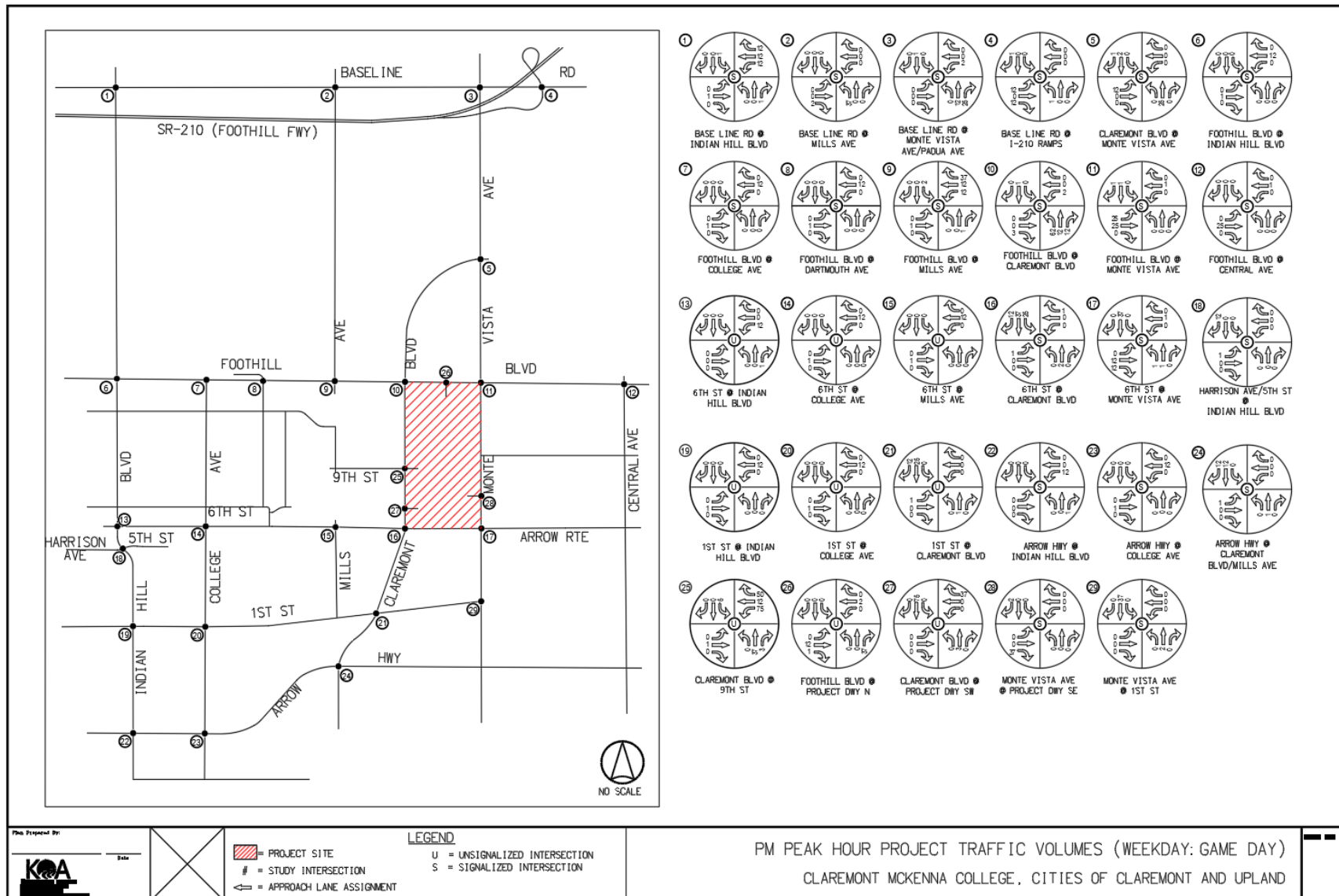


FIGURE 5.6 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY [FALL]) – AM PEAK HOUR

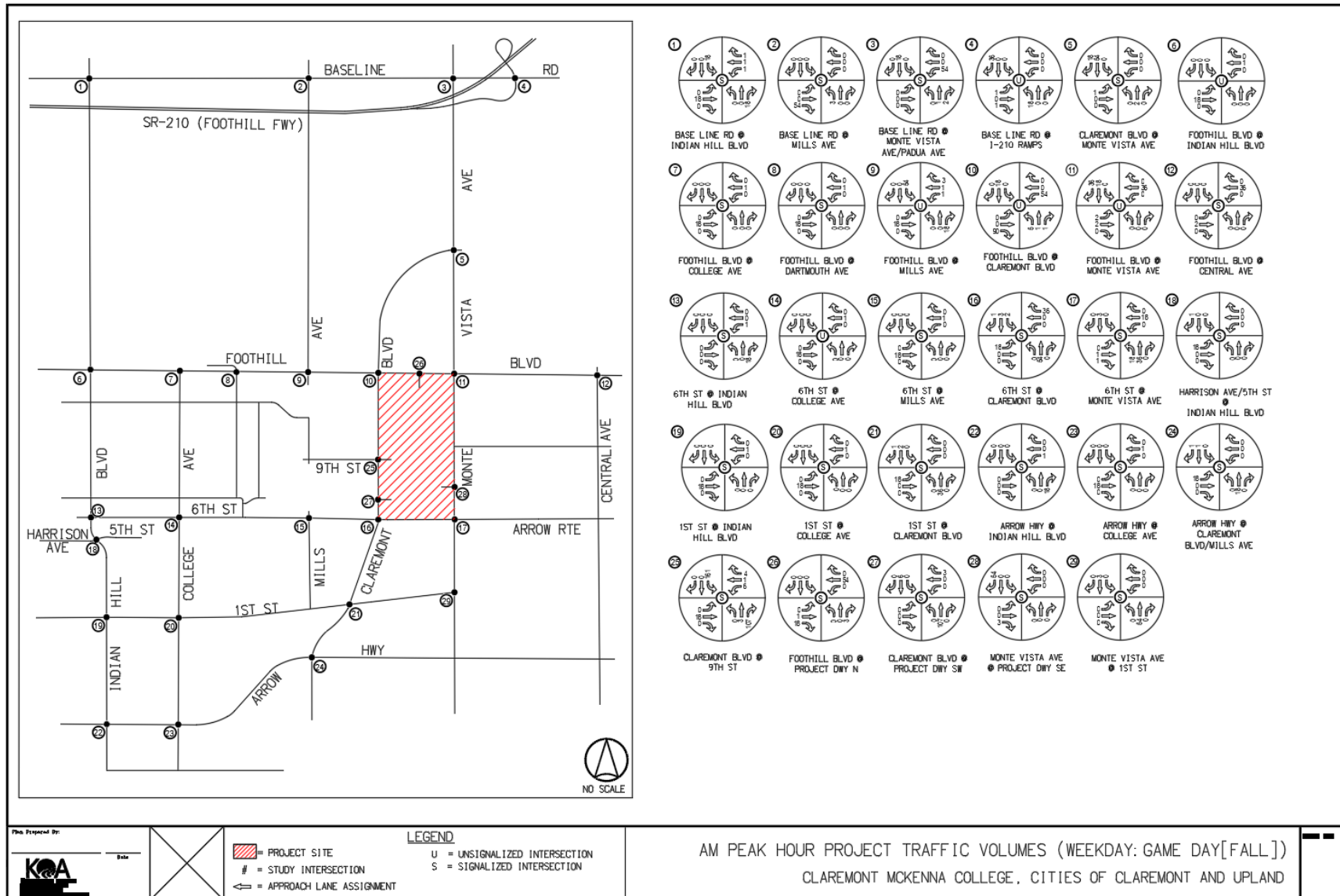


FIGURE 5.7 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY [FALL]) – PM PEAK HOUR

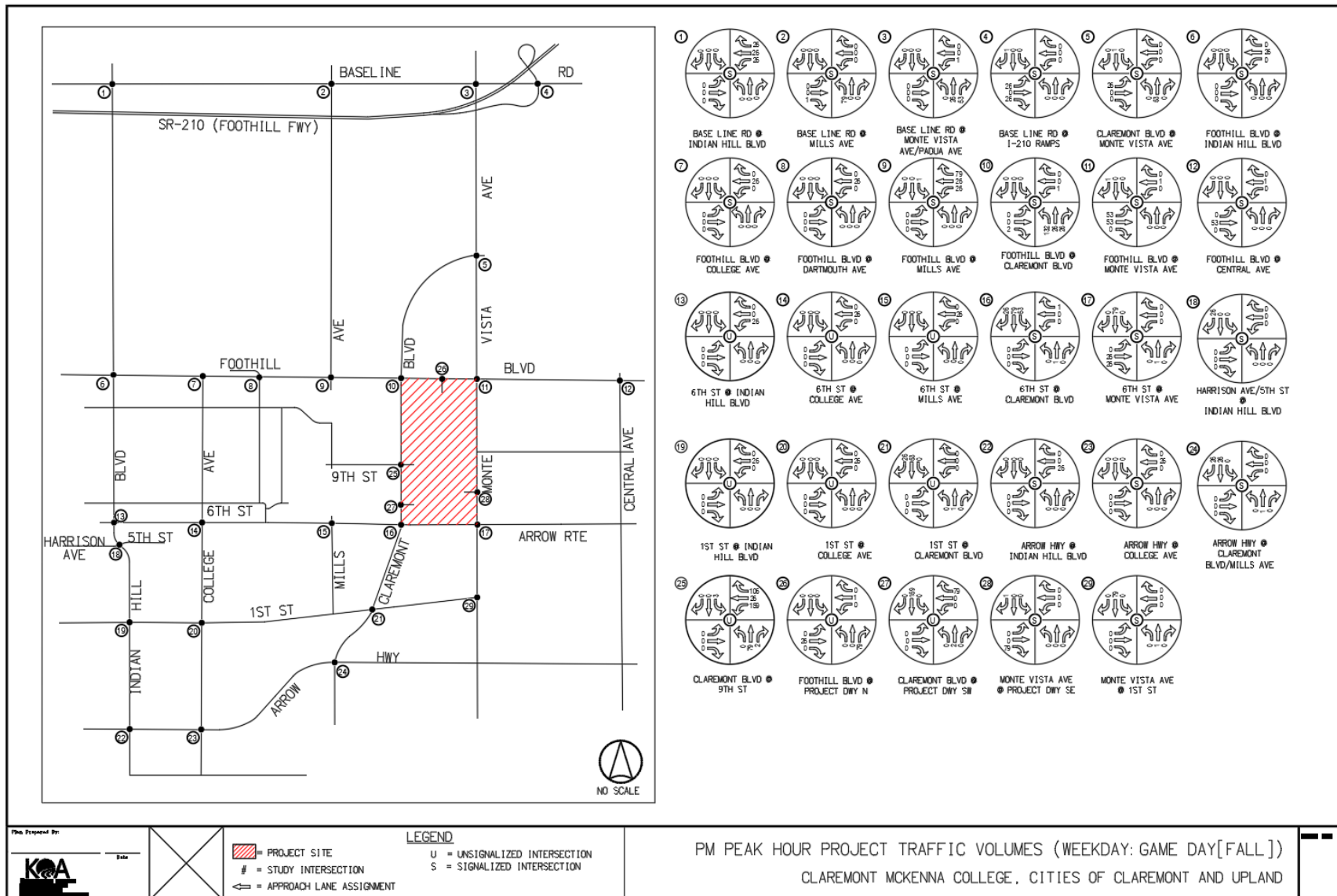


FIGURE 5.8 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY [SPRING]) – AM PEAK HOUR

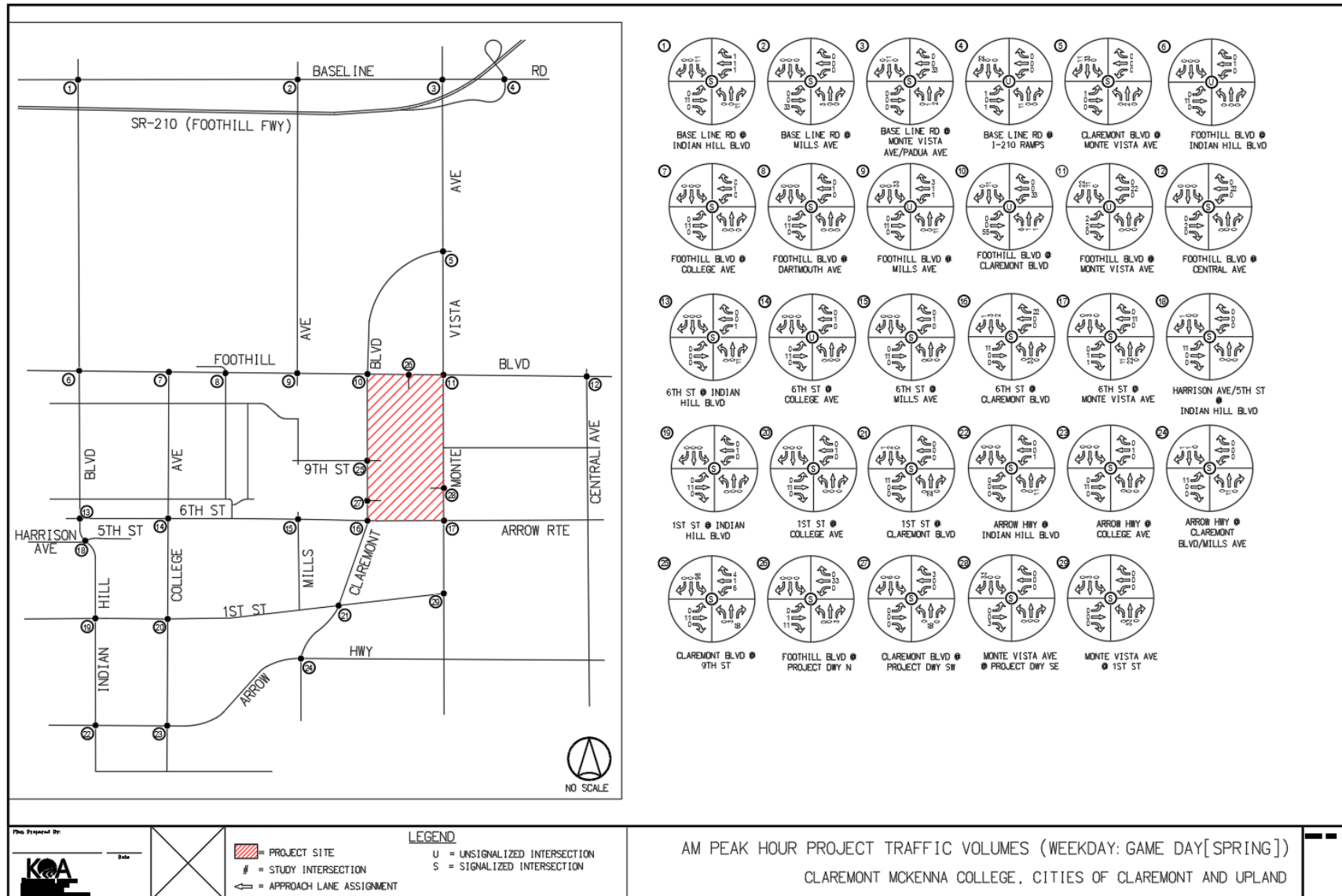
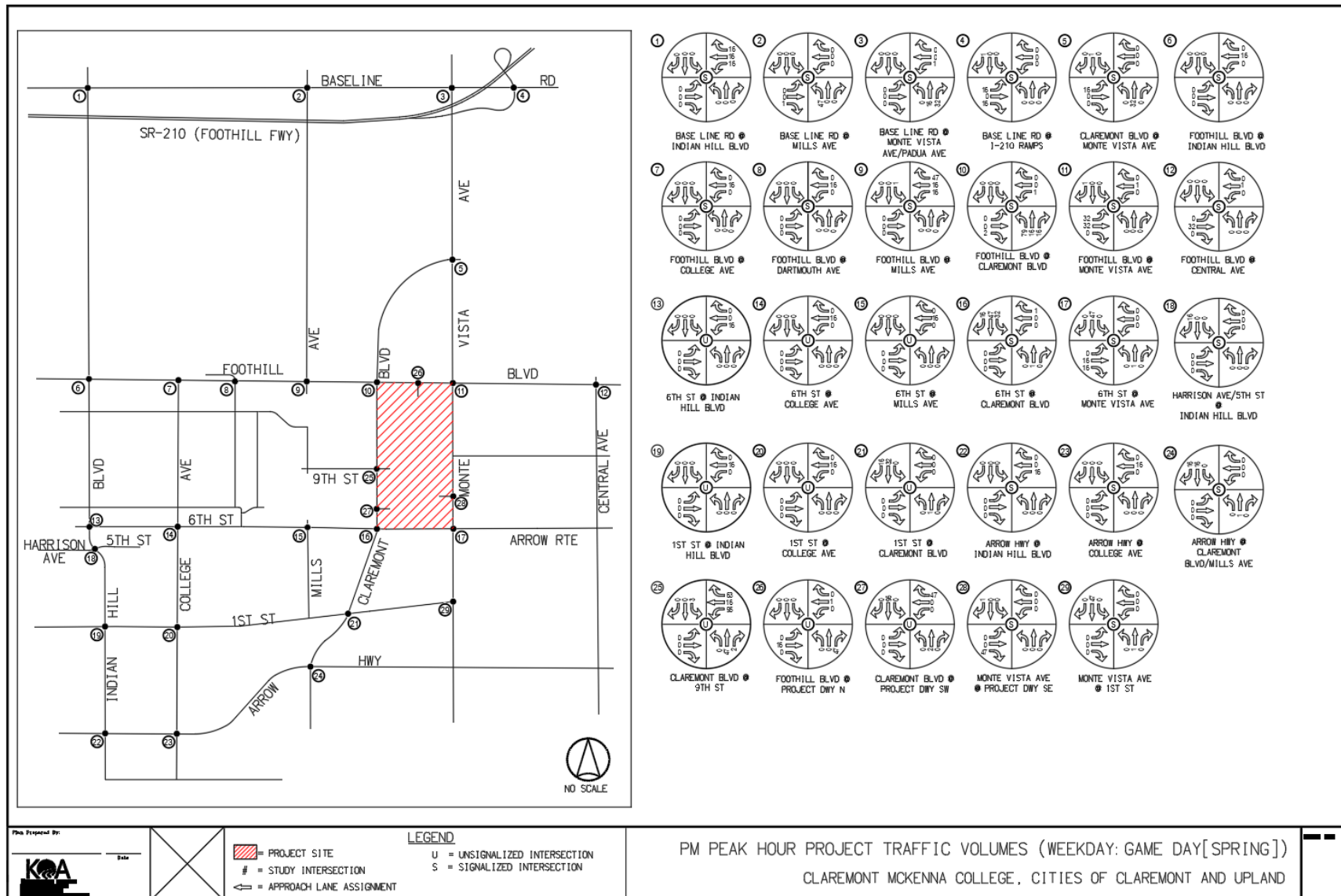


FIGURE 5.9 PROJECT TRIP ASSIGNMENT (WEEKDAY: GAME DAY [SPRING]) – PM PEAK HOUR



5.3 OPENING YEAR 2027

The potential impact of Project traffic on the surrounding street network during the AM and PM peak hours was first evaluated by analyzing the Opening Year 2027 operating conditions, both with and without the Project's trip generation. The previously discussed capacity analysis procedures were utilized to investigate the effect of the Project on pre-project delay and level of service conditions, at each study intersection, once ambient growth and cumulative developments have been factored into consideration. The Project's potential "Non-CEQA impacts" at each key intersection was then determined using City traffic impact criteria previously described in this report.

5.3.1 Opening Year 2027 Without Project Conditions

Opening Year (OY) 2027 without Project conditions includes background traffic growth, as well as project trips from those cumulative developments assumed to be completed and generating their own site traffic during the Project's OY-2027 time frame. From the list shown on Table 5.1, cumulative project numbers 1-4, 6, 7, 9, 11, 13-18, 20, 22, 24-27, and 29-33 were included in the OY-2027 Without Project scenario.

The OY-2027 Without Project weekday AM and PM peak hour traffic turn movement volumes are illustrated in **Figures 5.10** and **5.11**. These volumes represent the upward adjustment of the highest consecutive four 15-minute turning movement count volumes at each intersection, during the morning and afternoon/evening count periods, factoring in additional ambient annual traffic growth plus cumulative project traffic.

In addition, OY-2027 Without Project traffic volumes were developed for the weekend MD and PM peak-hours, for each study intersection. **Figures 5.12** and **5.13** present the mid-day and evening peak hour turning movement traffic volumes, respectively, representative of the peak arrival and departure hours for Saturday games. A comparison of these weekend peak hour traffic volumes to their weekday counterparts confirms that the weekend volumes are meaningfully to substantially less impactful on the surrounding street network due to the overall lower background traffic volume.

Figures 5.14 and **5.15** graphically illustrate the comparison between Weekday and Weekend intersection peak hour levels of service, during the analyzed AM, mid-day and PM peak hours.

FIGURE 5.10 OPENING YEAR 2027 WITHOUT PROJECT (WEEKDAY) TRAFFIC VOLUMES – AM PEAK HOUR

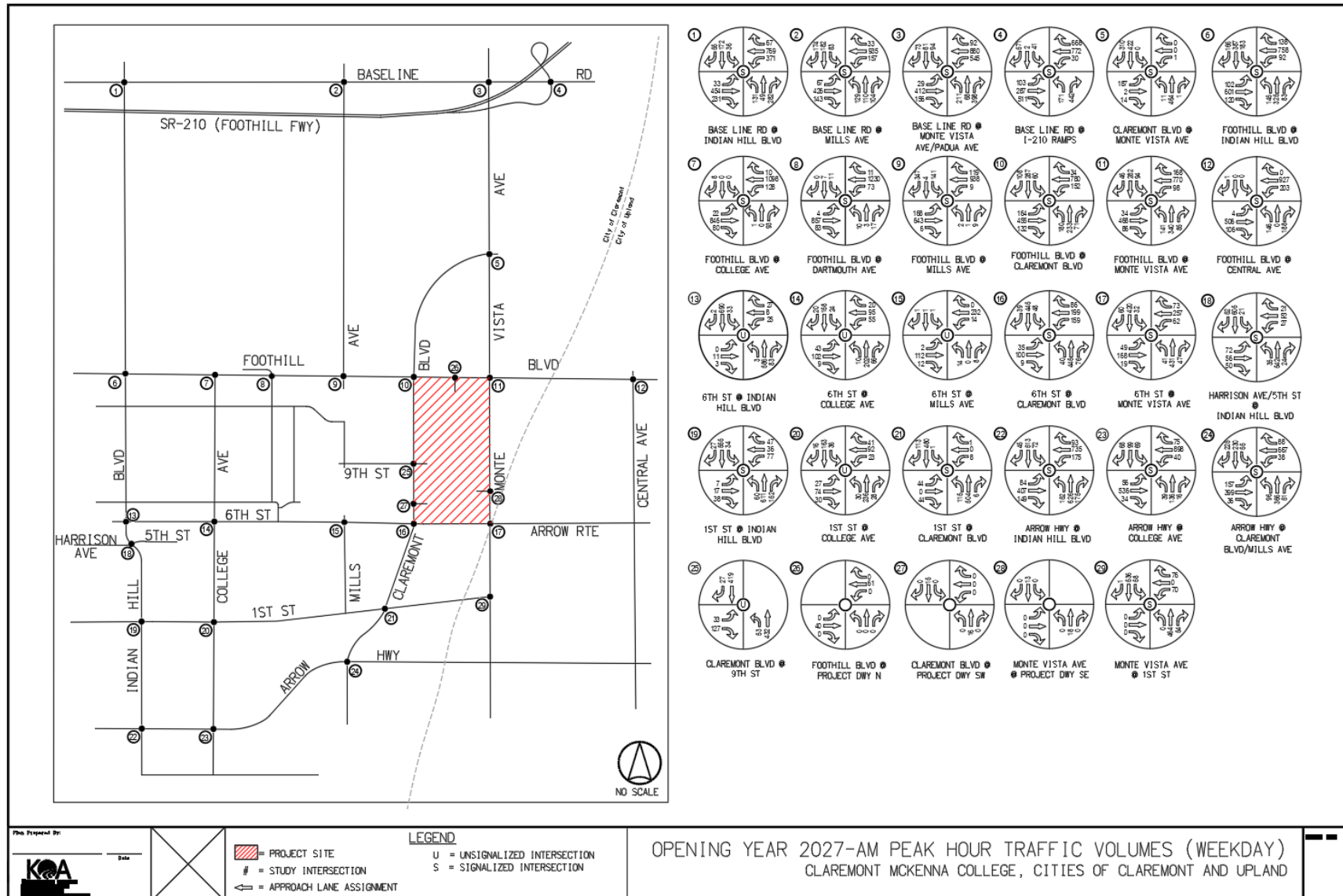


FIGURE 5.11 OPENING YEAR 2027 WITHOUT PROJECT (WEEKDAY) TRAFFIC VOLUMES – PM PEAK HOUR

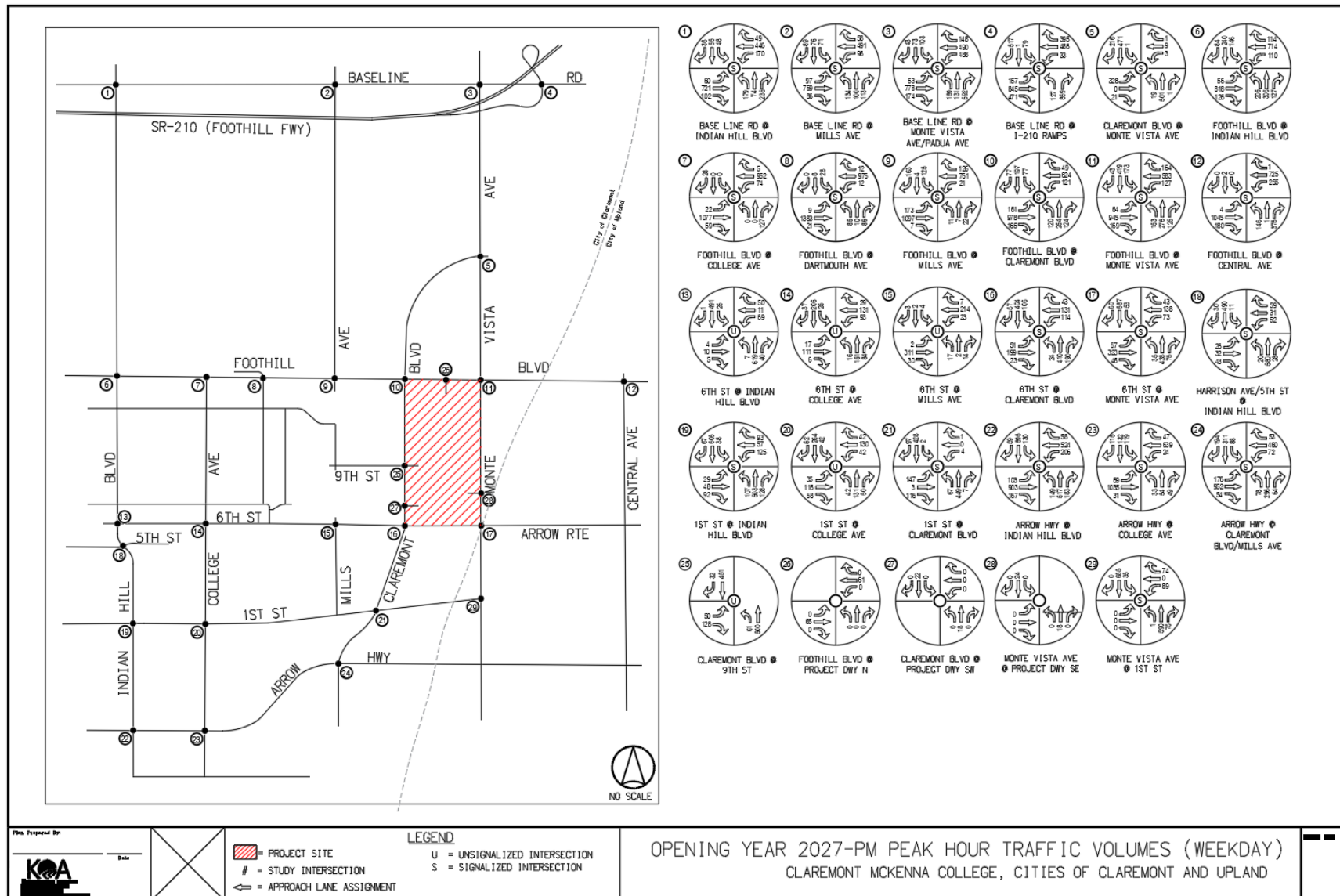




FIGURE 5.13 OPENING YEAR 2027 WITHOUT PROJECT (WEEKEND) TRAFFIC VOLUMES – PM PEAK HOUR

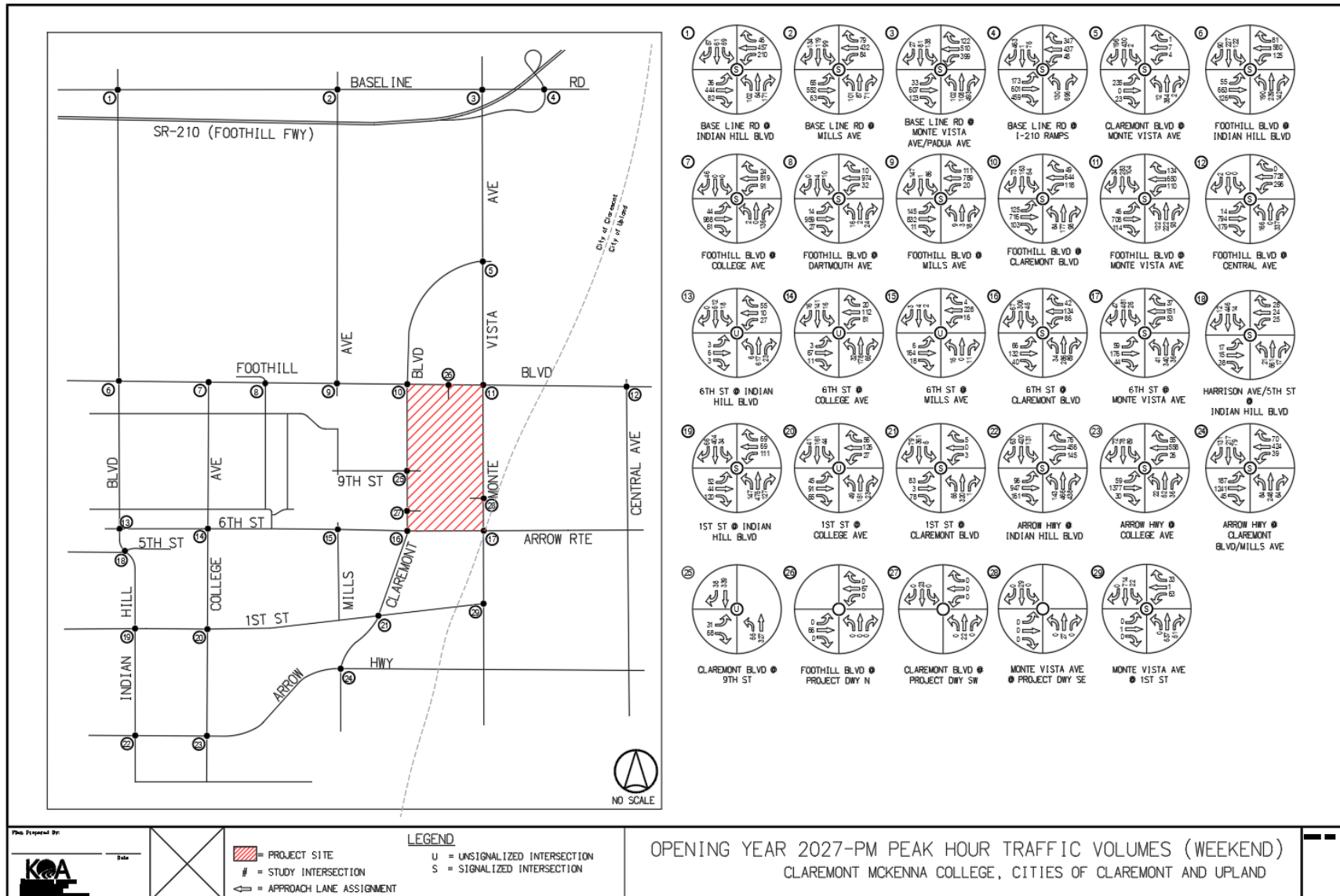


FIGURE 5.14 OPENING YEAR 2027 WITHOUT PROJECT (WEEKDAY) INTERSECTION LOS – AM & PM PEAK HOURS

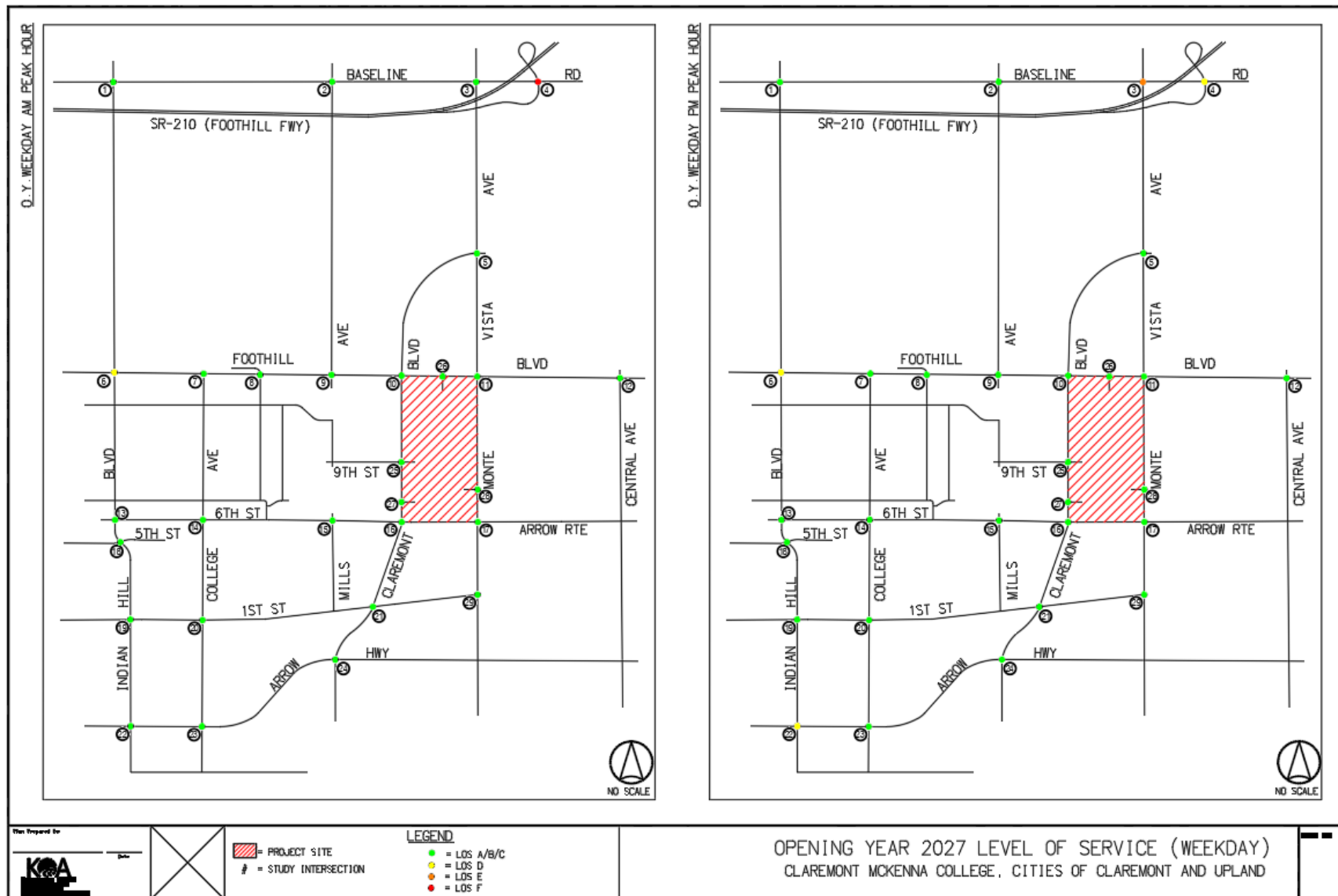


FIGURE 5.15 OPENING YEAR 2027 WITHOUT PROJECT (WEEKEND) INTERSECTION LOS – MD & PM PEAK HOURS

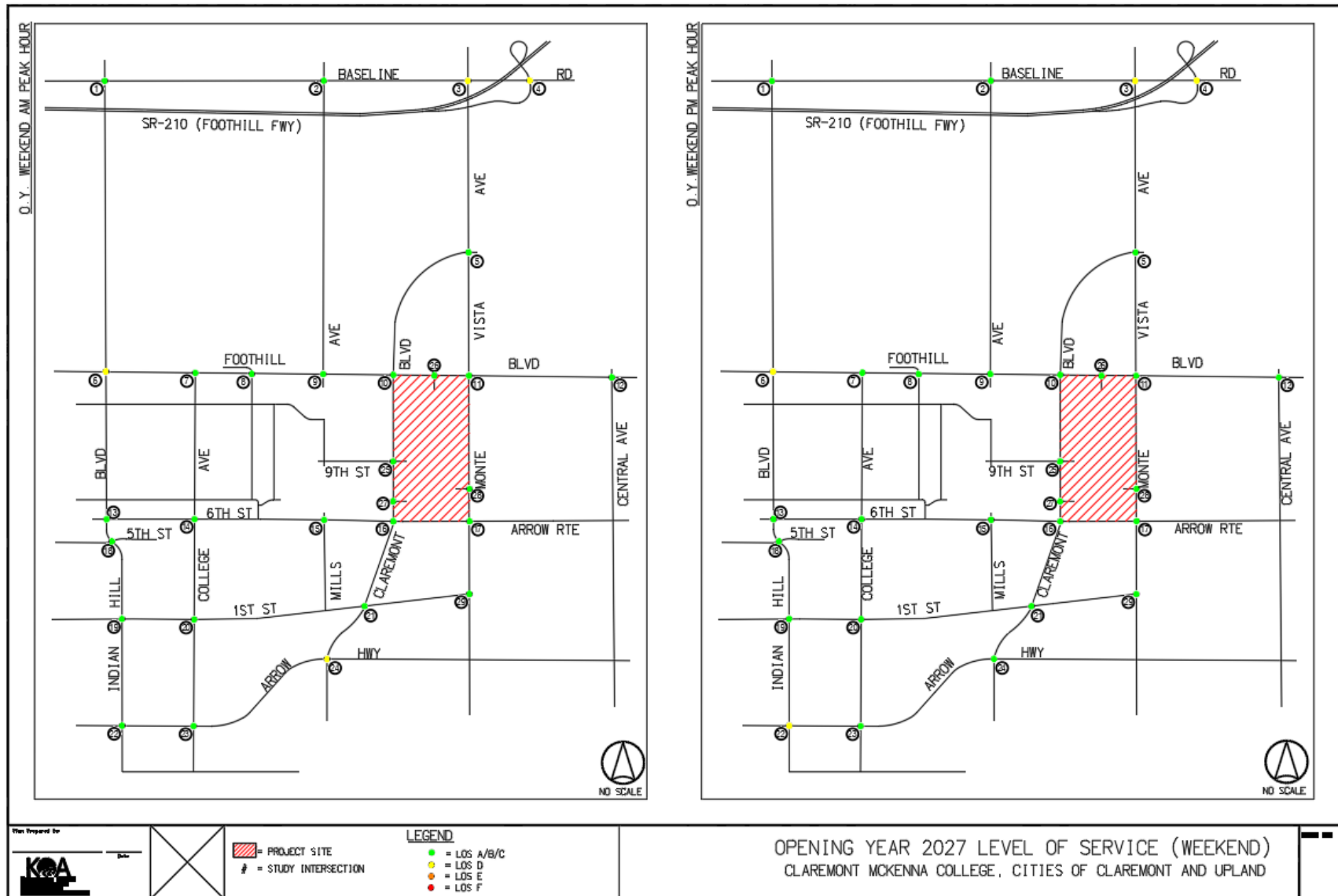


Table 5.4 summarizes the weekday and weekend intersection peak hour level of service conditions under Opening Year 2027, without the Project.

TABLE 5.4 OPENING YEAR 2027 WITHOUT PROJECT LOS SUMMARY

Study Intersection		Minimum Acceptable LOS	Peak Hour	Weekday		Weekend	
No.	Intersection			LOS	Delay	LOS	Delay
1	Base Line Rd & Indian Hill Blvd	E	AM	C	23.5	C	20.5
			PM	C	20.8	C	20.2
2	Base Line Rd & Mills Ave	E	AM	B	18.9	B	17.8
			PM	B	18.4	B	17.2
3	Base Line Rd & Monte Vista/Padua Ave	E	AM	C	29.7	D	39.9
			PM	E	67.8	D	40.2
4	Base Line Rd & I-210 Ramps	E	AM	F	151.2	D	38.6
			PM	D	47.9	D	39.3
5	Claremont Blvd & Monte Vista Ave	E	AM	B	10.5	B	11.9
			PM	B	10.9	B	12.4
6	Foothill Blvd & Indian Hill Blvd	E	AM	D	36.3	D	40.2
			PM	D	36.2	D	37.2
7	Foothill Blvd & College Ave	E	AM	A	1.4	A	1.6
			PM	A	1.5	A	1.7
8	Foothill Blvd & Dartmouth Ave	E	AM	B	13.5	B	13.5
			PM	B	14.1	B	14.3
9	Foothill Blvd & Mills Ave	E	AM	C	32.0	C	30.0
			PM	C	33.0	C	27.7
10	Foothill Blvd & Claremont Blvd	E	AM	C	21.6	C	20.8
			PM	C	21.3	C	20.8
11	Foothill Blvd & Monte Vista Ave	D	AM	C	21.7	C	21.8
			PM	C	29.8	C	21.8
12	Foothill Blvd & Central Ave	D	AM	B	20.0	C	34.5
			PM	C	27.9	C	31.8
13	6th St & Indian Hill Blvd	D	AM	A	2.6	A	2.3
			PM	A	8.2	A	2.7
14	6th St & College Ave	D	AM	B	11.3	B	11.1
			PM	B	12.8	B	10.9
15	6th St & Mills Ave	D	AM	A	8.5	A	8.8
			PM	B	10.1	A	8.8
16	6th St/Arrow Rte & Claremont Blvd	D	AM	B	17.7	B	17.4
			PM	B	19.9	B	17.4
17	Arrow Rte & Monte Vista Ave	D	AM	B	16.5	B	15.6
			PM	B	16.9	B	15.2
18	Harrison Ave/5th St & Indian Hill Blvd	D	AM	C	26.9	B	18.3
			PM	B	19.6	A	10.0
19	1st St & Indian Hill Blvd	D	AM	B	10.3	B	13.9
			PM	B	14.0	B	13.4
20	1st St & College Ave	D	AM	B	12.3	B	11.1
			PM	C	16.2	B	12.3
21	1st St & Claremont Blvd	D	AM	A	5.7	A	8.8
			PM	B	10.5	A	9.0
22	Arrow Hwy & Indian Hill Blvd	E	AM	C	28.6	C	30.4
			PM	D	38.8	D	41.8
23	Arrow Hwy & College Ave	E	AM	B	12.3	B	13.6
			PM	B	13.0	B	14.1
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	AM	C	32.1	D	35.9
			PM	C	32.6	C	33.7

25	Claremont Blvd & 9th St	D	AM	A	2.5	A	2.0
			PM	A	2.9	A	2.0
26	Foothill Blvd & Project Dwy N	E	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
27	Claremont Blvd & Project Dwy SW	D	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
28	Monte Vista Ave & Project Dwy SE	D	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
29	Monte Vista Ave & 1st St/Richton St	D	AM	A	7.2	A	6.5
			PM	A	8.0	A	8.2

Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

A review of Table 5.4 indicates that Study Intersection #4: Base Line Road at the I-210 On/Off-Ramps is forecast to operate at unacceptable level of service during AM peak hour.

Appendix C contains the Opening Year Without Project Traffic Conditions delay and LOS calculation worksheets for each study intersection.

5.3.2 Opening Year 2027 With Project Conditions

Table 5.5 summarizes the intersection levels of service with the addition of the Project. Review of Table 5.5 indicates that the intersection of Base Line Road at the I-210 On/Off-Ramps is forecast to continue operating at an unacceptable level of service with the addition of Project traffic, for each of the sub-analysis scenarios, i.e., Weekday: Practice Day; Weekday: Game Day; Weekend: Game Day – Fall; and Weekend: Game day – Spring. The remaining key study intersections are forecast to operate at an acceptable level of service during Practice and Game Days during the AM and PM peak hours with the addition of Project traffic.

TABLE 5.5 OPENING YEAR 2027 WITH PROJECT LOS SUMMARY

No.	Intersection	Minimum Acceptable LOS	Peak Hour	Practice Day		Game Day		Game Day (Fall)		Game Day (Spring)	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	Base Line Rd & Indian Hill Blvd	E	AM	C	24.1	C	23.5	C	20.4	C	20.4
			PM	C	20.9	C	20.9	C	20.7	B	11.8
2	Base Line Rd & Mills Ave	E	AM	B	19.8	B	18.9	B	17.7	B	17.7
			PM	B	18.4	B	18.4	B	17.1	B	17.2
3	Base Line Rd & Monte Vista/Padua Ave	E	AM	C	29.7	C	29.7	D	40.1	D	44.4
			PM	E	63.9	E	66.0	D	45.1	D	46.0
4	Base Line Rd & I-210 Ramps	E	AM	F	151.2	F	151.2	D	44.7	D	44.8
			PM	E	57.6	D	47.8	D	39.4	D	39.2
5	Claremont Blvd & Monte Vista Ave	E	AM	B	10.5	B	10.5	B	11.8	B	11.9
			PM	B	14.2	B	14.3	B	12.8	B	12.7
6	Foothill Blvd & Indian Hill Blvd	E	AM	D	36.3	D	36.3	D	40.2	D	39.6
			PM	D	36.2	D	36.2	D	37.1	D	37.2
7	Foothill Blvd & College Ave	E	AM	A	1.4	A	1.4	A	1.6	A	1.6
			PM	A	1.5	A	1.5	A	1.9	A	1.9
8	Foothill Blvd & Dartmouth Ave	E	AM	B	13.5	B	13.7	B	13.4	B	13.4
			PM	B	14.1	B	14.1	B	14.5	B	14.4
9	Foothill Blvd & Mills Ave	E	AM	C	32.0	C	32.0	C	32.8	C	31.8
			PM	C	33.5	C	33.8	c	29.3	C	28.9
10	Foothill Blvd & Claremont Blvd	E	AM	C	21.6	C	21.6	C	21.1	C	21.0
			PM	C	21.3	C	21.0	C	20.3	C	20.4
11	Foothill Blvd & Monte Vista Ave	D	AM	C	21.3	C	21.3	C	22.0	C	21.9
			PM	C	31.4	C	32.5	C	23.8	C	22.8
12	Foothill Blvd & Central Ave	D	AM	B	20.0	B	20.0	C	34.3	C	34.4
			PM	C	29.8	C	30.1	C	31.9	C	31.8
13	6th St & Indian Hill Blvd	D	AM	A	2.6	A	2.6	A	2.4	A	2.4
			PM	B	10.1	B	11.4	A	5.0	A	4.0
14	6th St & College Ave	D	AM	B	11.3	B	11.3	B	11.3	B	11.2
			PM	B	12.9	B	13.0	B	11.2	B	11.1
15	6th St & Mills Ave	D	AM	A	8.5	A	8.5	A	8.9	A	8.8
			PM	B	10.2	B	10.2	A	9.1	A	8.9
16	6th St/Arrow Rte & Claremont Blvd	D	AM	B	17.7	B	17.7	B	17.8	B	17.6
			PM	C	20.0	C	20.0	B	17.7	B	17.6
17	Arrow Rte & Monte Vista Ave	D	AM	B	16.5	B	16.5	B	16.2	B	16.0
			PM	B	17.0	B	17.2	B	15.4	B	15.3
18	Harrison Ave/5th St & Indian Hill Blvd	D	AM	C	26.9	C	26.9	B	18.8	B	18.7
			PM	B	19.5	B	19.5	A	9.9	A	9.9
19	1st St & Indian Hill Blvd	D	AM	B	10.3	B	13.8	B	14.2	B	13.9

			PM	B	14.1	B	14.2	B	13.8	B	13.6
20	1st St & College Ave	D	AM	B	12.3	B	12.3	B	11.2	B	11.2
			PM	C	16.4	D	25.2	B	12.6	B	12.5
21	1st St & Claremont Blvd	D	AM	A	5.7	A	5.7	A	9.2	A	9.0
			PM	B	10.4	B	10.4	A	8.6	A	8.7
22	Arrow Hwy & Indian Hill Blvd	E	AM	C	28.6	C	28.5	C	30.9	C	30.7
			PM	D	39.4	D	39.8	D	44.6	D	43.3
23	Arrow Hwy & College Ave	E	AM	B	12.3	B	12.3	B	13.7	B	13.7
			PM	B	13.0	B	12.9	B	14.0	B	14.0
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	AM	C	32.1	C	32.1	C	28.7	C	28.6
			PM	C	32.7	C	32.7	C	33.7	C	33.7
25	Claremont Blvd & 9th St	D	AM	B	11.3	B	11.3	C	27.7	B	17.5
			PM	B	16.6	B	18.1	C	20.7	B	18.3
26	Foothill Blvd & Project Dwy N	E	AM	A	0.0	A	0.0	A	0.1	A	0.1
			PM	A	1.3	A	1.9	A	2.9	A	2.1
27	Claremont Blvd & Project Dwy SW	D	AM	A	0.0	A	0.0	A	0.2	A	0.2
			PM	A	1.7	A	2.0	A	2.4	A	2.1
28	Monte Vista Ave & Project Dwy SE	D	AM	A	0.0	A	0.0	A	0.3	A	0.3
			PM	A	3.1	A	4.3	A	5.5	A	4.2
29	Monte Vista Ave & 1st St/Richton St	D	AM	A	7.2	A	7.2	A	6.5	A	6.5
			PM	A	8.0	A	8.0	A	7.9	A	8.0

Bold Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

5.3.2a Opening Year 2027 Cumulative Plus Project (Weekday: Practice Day) Traffic

Project trip estimates for the Weekday: Practice Day scenario, as shown on Table 5.3, were added to the Opening Year 2027 Cumulative Without Project conditions to develop traffic projections for the Year 2027 Cumulative Plus Project (Weekday: Practice Day) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.16** and **5.17**, respectively. **Figure 5.18** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.3.2b Opening Year 2027 Cumulative Plus Project (Weekday: Game Day) Traffic

Project trip estimates for the Weekday: Game Day scenario, as shown on Table 5.3, were added to the Opening Year 2027 Cumulative Without Project conditions to develop traffic projections for the Year 2027 Cumulative Plus Project (Weekday: Game Day) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.19** and **5.20**, respectively. **Figure 5.21** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.3.2c Opening Year 2027 Cumulative Plus Project (Weekend: Game Day – Fall) Traffic

Project trip estimates for the Weekend: Game Day (Fall) scenario, as shown on Table 5.3, were added to the Opening Year 2027 Cumulative Without Project conditions to develop traffic projections for the Year 2027 Cumulative Plus Project (Weekend: Game Day – Fall) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.22** and **5.23**, respectively. **Figure 5.24** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.3.2d Opening Year 2027 Cumulative Plus Project (Weekend: Game Day – Spring) Traffic

Project trip estimates for the Weekend: Game Day (Spring) scenario, as shown on Table 5.3, were added to the Opening Year 2027 Cumulative Without Project conditions to develop traffic projections for the Year 2027 Cumulative Plus Project (Weekend: Game Day – Spring) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.25** and **5.26**, respectively. **Figure 5.27** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

Appendix D contains the Opening Year with Project Traffic Conditions Delay/LOS calculation worksheets for the key study intersections.

FIGURE 5.16 OPENING YEAR 2027 WITH PROJECT (WEEKDAY PRACTICE DAY) TRAFFIC VOLUMES – AM PEAK HOUR

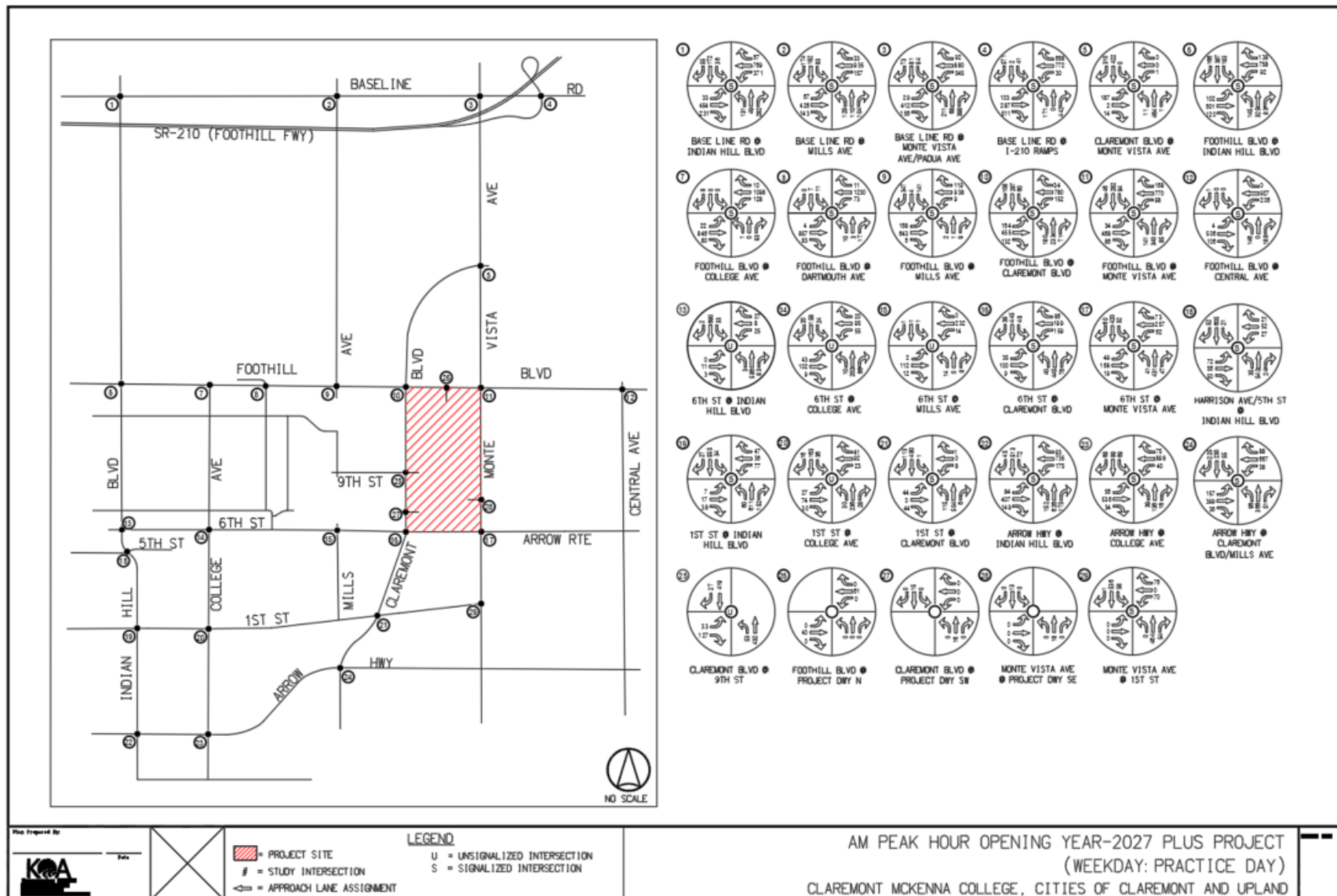


FIGURE 5.17 OPENING YEAR 2027 WITH PROJECT (WEEKDAY PRACTICE DAY) TRAFFIC VOLUMES – PM PEAK HOUR

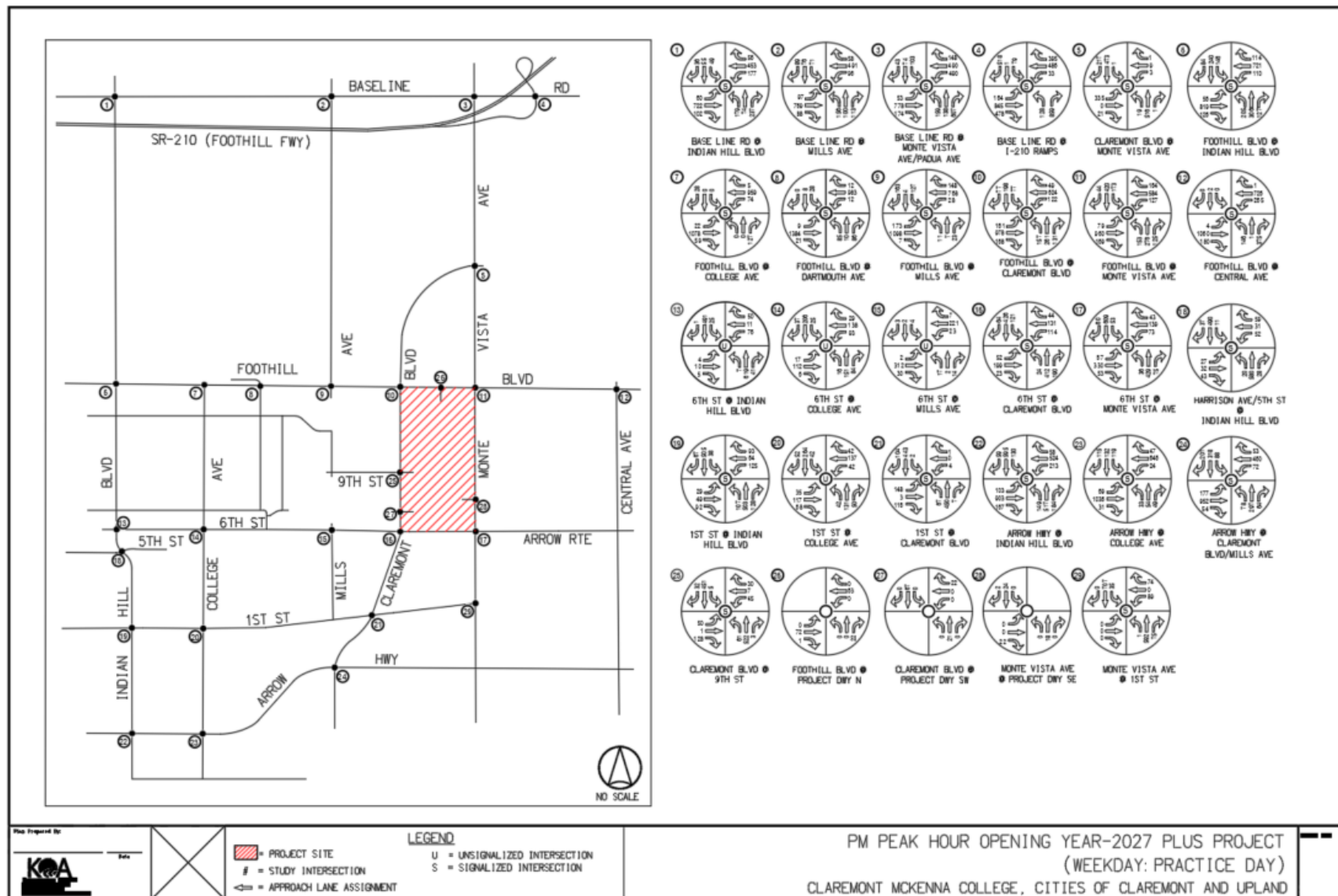


FIGURE 5.18 OPENING YEAR 2027 WITH PROJECT (WEEKDAY PRACTICE DAY) INTERSECTION LOS – AM & PM PEAK HOURS

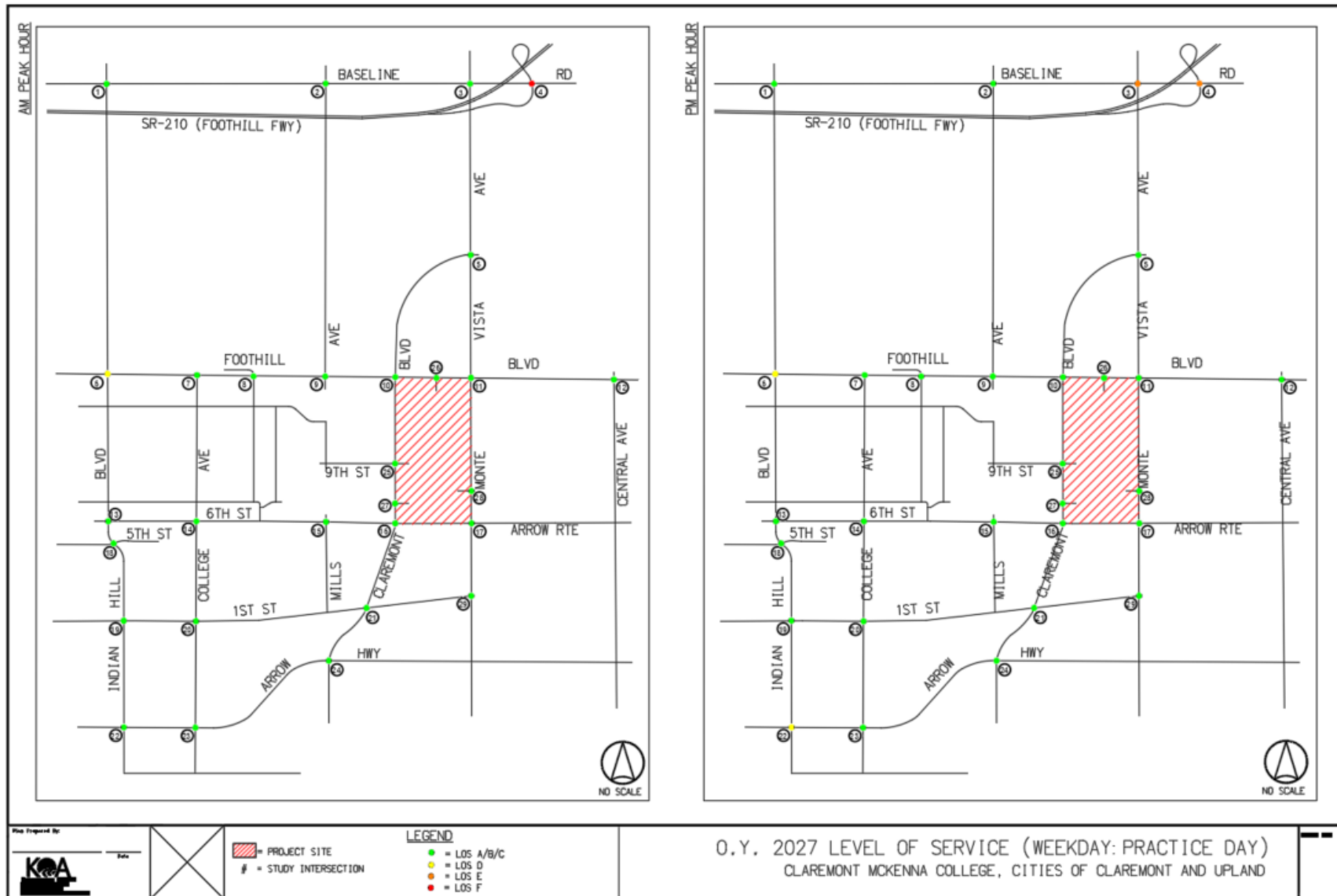


FIGURE 5.19 OPENING YEAR 2027 WITH PROJECT (WEEKDAY GAME DAY) TRAFFIC VOLUMES – AM PEAK HOUR

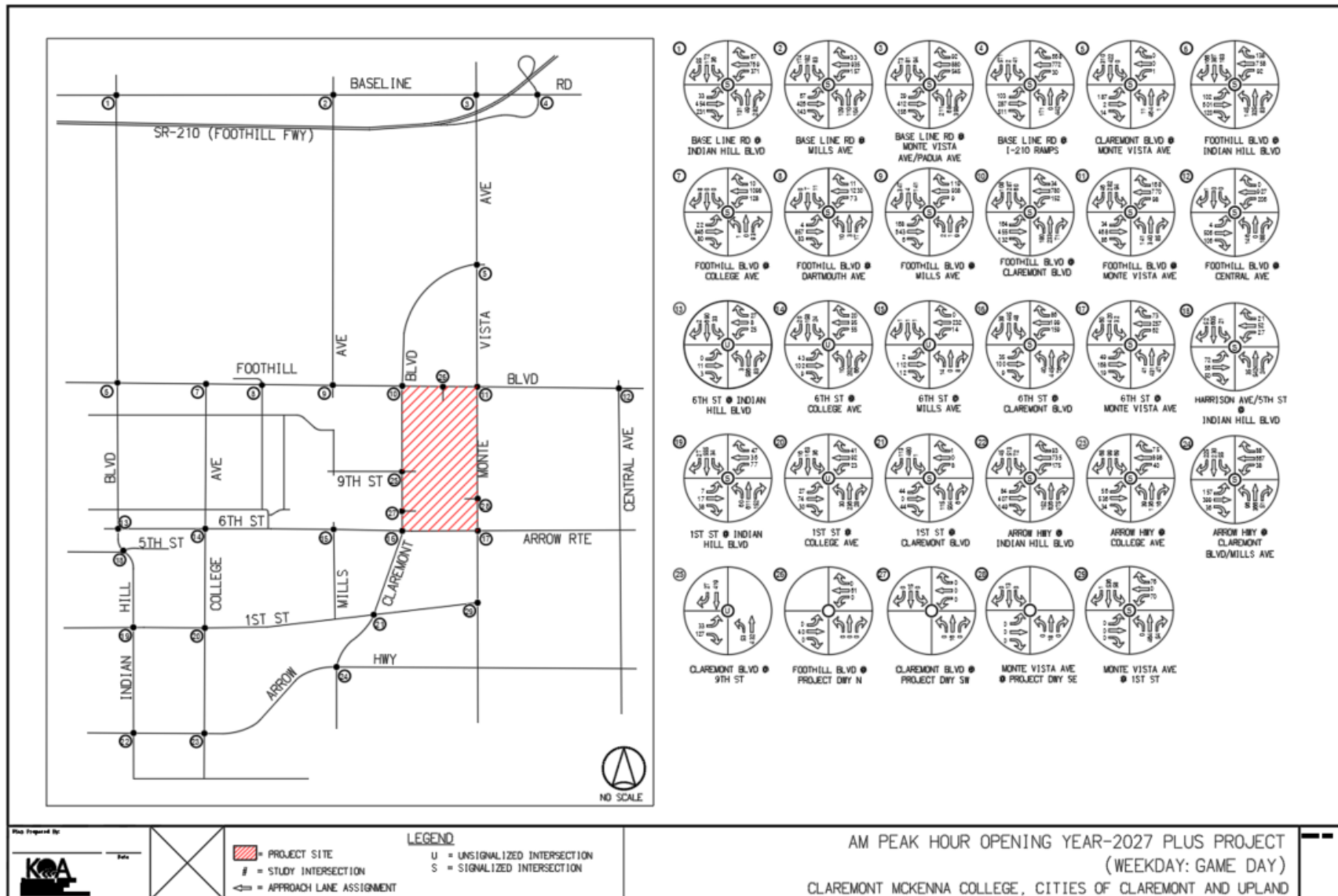


FIGURE 5.20 OPENING YEAR 2027 WITH PROJECT (WEEKDAY GAME DAY) TRAFFIC VOLUMES – PM PEAK HOUR

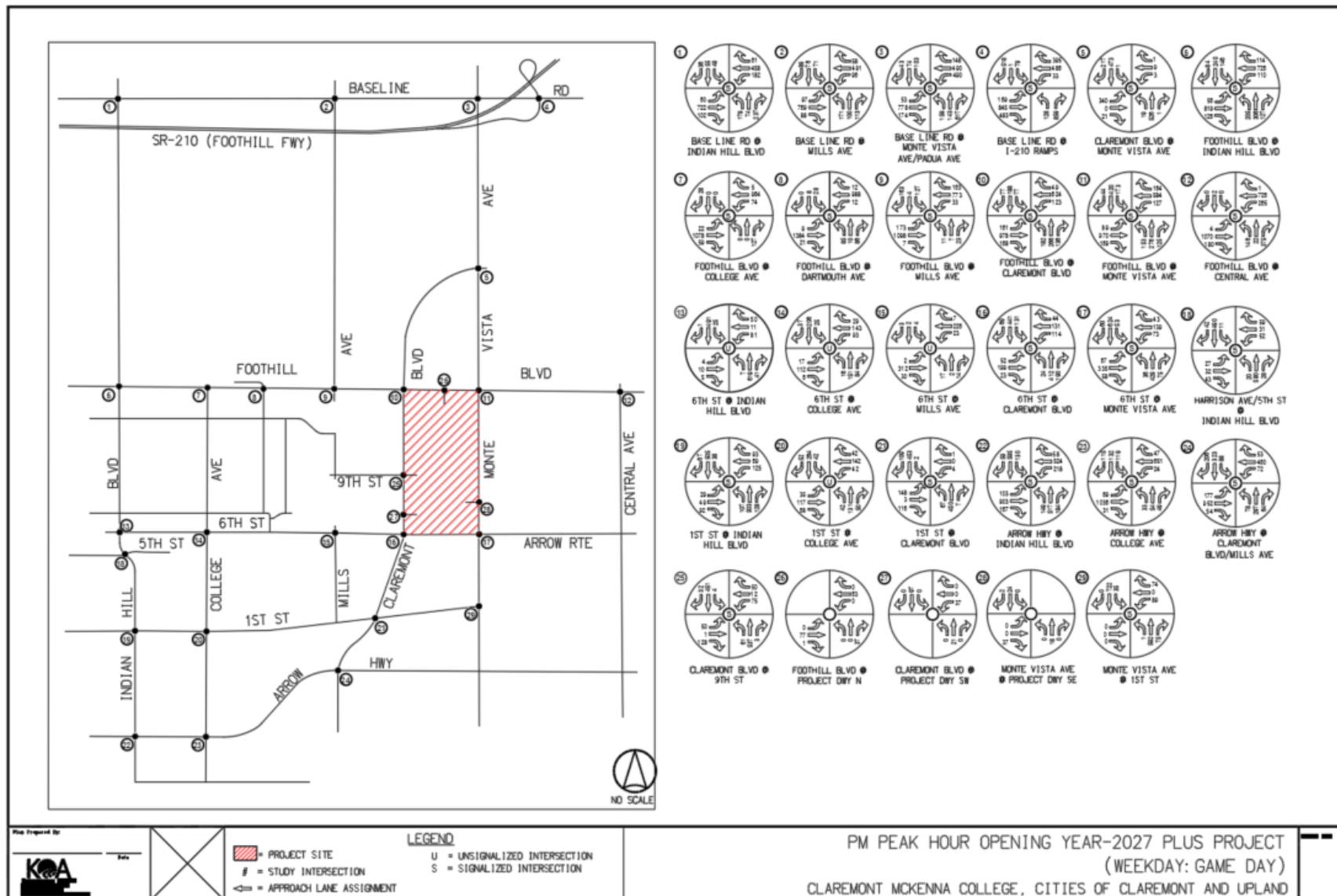


FIGURE 5.21 OPENING YEAR 2027 WITH PROJECT (WEEKDAY GAME DAY) INTERSECTION LOS – AM & PM PEAK HOUR S

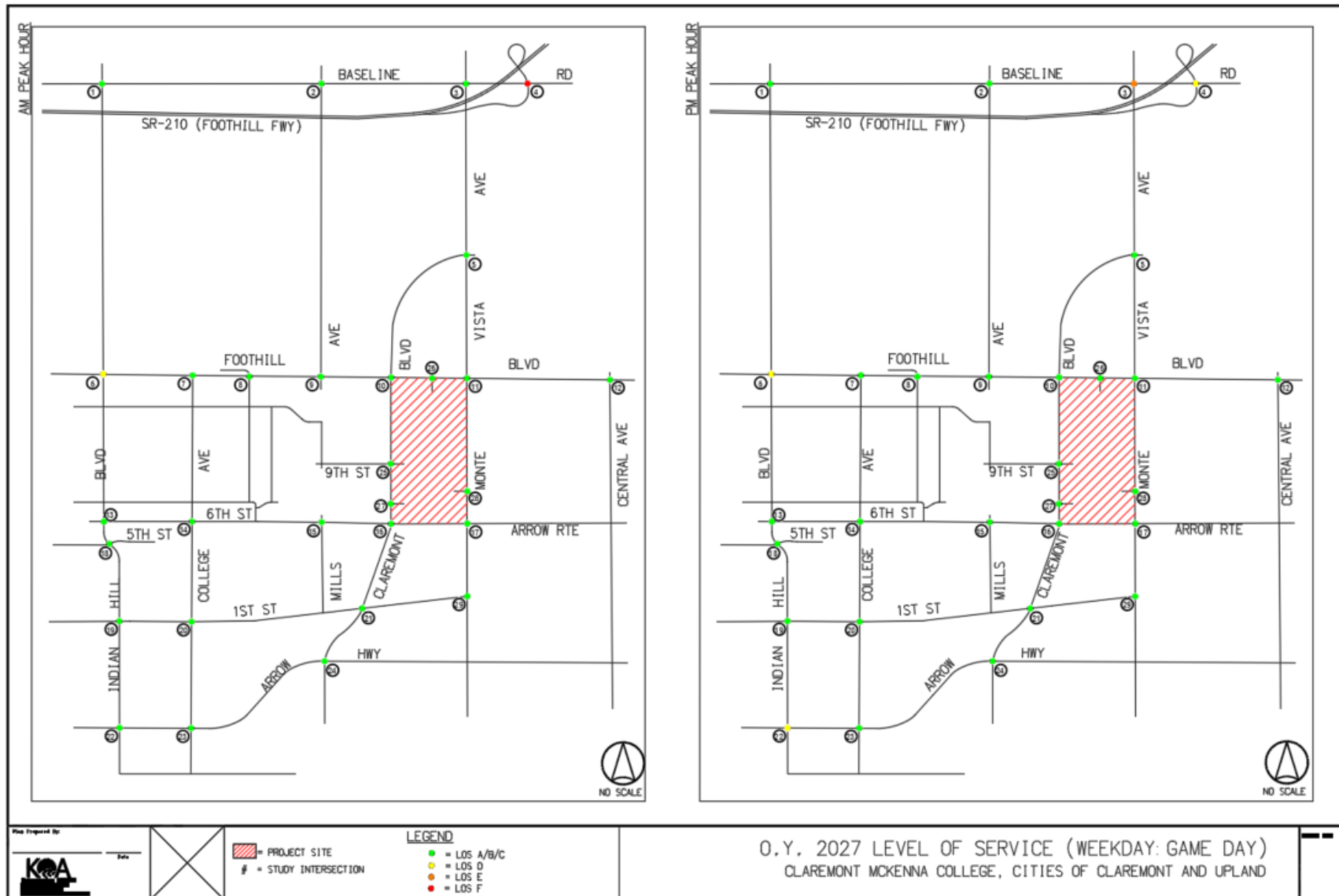


FIGURE 5.22 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [FALL]) TRAFFIC VOLUMES – AM PEAK HOUR

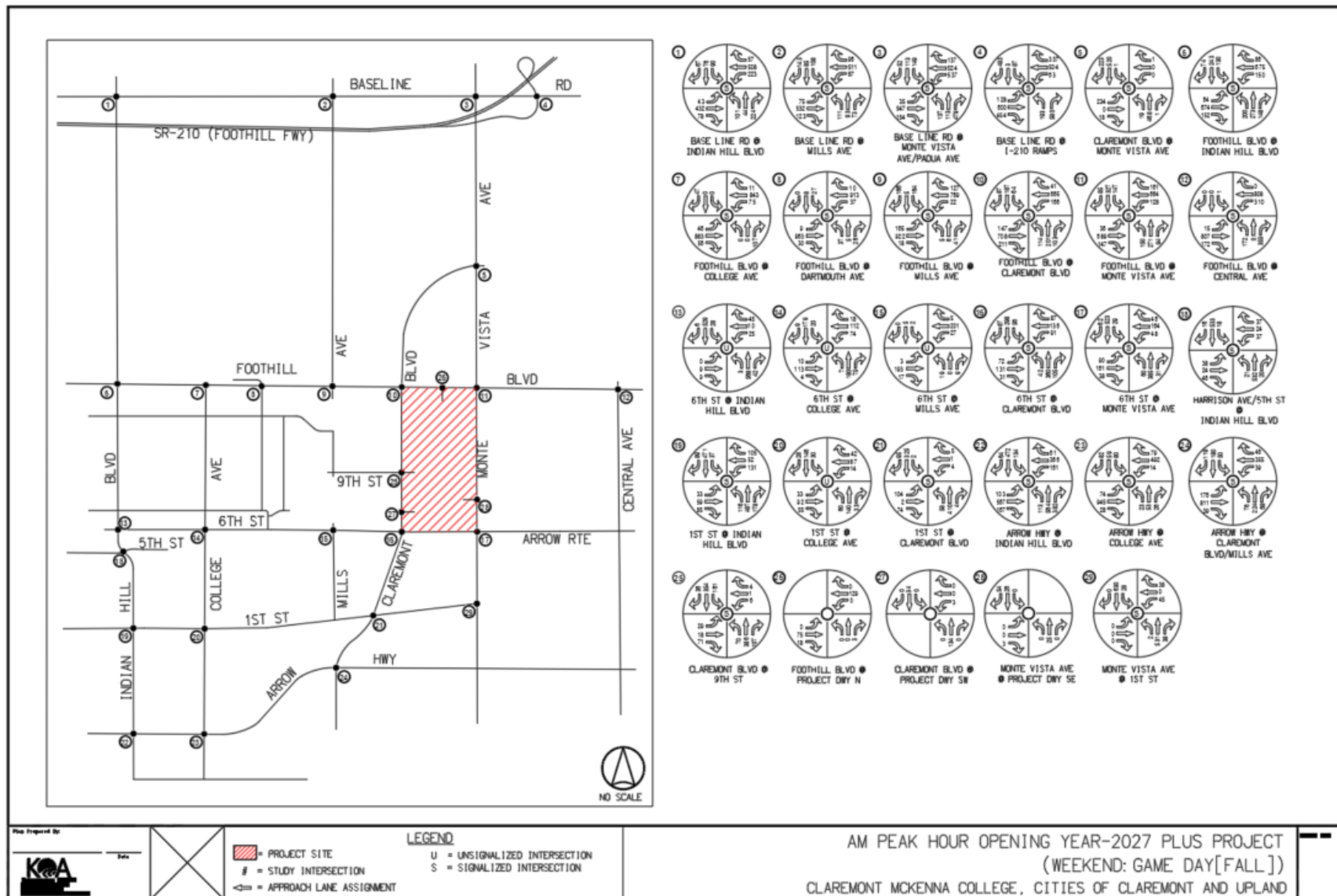


FIGURE 5.23 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [FALL]) TRAFFIC VOLUMES – PM PEAK HOUR

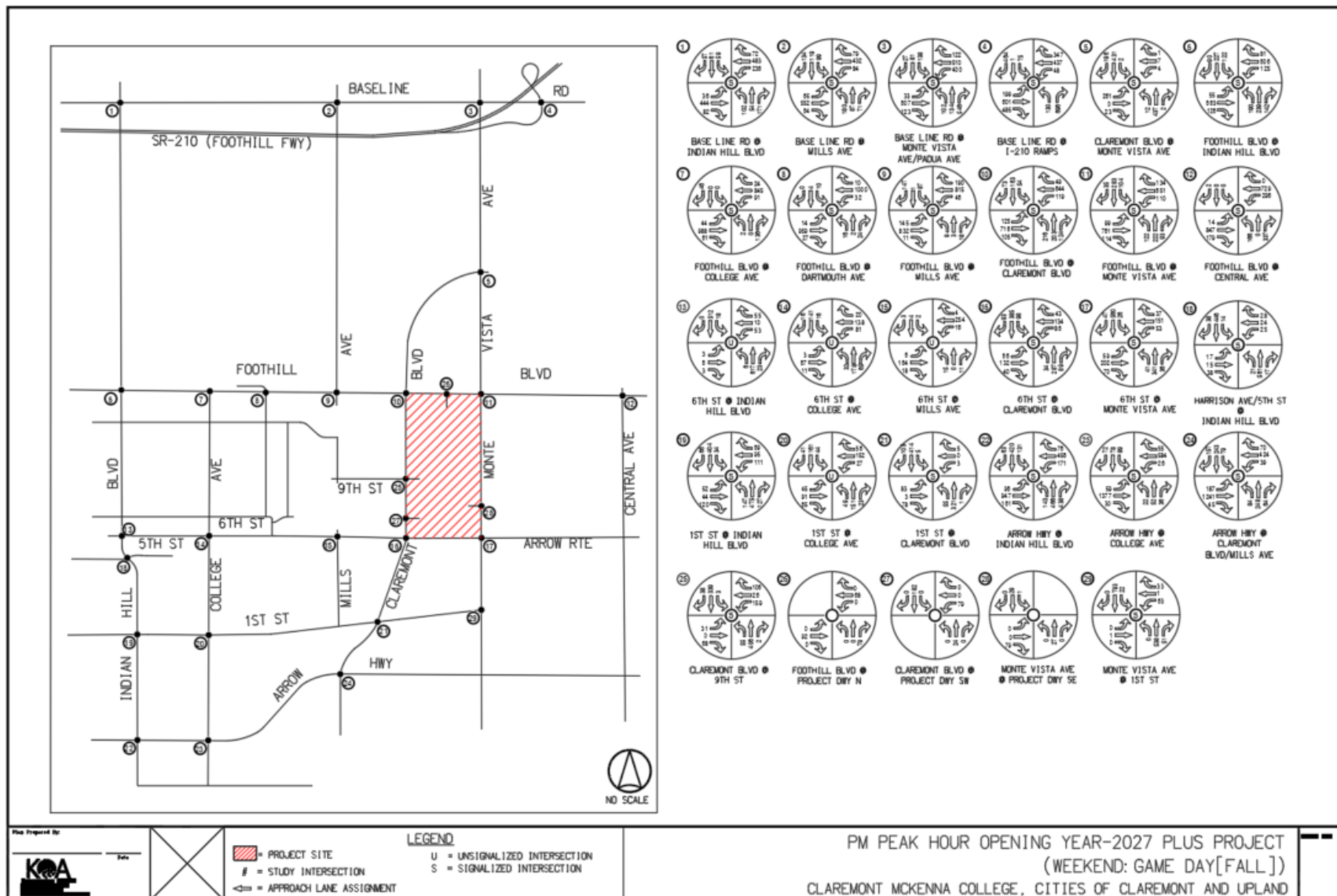


FIGURE 5.24 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [FALL]) INTERSECTION LOS – AM & PM PEAK HOURS

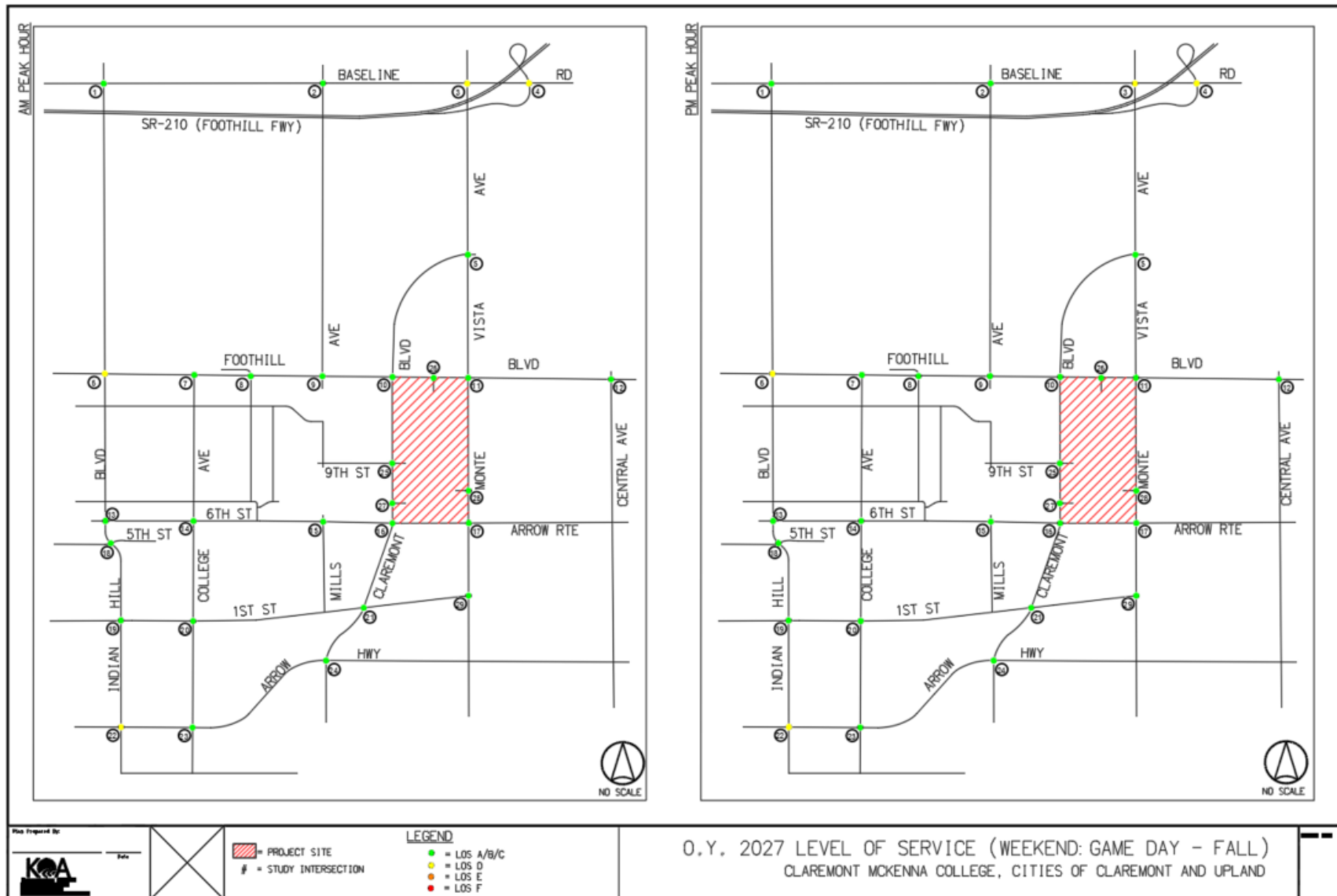


FIGURE 5.25 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [SPRING]) TRAFFIC VOLUMES – AM PEAK HOUR

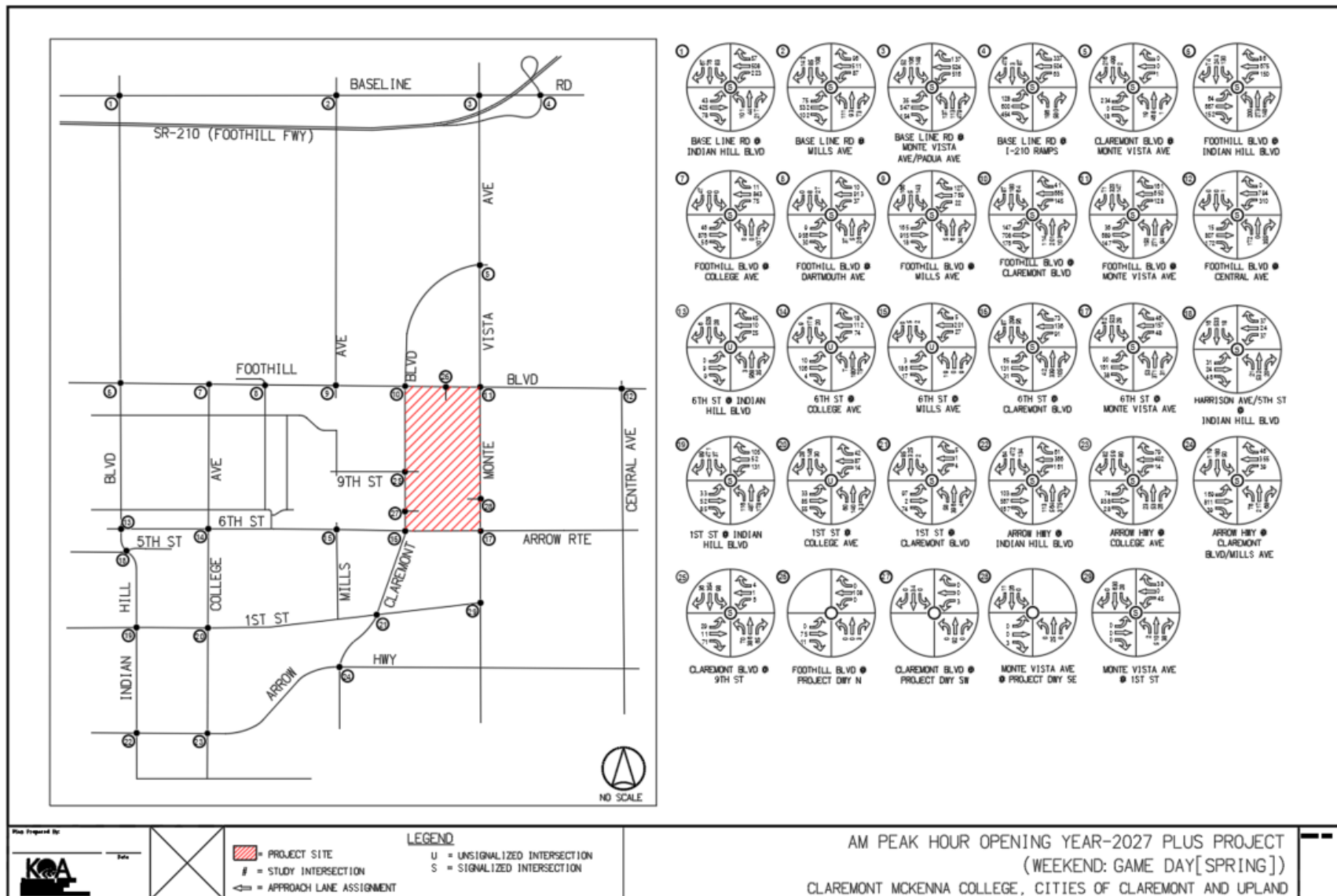


FIGURE 5.26 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [SPRING]) TRAFFIC VOLUMES – PM PEAK HOUR

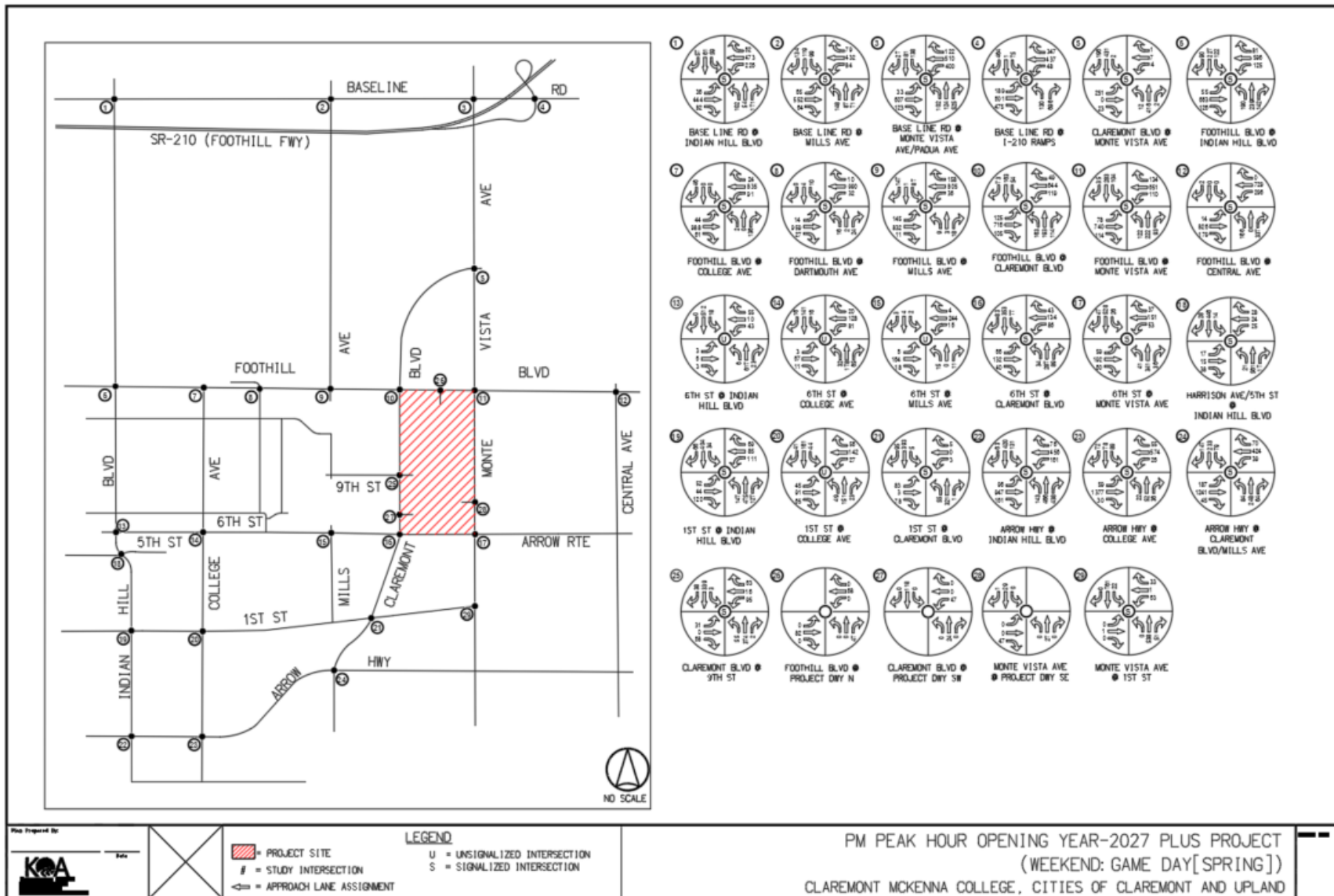
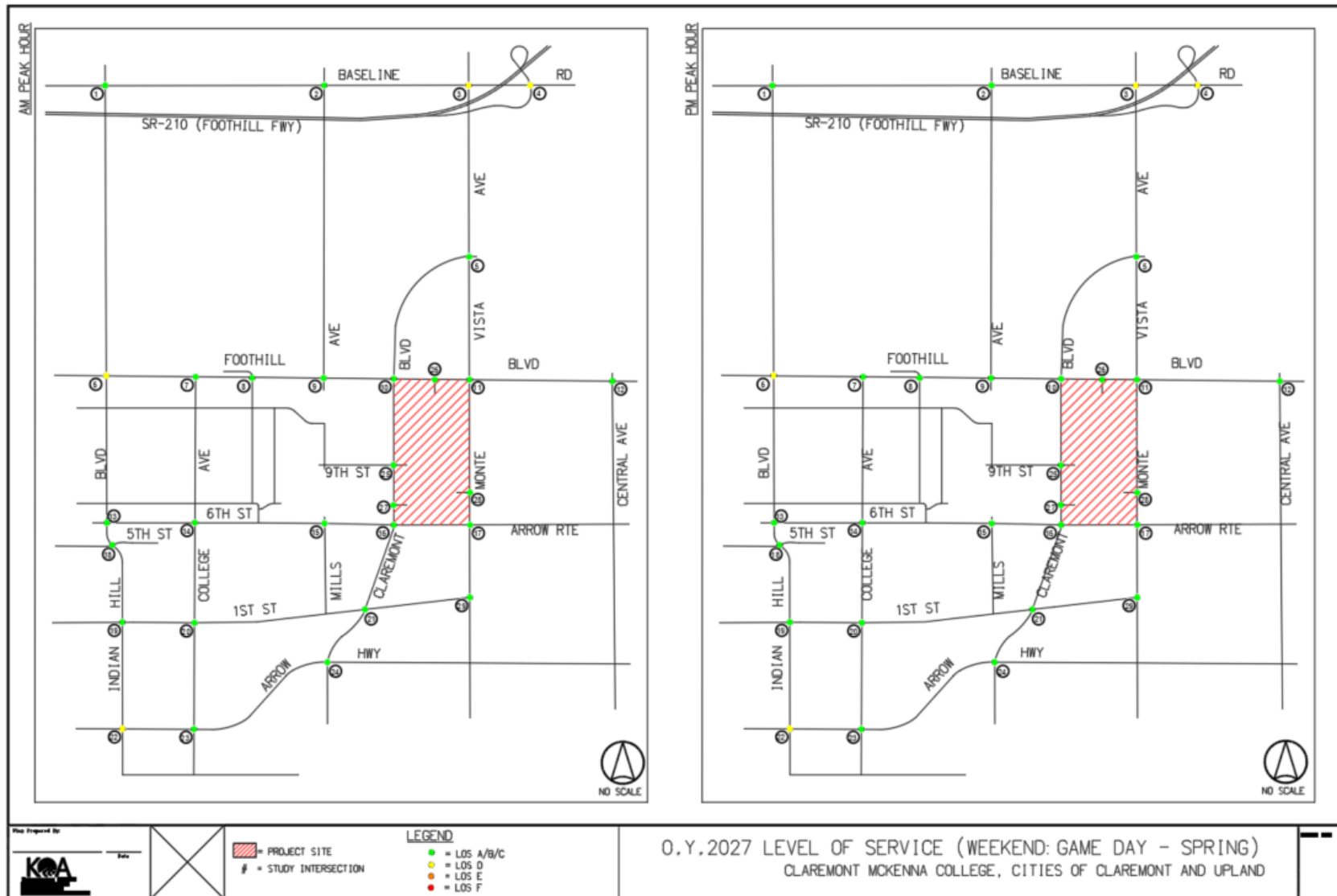


FIGURE 5.27 OPENING YEAR 2027 WITH PROJECT (WEEKEND GAME DAY [SPRING]) AM & PM PEAK HOUR LOS



5.4 HORIZON YEAR 2045

The long-range impacts of the Project's traffic volumes on the surrounding street network were evaluated under the context of intersection peak hour operating conditions in the Horizon Year 2045. The previously discussed capacity analysis procedures were utilized to investigate the effect of added project trips in the Year 2045, based on the incremental increases to intersection delay and level of service. The Project's potential "Non-CEQA impacts" at each key intersection was then determined using City traffic impact criteria previously described in this report.

5.4.1 Horizon Year 2045 Without Project Conditions

Horizon Year (HY) 2045 Without Project conditions reflect the long-range modeled regional traffic growth in the area, including all known additional cumulative developments assumed to be completed under the HY-2045 timeframe. From the list of cumulative projects shown on Table 5.1, project numbers 3, 4, 7, 8, 12-14, 26-30, and 32 were added to the previous OY-2027 cumulative project baseline trip forecast. The Future Year 2045 traffic volume forecasts were developed using the Southern California Association of Governments' (SCAG) Year 2040 model data as the basis. It should be noted that at the time of this study's preparation, SCAG's model is not generating link volume data for Year 2045, and therefore as a result the Year 2040 volumes were refined further to reflect Year 2045 projections and intersection turning movements at each study intersection.

The future land use assumptions in the SCAG model were then reviewed and compared to the estimated assumptions of household and employment growth for each related project to determine whether the growth from these related projects was already included within the model assumptions. If a proposed related project was estimated to exceed the growth associated with its Transportation Analysis Zone (TAZ), then it was determined that the SCAG does not include the related project in its future assumptions, and therefore the related project's trips were incorporated into the traffic forecast for the Without Project condition. If a proposed related project was estimated to not exceed the growth associated with its TAZ, then it was assumed that the related project's growth is already accounted for in the SCAG.

The HY-2045 weekday traffic volume conditions, without the Project's AM and PM peak hour trips, are illustrated in **Figures 5.28 and 5.29**.

HY-2045 Without Project traffic volume conditions were developed for the weekend MD and PM peak-hours as well, to reflect the potential effects of Saturday Game Day traffic on local traffic conditions in the Year 2045. **Figures 5.30 and 5.31** illustrate the HY-2045 weekend traffic volume conditions, without the Project's MD and PM peak hour trips.

Figures 5.32 and 5.33 graphically illustrate the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

Table 5.6 represents the level of service during the weekday and weekend AM and PM under the Horizon Year 2045 cumulative traffic conditions.

TABLE 5.6 HORIZON YEAR 2045 WITHOUT PROJECT LOS SUMMARY

Study Intersection		Minimum Acceptable LOS	Peak Hour	Weekday		Weekend	
No.	Intersection			LOS	Delay	LOS	Delay
1	Base Line Rd & Indian Hill Blvd	E	AM	C	26.9	C	24.1
			PM	C	26.2	C	22.7
2	Base Line Rd & Mills Ave	E	AM	D	39.8	C	20.6
			PM	C	24.1	C	23.2
3	Base Line Rd & Monte Vista/Padua Ave	E	AM	D	41.3	D	46.3
			PM	E	66.9	D	44
4	Base Line Rd & I-210 Ramps	E	AM	E	69.6	E	72.5
			PM	D	49.6	D	46.2
5	Claremont Blvd & Monte Vista Ave	E	AM	C	21.8	B	11.9
			PM	B	19.4	C	20.7
6	Foothill Blvd & Indian Hill Blvd	E	AM	E	63.5	E	58.4
			PM	E	60.9	E	62.3
7	Foothill Blvd & College Ave	E	AM	A	1.5	A	1.5
			PM	A	1.4	A	2.1
8	Foothill Blvd & Dartmouth Ave	E	AM	B	12.9	B	14.3
			PM	B	15.2	B	14.0
9	Foothill Blvd & Mills Ave	E	AM	C	33.4	C	30.3
			PM	C	32.9	C	28.4
10	Foothill Blvd & Claremont Blvd	E	AM	C	23.9	C	21.9
			PM	C	22.0	C	21.5
11	Foothill Blvd & Monte Vista Ave	D	AM	C	28.7	C	32.3
			PM	D	39.1	C	25.4
12	Foothill Blvd & Central Ave	D	AM	B	18.6	C	24.2
			PM	C	32.6	C	23.5
13	6th St & Indian Hill Blvd	D	AM	F	54.9	F	71.3
			PM	F	68.0	F	99.3
14	6th St & College Ave	D	AM	C	17.8	C	22.5
			PM	E	40.1	E	37.2
15	6th St & Mills Ave	D	AM	A	9.3	B	10.8
			PM	B	12.3	B	11.6
16	6th St/Arrow Rte & Claremont Blvd	D	AM	C	32.0	D	37.1
			PM	D	42.4	D	35.9
17	Arrow Rte & Monte Vista Ave	D	AM	D	38.3	D	39.1
			PM	C	29.0	C	26.3
18	Harrison Ave/5th St & Indian Hill Blvd	D	AM	C	28.4	B	15.1
			PM	C	31.7	C	23.3
19	1st St & Indian Hill Blvd	D	AM	B	18	C	23.5
			PM	C	22.1	C	21.1
20	1st St & College Ave	D	AM	C	20.4	B	14.2
			PM	F	79.5	E	42.5
21	1st St & Claremont Blvd	D	AM	B	11.4	A	8.5
			PM	B	19.0	B	15.0
22	Arrow Hwy & Indian Hill Blvd	E	AM	E	61.0	D	47.4
			PM	E	60.1	E	65.2
23	Arrow Hwy & College Ave	E	AM	B	13.1	B	13.5
			PM	B	12.2	B	14.1
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	AM	E	67.8	C	34.0
			PM	D	49.8	D	36.1
25	Claremont Blvd & 9th St	D	AM	A	2.3	A	1.9
			PM	A	2.6	A	1.9

26	Foothill Blvd & Project Dwy N	E	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
27	Claremont Blvd & Project Dwy SW	D	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
28	Monte Vista Ave & Project Dwy SE	D	AM	A	0.0	A	0.0
			PM	A	0.0	A	0.0
29	Monte Vista Ave & 1st St/Richton St	D	AM	B	12.7	A	7.4
			PM	B	10.5	B	11.4

Bold Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

Review of column LOS and Delay of Table 5.6 shows that four of the key study intersections are forecast to operate at unacceptable levels of service during the AM and/or PM peak hours under the Year 2045 Cumulative Weekday and Weekend traffic conditions. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under the Year 2045 Cumulative traffic conditions. The intersections forecast to have unacceptable levels of service are as follows:

Intersection Name	Jurisdiction	Peak Hour	Weekday		Weekend	
			LOS	Delay	LOS	Delay
13. 6 th St & Indian Hill Blvd	Claremont	AM	F	54.9	F	71.3
		PM	F	68.0	F	99.3
14. 6 th St & College Ave	Claremont	PM	E	40.1	E	37.2
20. 1 st St & College Ave	Claremont	PM	F	79.5	E	42.5

Appendix E contains the Horizon Year without Project Traffic Conditions Delay/LOS calculation worksheets for the key study intersections.

FIGURE 5.28 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKDAY AM

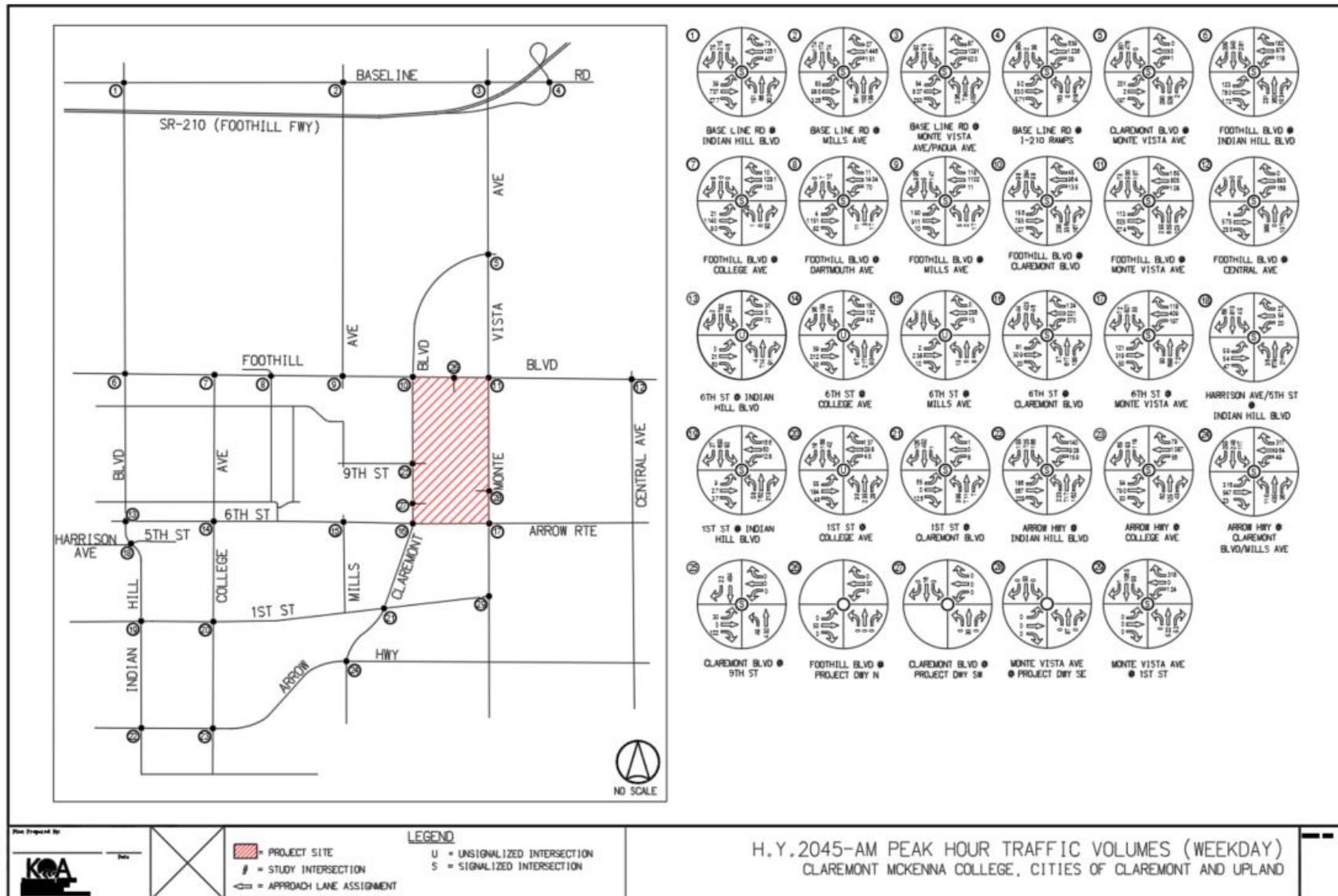


FIGURE 5.29 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKDAY PM

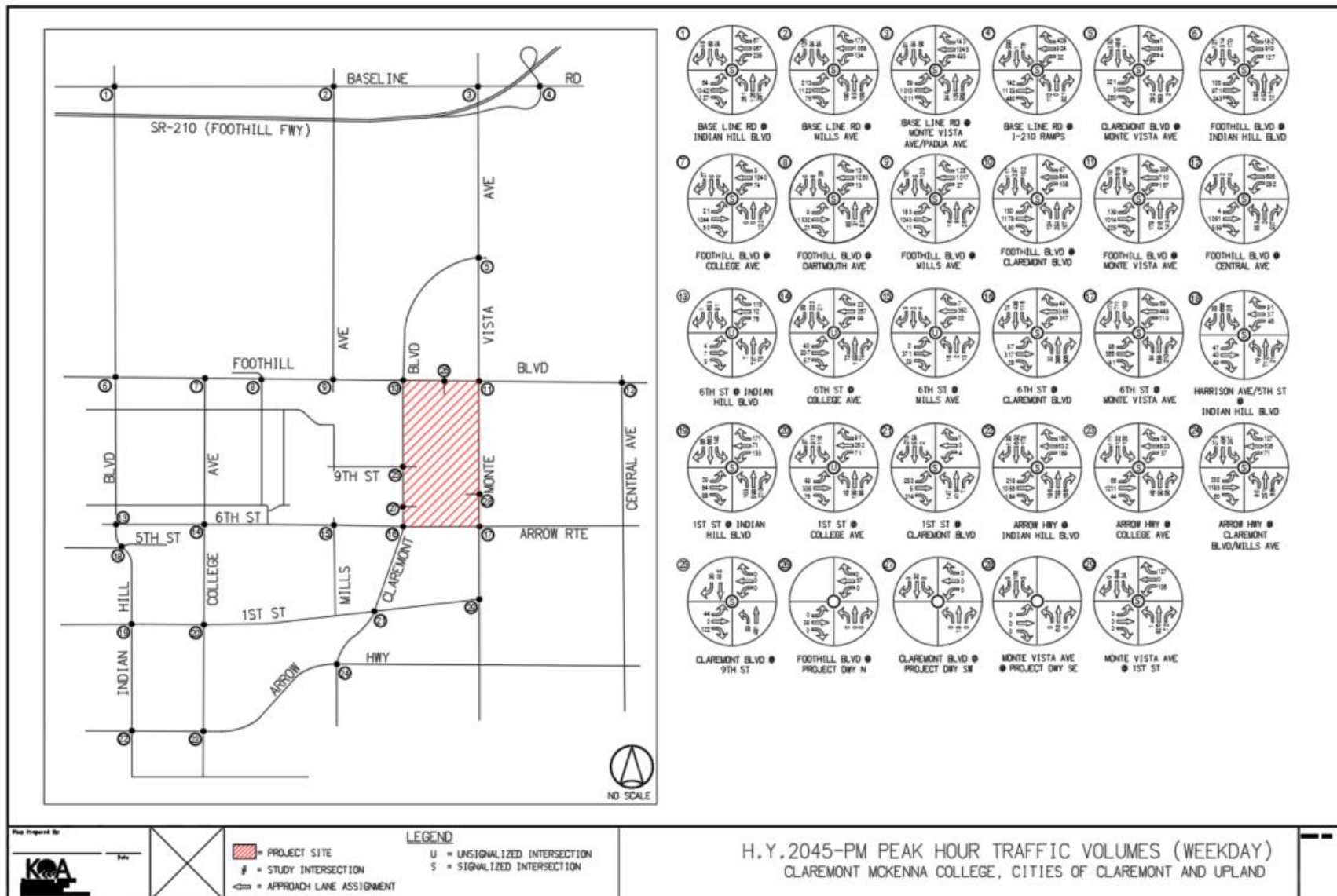


FIGURE 5.30 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKEND MD

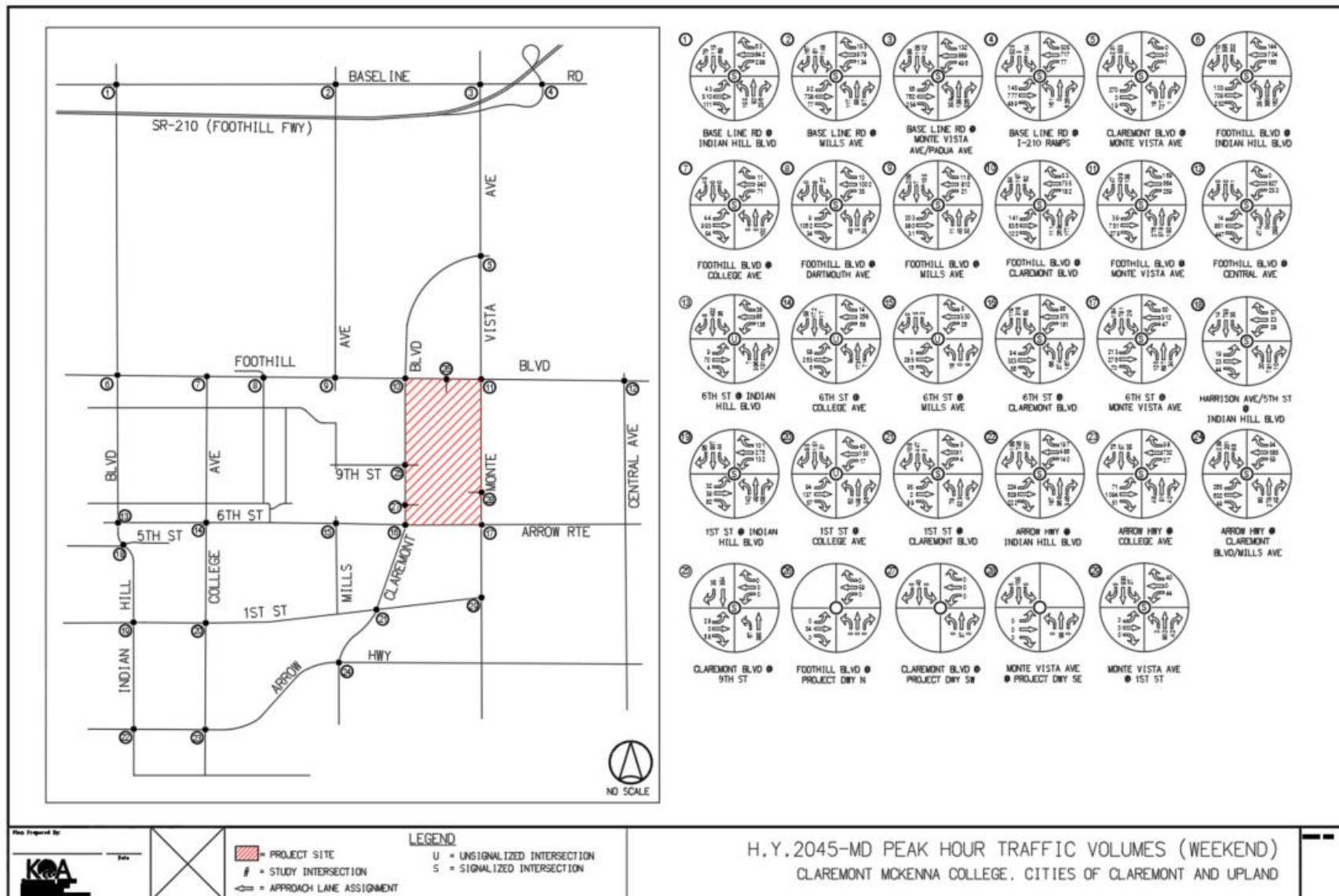


FIGURE 5.31 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKEND PM

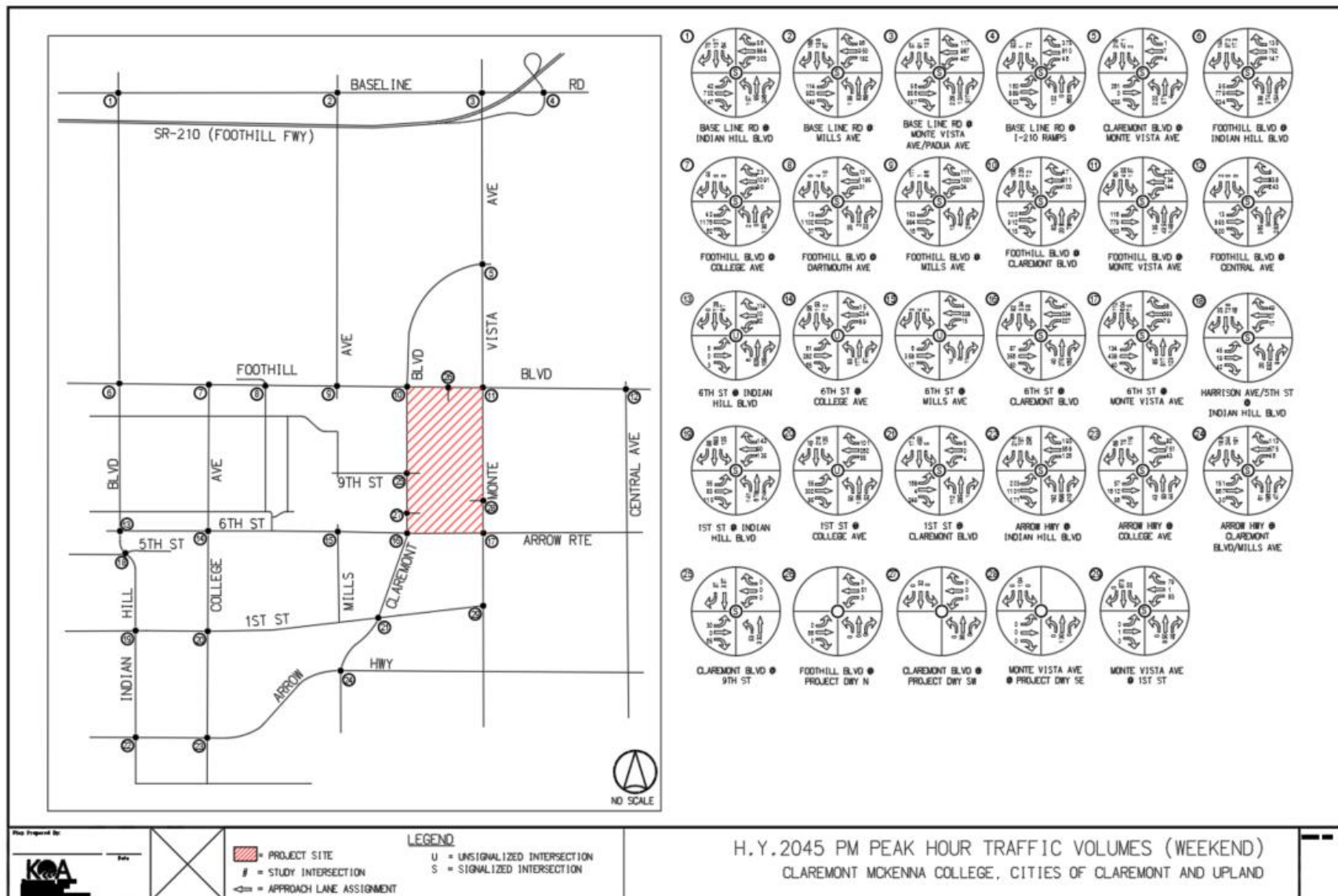


FIGURE 5.32 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKDAY LOS

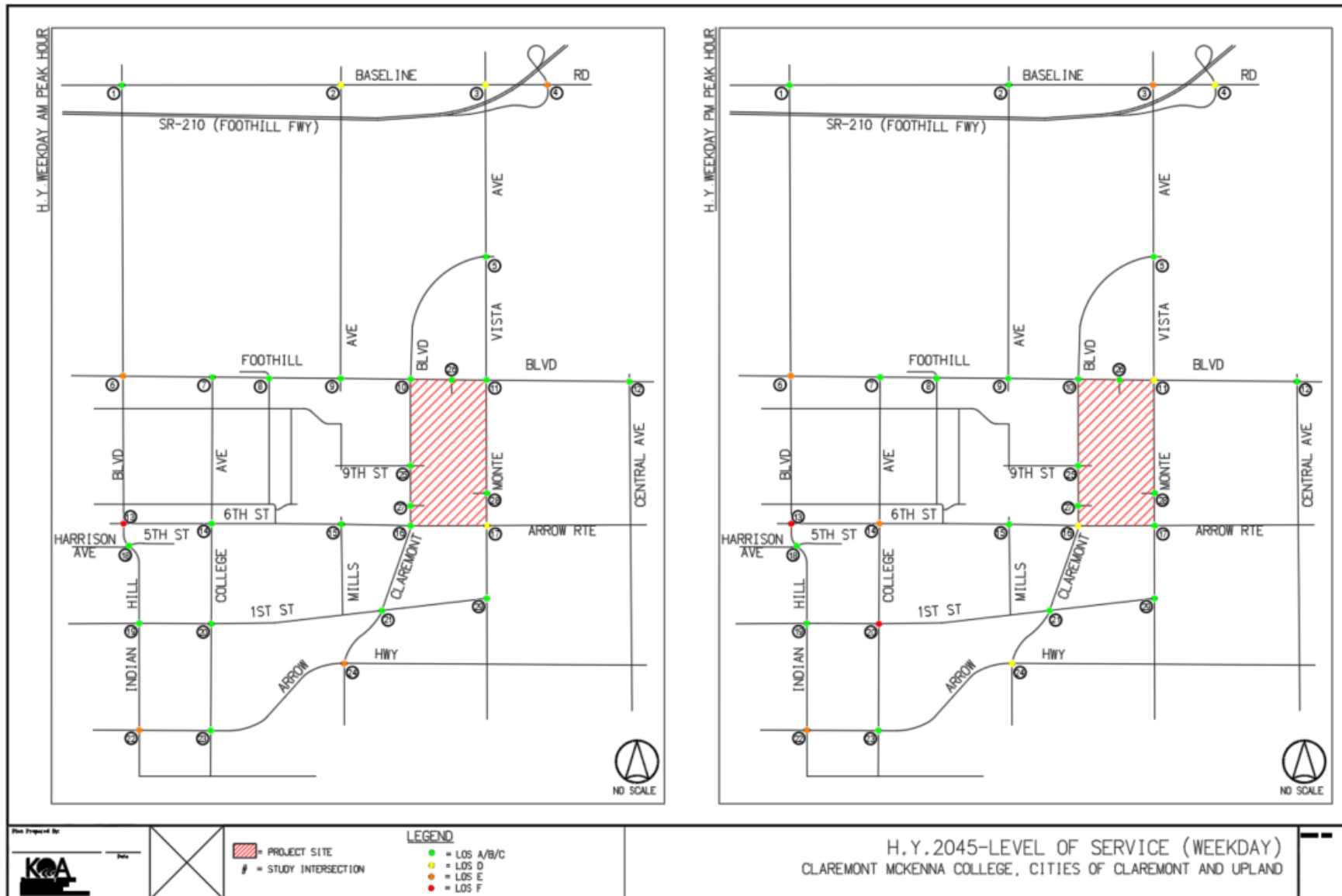
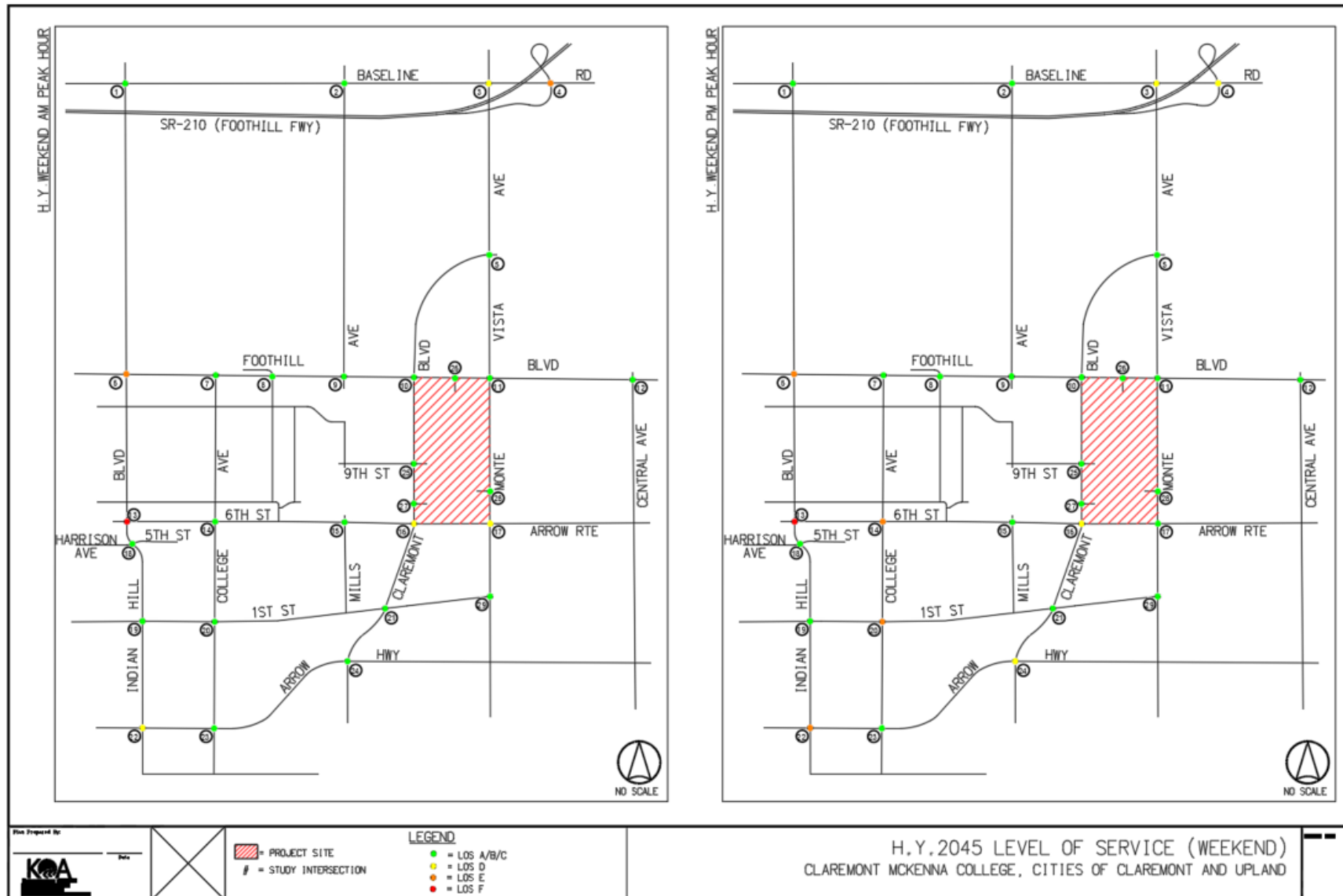


FIGURE 5.33 HORIZON YEAR 2045 WITHOUT PROJECT: WEEKEND LOS



5.4.2 Horizon Year 2045 With Project Conditions

A review of **Table 5.7** shows that under the Horizon Year 2045 scenario, the four (4) study intersections listed below are forecast to continue operating at unacceptable levels of service with the addition of Project traffic, based on the applicable (non-CEQA) LOS impact criteria:

- Intersection #4 - Base Line Road & I-210 On/Off-Ramps
 - Weekend Game Day (Fall and Spring) – AM Peak Hour
- Intersection #13 – 6th Street at Indian Hill Boulevard
 - Weekday Practice Day – AM and PM Peak Hours
 - Weekday Game Day – AM and PM Peak Hours
 - Weekend Game Day (Fall and Spring) – AM and PM Peak Hours
- Intersection #14 – 6th Street at College Avenue
 - Weekday Practice Day – PM Peak Hour
 - Weekday Game Day – PM Peak Hours
 - Weekend Game Day (Fall and Spring) – PM Peak Hour
- Intersection #20 – 1st Street at College Avenue
 - Weekday Practice Day – PM Peak Hour
 - Weekday Game Day – PM Peak Hours
 - Weekend Game Day (Fall and Spring) – PM Peak Hour

The remaining key study intersections are forecast to operate at an acceptable level of service during all Practice and Game Days under the Horizon Year 2045 conditions.

TABLE 5.7 HORIZON YEAR 2045 WITH PROJECT LOS SUMMARY

No.	Intersection	Acceptable LOS		Practice Day		Game Day		Game Day (Fall)		Game Day (Spring)	
			Peak Hour	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	Base Line Rd & Indian Hill Blvd	E	AM	C	29.0	C	21.3	B	12.9	B	12.8
			PM	B	18.0	B	18.1	B	15.1	B	15.0
2	Base Line Rd & Mills Ave	E	AM	B	19.2	B	17.3	B	12.4	B	12.4
			PM	B	17.4	B	17.7	B	12.7	B	12.4
3	Base Line Rd & Monte Vista/Padua Ave	E	AM	D	41.8	D	41.8	D	50.2	C	48.4
			PM	E	70.3	E	72.2	D	52.4	D	49.1
4	Base Line Rd & I-210 Ramps	E	AM	E	69.6	E	69.6	F	86.7	F	85.7
			PM	D	51.0	D	52.3	D	46.2	D	46.4
5	Claremont Blvd & Monte Vista Ave	E	AM	C	21.8	C	21.8	B	11.9	B	11.9
			PM	B	19.4	B	19.7	C	20.7	C	20.7
6	Foothill Blvd & Indian Hill Blvd	E	AM	E	63.8	E	63.8	E	57.6	E	57.3
			PM	E	57.3	E	57.3	E	57.9	E	58.0
7	Foothill Blvd & College Ave	E	AM	A	1.5	A	1.5	A	1.5	A	1.5
			PM	A	1.4	A	1.4	A	2.1	A	2.1
8	Foothill Blvd & Dartmouth Ave	E	AM	B	12.9	B	12.8	B	13.8	B	13.9
			PM	B	15.2	B	15.2	B	14.3	B	14.2
9	Foothill Blvd & Mills Ave	E	AM	C	33.5	C	33.5	C	33.4	C	33.2
			PM	C	33.4	C	32.3	C	29.6	C	29.2
10	Foothill Blvd & Claremont Blvd	E	AM	C	23.9	C	23.9	C	23.2	C	22.5
			PM	C	21.9	C	22.0	C	21.3	C	21.3
11	Foothill Blvd & Monte Vista Ave	D	AM	C	28.7	C	28.7	C	32.2	C	32.2
			PM	D	42.2	D	44.5	C	32.5	C	29.0
12	Foothill Blvd & Central Ave	D	AM	B	18.6	B	18.6	C	24.2	C	24.2
			PM	C	33.1	C	33.5	C	24.1	C	23.8
13	6th St & Indian Hill Blvd	D	AM	E	54.9	E	54.9	E	74.5	E	73.1
			PM	F	77.1	E	85.3	F	148.3	F	127.8
14	6th St & College Ave	D	AM	C	17.8	C	17.8	C	24.0	C	23.4
			PM	E	42.5	E	44.1	E	45.2	E	42.3
15	6th St & Mills Ave	D	AM	A	9.3	A	9.3	B	11.0	B	10.9
			PM	B	12.4	B	12.5	B	12.0	B	11.8
16	6th St/Arrow Rte & Claremont Blvd	D	AM	C	32.0	C	32.0	D	37.8	D	37.4
			PM	D	42.5	D	42.6	D	37.6	D	36.7
17	Arrow Rte & Monte Vista Ave	D	AM	D	38.3	D	38.3	D	40.0	D	39.7
			PM	C	29.2	C	29.3	C	26.3	C	26.3
18	Harrison Ave/5th St & Indian Hill Blvd	D	AM	C	30.9	C	30.9	C	23.5	C	23.2
			PM	C	23.1	C	23.0	C	23.1	C	23.1
19	1st St & Indian Hill Blvd	D	AM	B	18.5	B	18.5	C	21.8	C	21.4
			PM	C	20.3	C	20.1	C	22.6	C	22.1

20	1st St & College Ave	D	AM	C	20.4	C	20.4	B	14.5	B	14.3
			PM	F	80.5	F	81.3	E	45.4	E	44.3
21	1st St & Claremont Blvd	D	AM	B	11.4	B	11.4	A	8.8	A	8.7
			PM	B	17.5	B	17.5	B	14.7	B	14.8
22	Arrow Hwy & Indian Hill Blvd	E	AM	B	16.5	B	16.1	B	17.2	B	17.2
			PM	B	17.4	B	17.9	B	18.0	B	17.8
23	Arrow Hwy & College Ave	E	AM	B	12.8	B	12.8	B	14.0	B	14.0
			PM	B	13.7	B	13.7	B	15.7	B	15.7
24	Arrow Hwy & Claremont Blvd/Mills Ave	E	AM	E	67.8	E	67.8	C	34.3	C	34.2
			PM	D	49.9	D	49.4	D	35.9	D	36.0
25	Claremont Blvd & 9th St	D	AM	B	12.0	B	10.9	C	28.0	B	17.4
			PM	B	16.4	B	17.9	C	20.5	B	18.1
26	Foothill Blvd & Project Dwy N	E	AM	A	0.0	A	0.0	A	0.1	A	0.2
			PM	A	1.5	A	2.2	A	3.2	A	2.3
27	Claremont Blvd & Project Dwy SW	D	AM	A	0.0	A	0.0	A	0.2	A	0.2
			PM	A	1.6	A	1.9	a	2.2	A	1.9
28	Monte Vista Ave & Project Dwy SE	D	AM	A	0.0	A	0.0	A	0.1	A	0.1
			PM	A	1.1	A	1.7	A	2.4	A	1.6
29	Monte Vista Ave & 1st St/Richton St	D	AM	A	8.7	A	8.5	A	4.3	A	4.2
			PM	A	5.9	A	5.9	A	5.0	a	5.0

Bold Delay/LOS values indicate unacceptable service levels based on LOS Criteria identified in this report.

5.4.2a Horizon Year 2045 Cumulative Plus Project (Weekday: Practice Day) Traffic

Project trip estimates for the Weekday: Practice Day scenario, as shown on Table 5.3, were added to the Horizon Year 2045 Cumulative Without Project conditions to develop traffic projections for the Year 2045 Cumulative Plus Project (Weekday: Practice Day) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.34** and **5.35**, respectively. **Figure 5.36** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.4.2b Horizon Year 2045 Cumulative Plus Project (Weekday: Game Day) Traffic

Project trip estimates for the Weekday: Game Day scenario, as shown on Table 5.3, were added to the Horizon Year 2045 Cumulative Without Project conditions to develop traffic projections for the Year 2045 Cumulative Plus Project (Weekday: Game Day) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.37** and **5.38**, respectively. **Figure 5.39** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.4.2c Horizon Year 2027 Cumulative Plus Project (Weekend: Game Day [Fall]) Traffic

Project trip estimates for the Weekend: Game Day (Fall) scenario, as shown on Table 5.3, were added to the Horizon Year 2045 Cumulative Without Project conditions to develop traffic projections for the Year 2045 Cumulative Plus Project (Weekend: Game Day – Fall) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.40** and **5.41**, respectively. **Figure 5.42** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

5.4.2d Horizon Year 2045 Cumulative Plus Project (Weekend: Game Day [Spring]) Traffic

Project trip estimates for the Weekend: Game Day (Spring) scenario, as shown on Table 5.3, were added to the Horizon Year 2045 Cumulative Without Project conditions to develop traffic projections for the Year 2045 Cumulative Plus Project (Weekend: Game Day – Spring) traffic conditions. The resulting traffic volumes during the AM and PM peak hours at the key study intersections are illustrated in **Figures 5.43** and **5.44**, respectively. **Figure 5.45** graphically illustrates the comparison between Weekday and Weekend level of service results for the AM and PM peak hours.

Appendix F contains the Horizon Year with Project Traffic Conditions Delay/LOS calculation worksheets for the key study intersections.

FIGURE 5.34 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: PRACTICE DAY AM

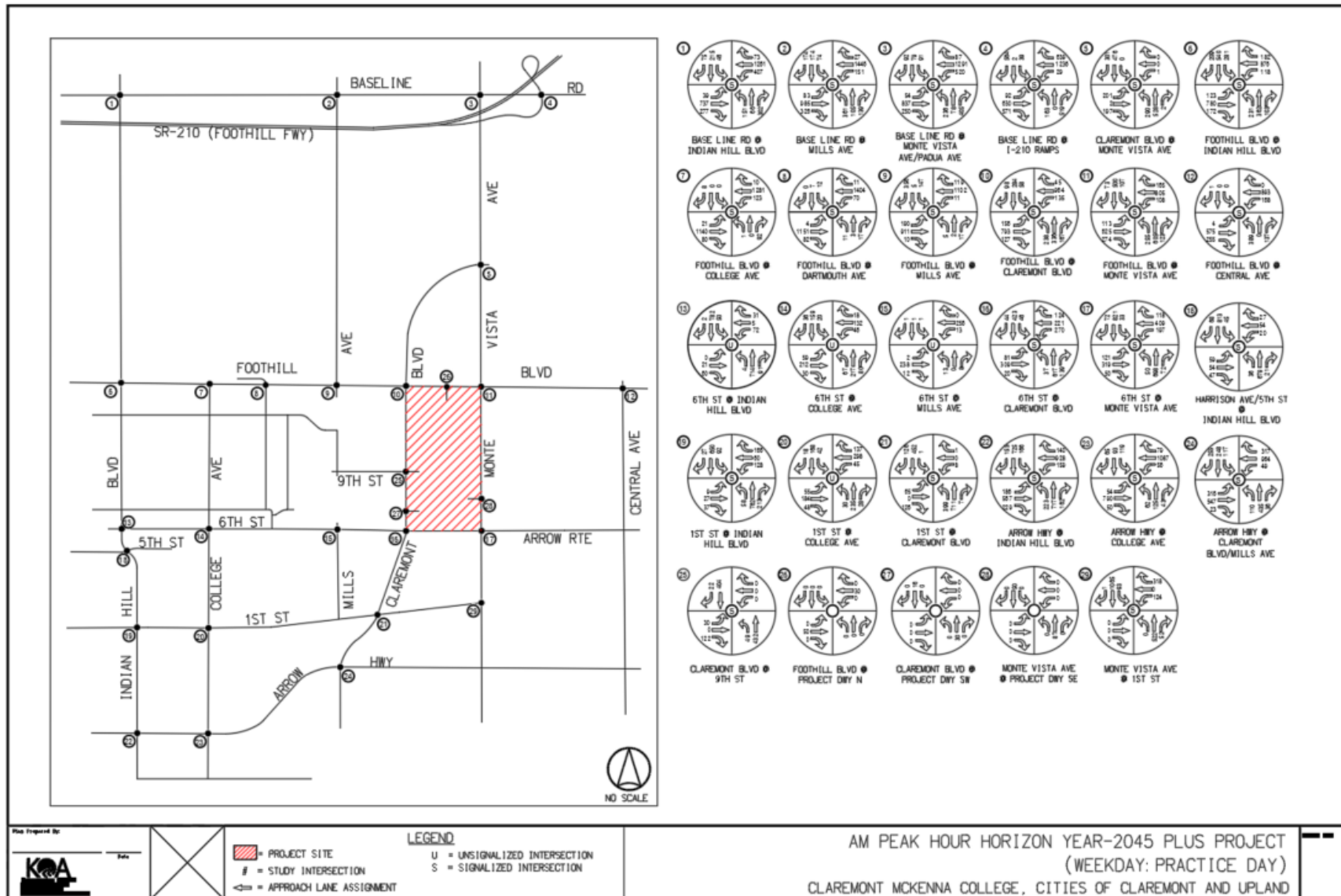


FIGURE 5.35 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: PRACTICE DAY PM

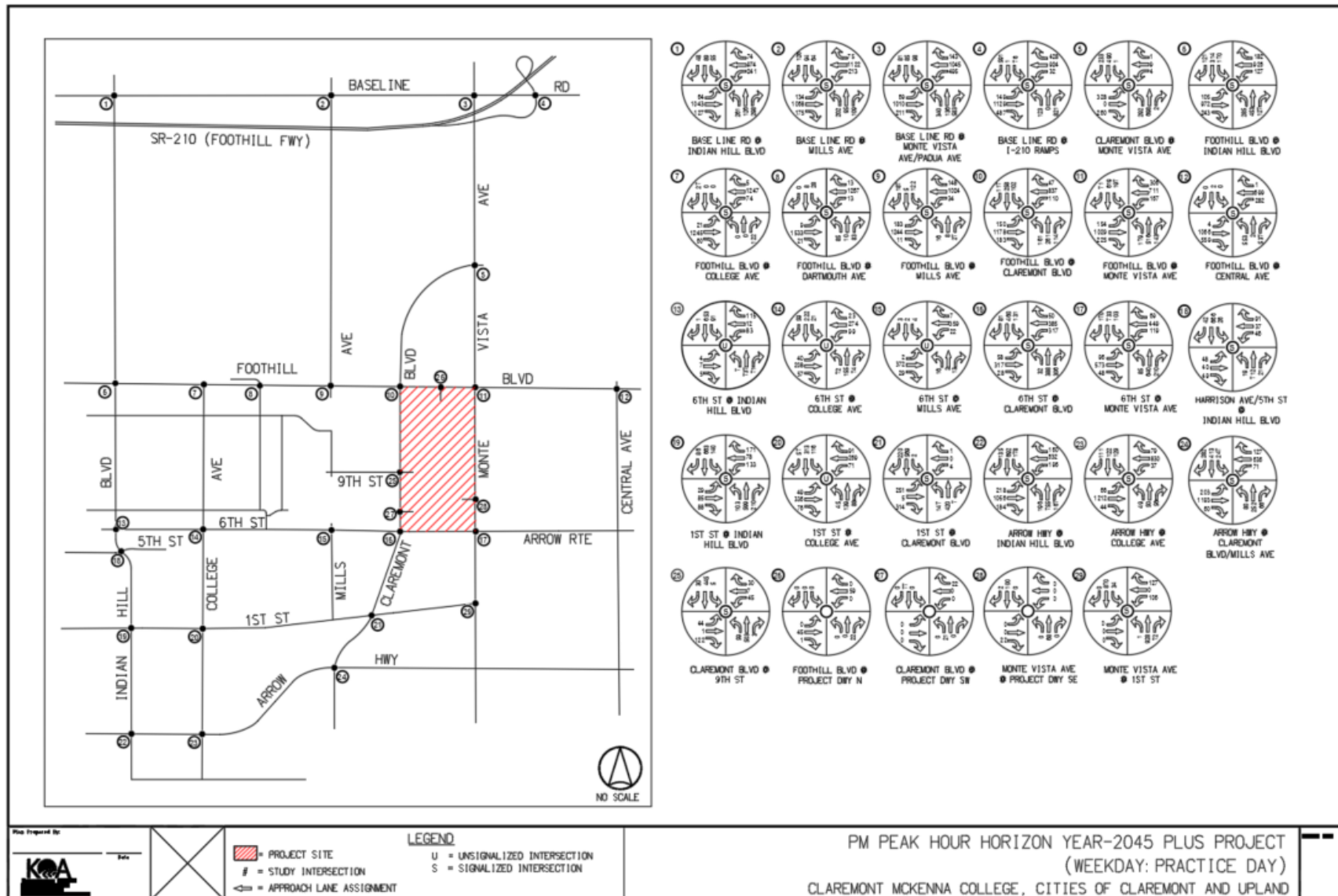


FIGURE 5.36 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: PRACTICE DAY LOS

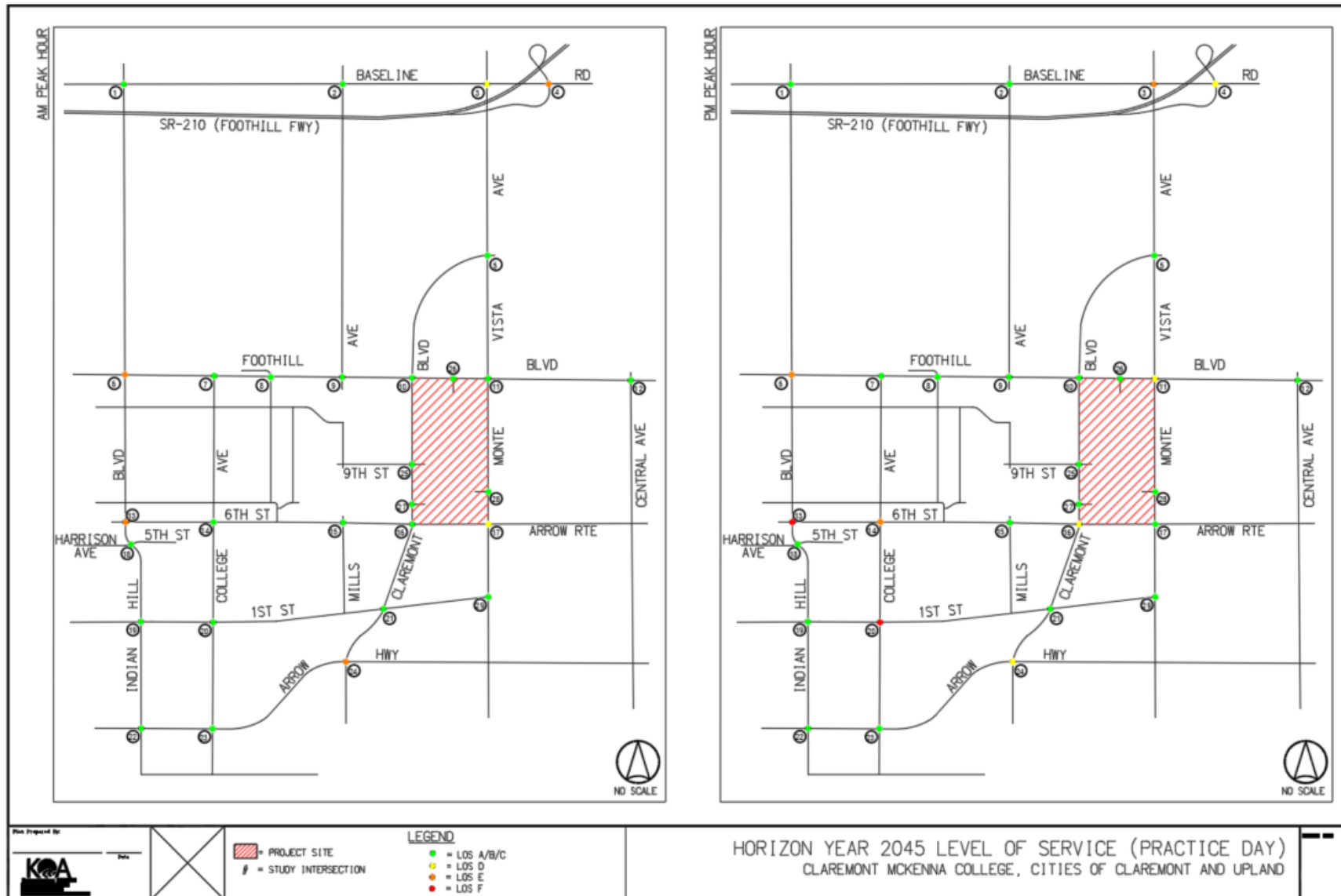


FIGURE 5.37 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY AM

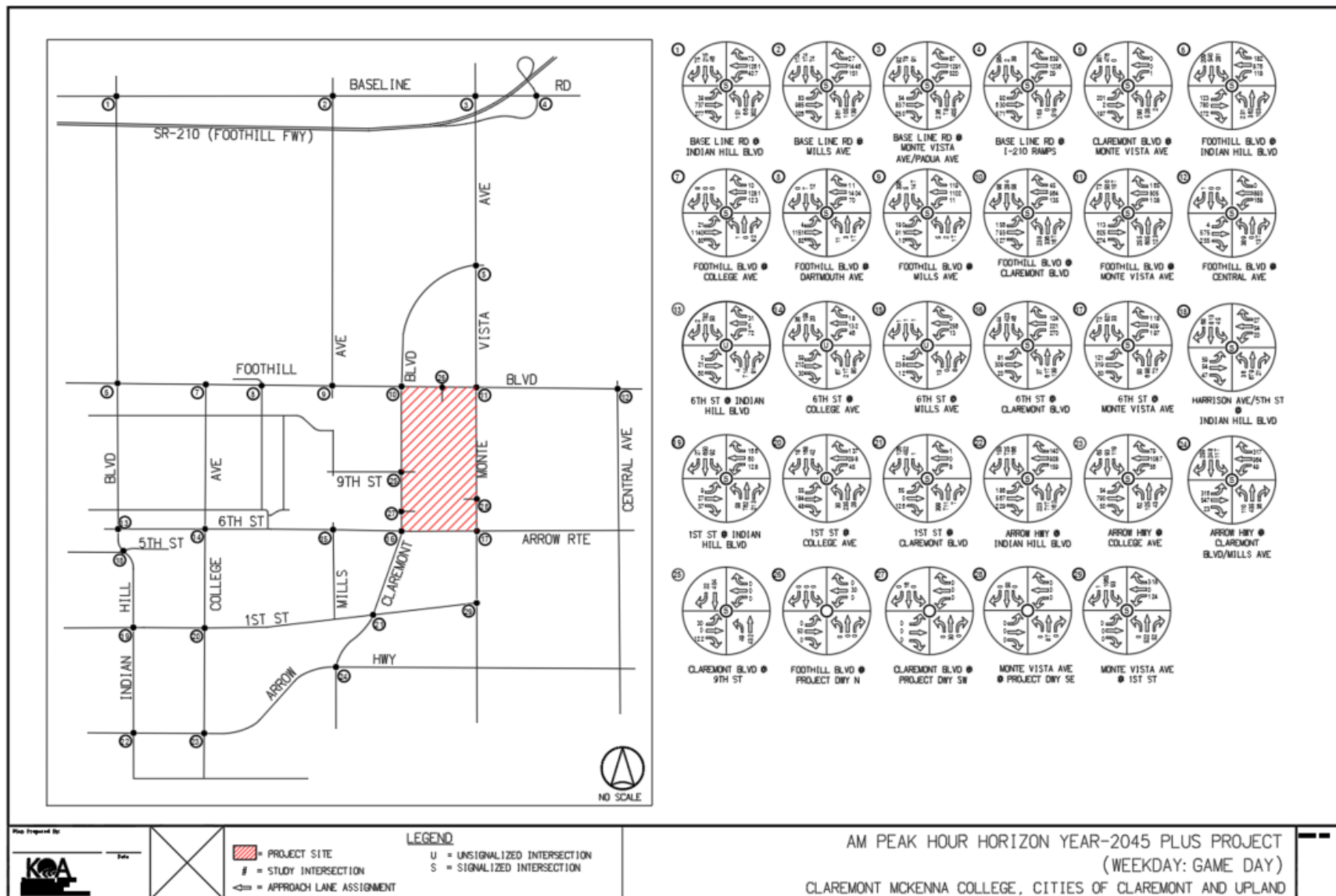


FIGURE 5.38 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY PM

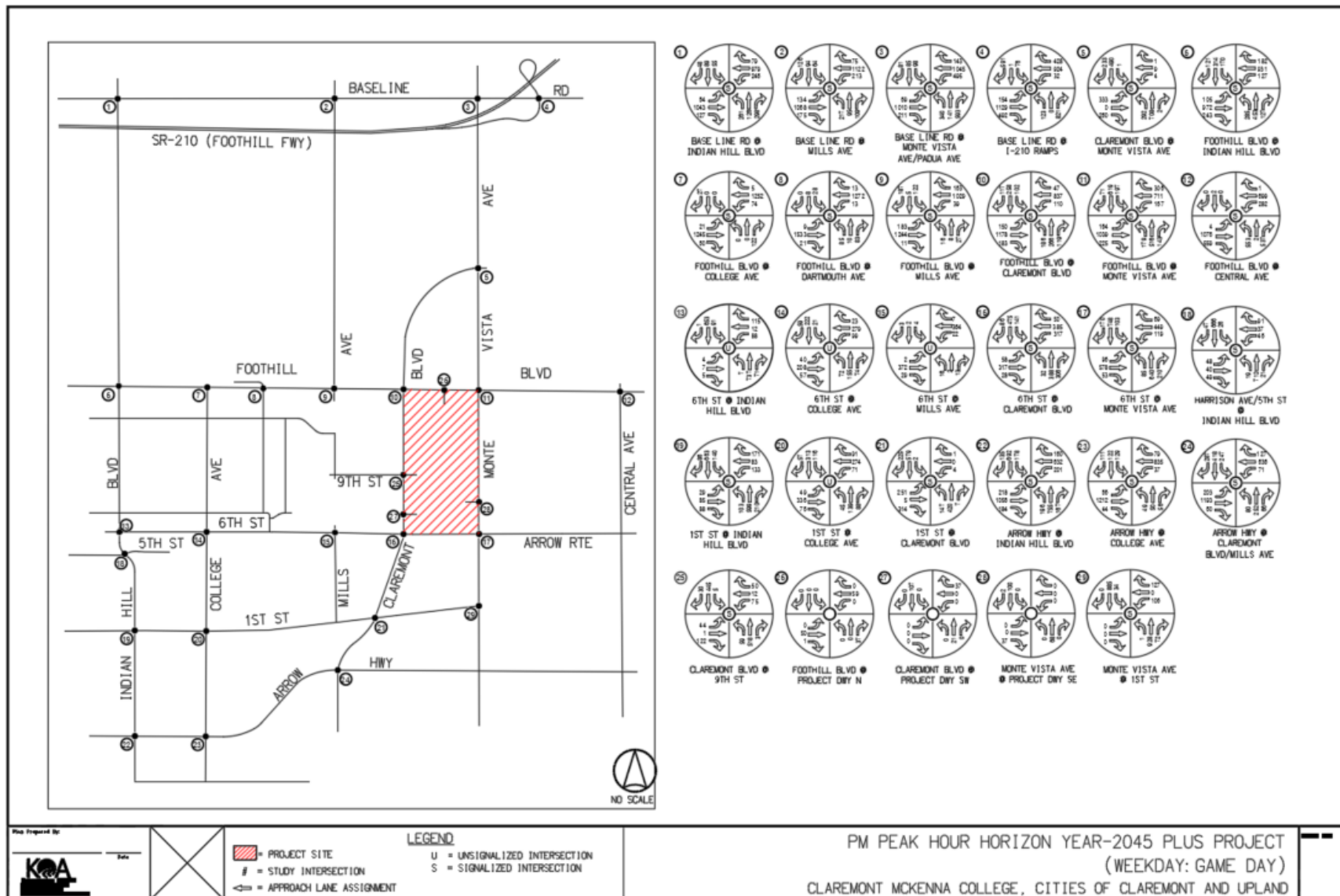


FIGURE 5.39 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY LOS

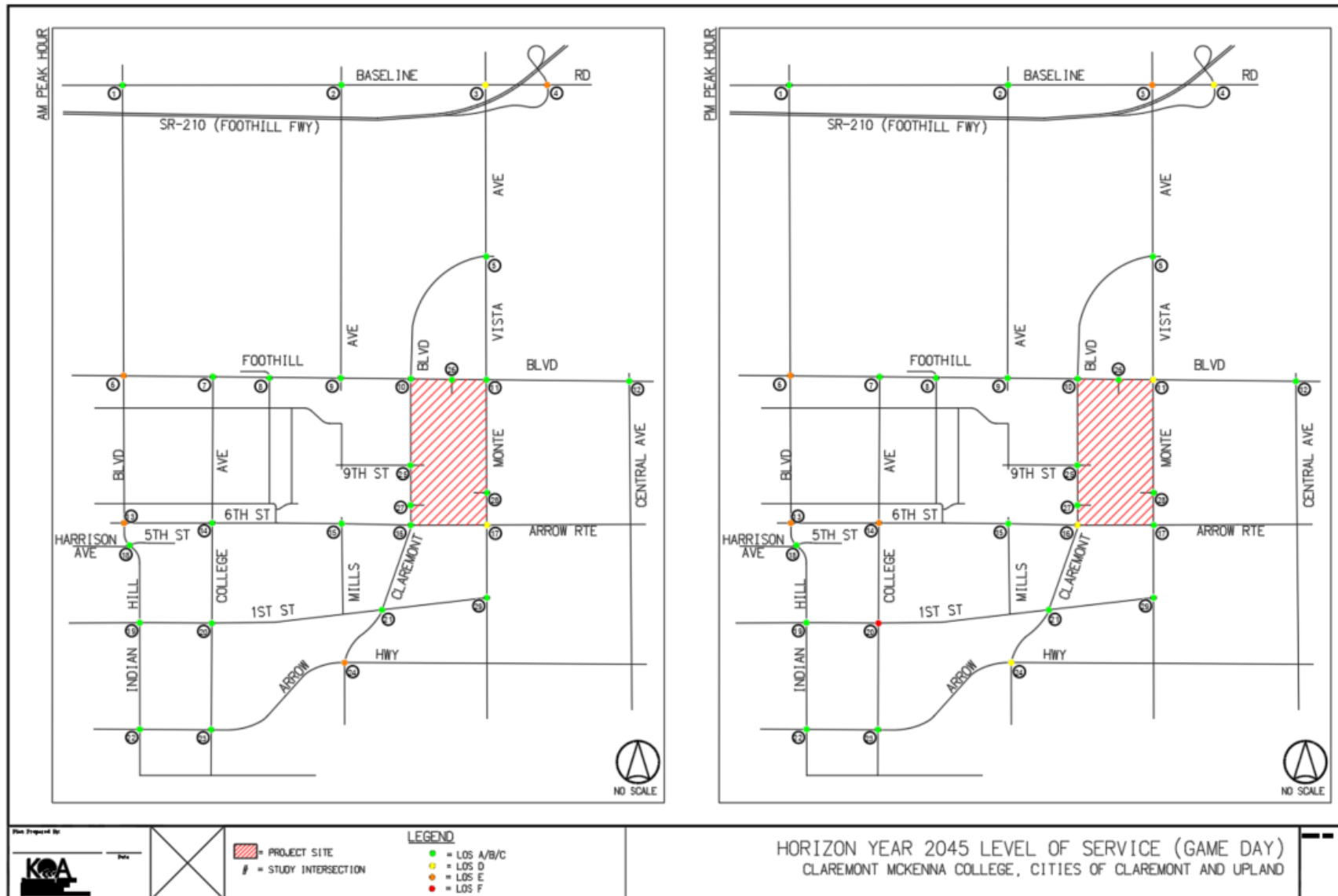


FIGURE 5.40 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[FALL] AM

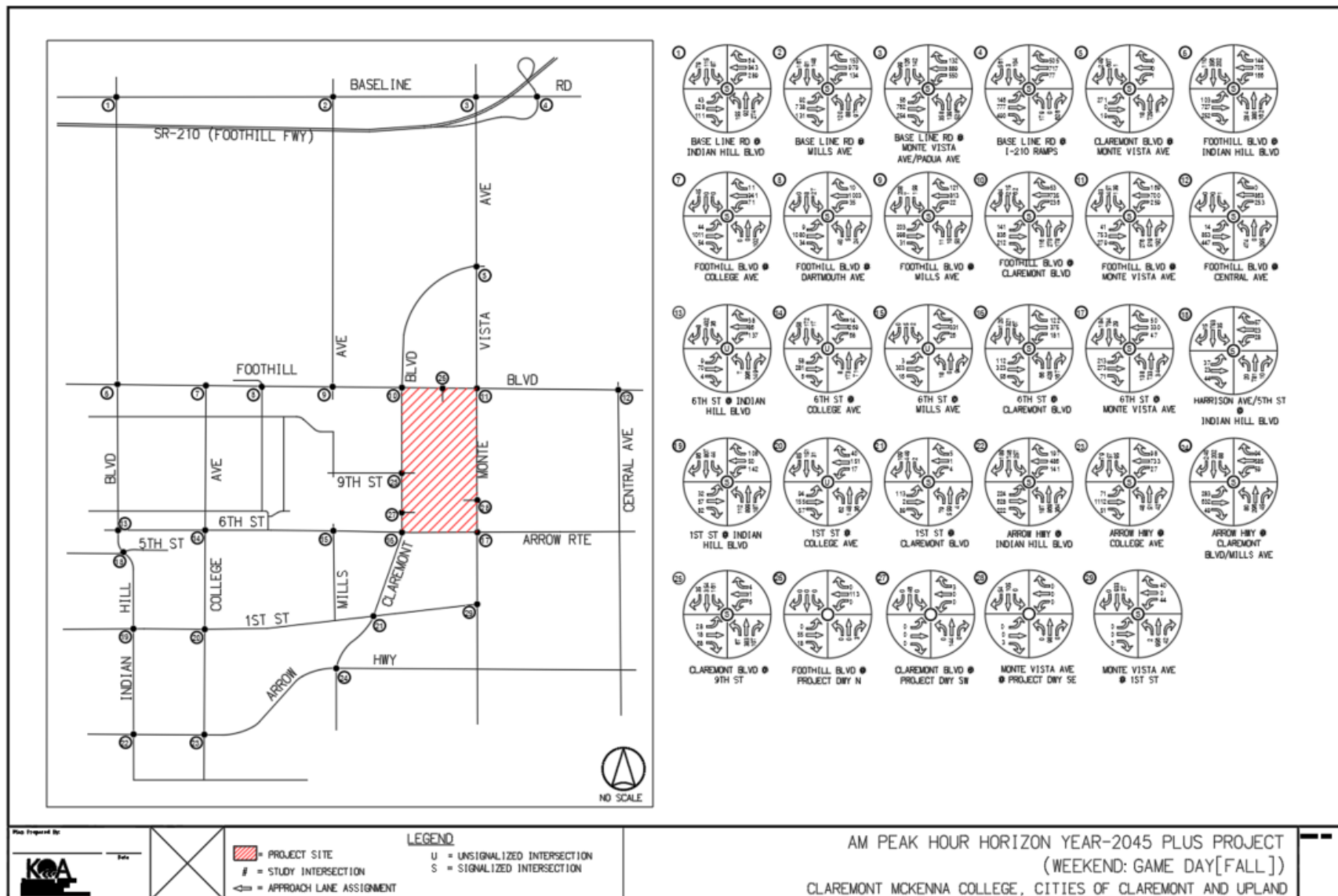


FIGURE 5.41 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[FALL] PM

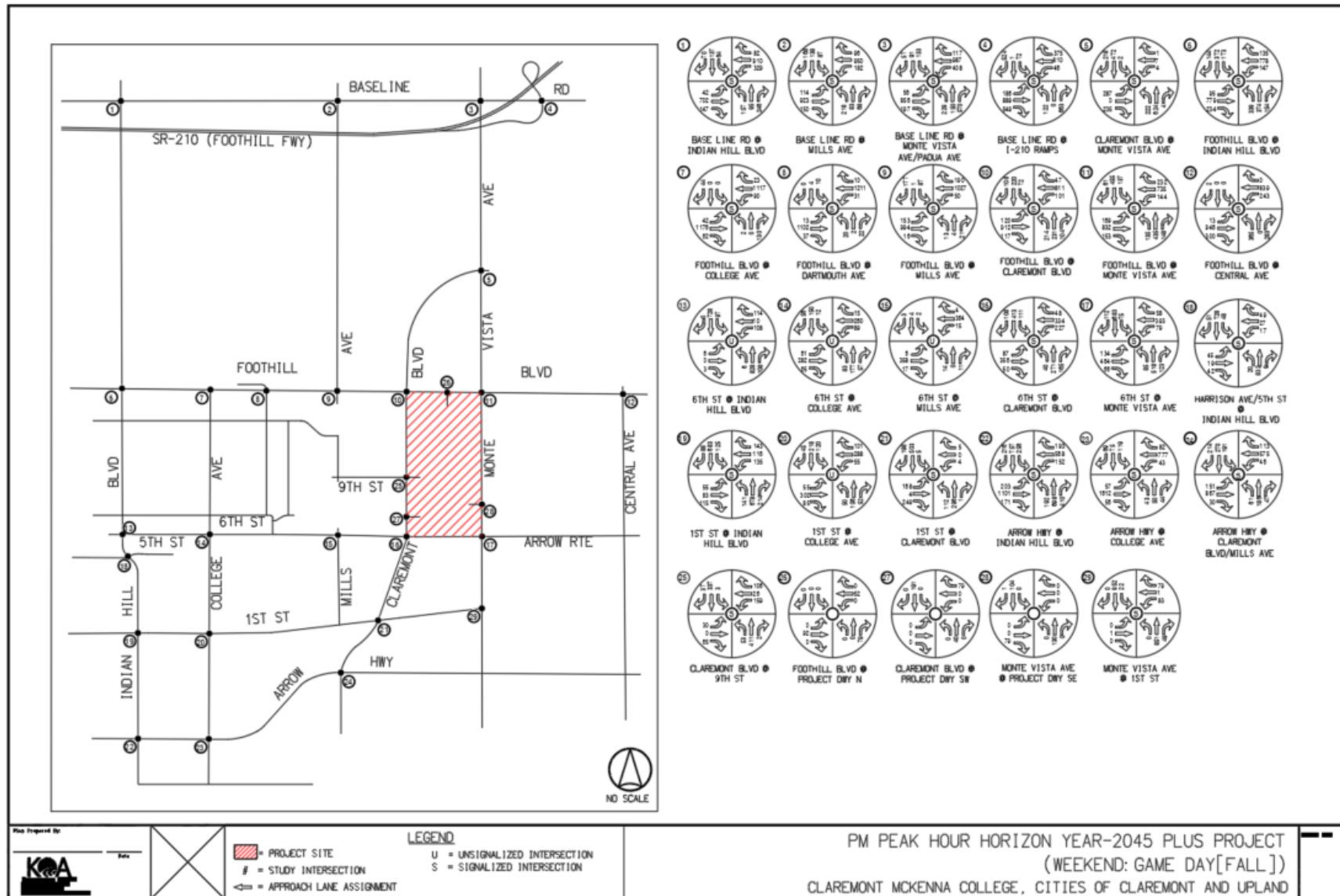


FIGURE 5.42 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[FALL] LOS

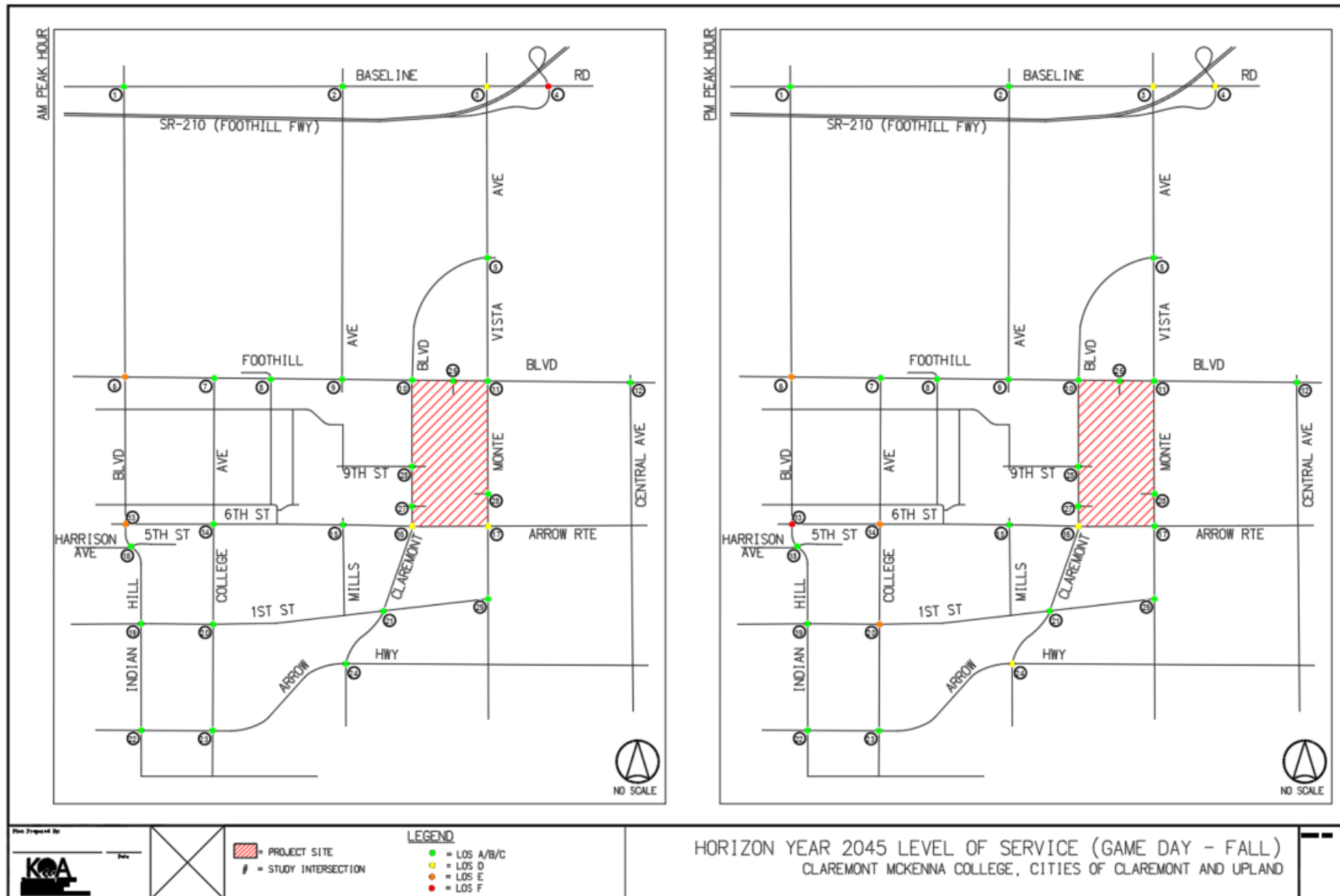


FIGURE 5.43 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[SPRING] AM

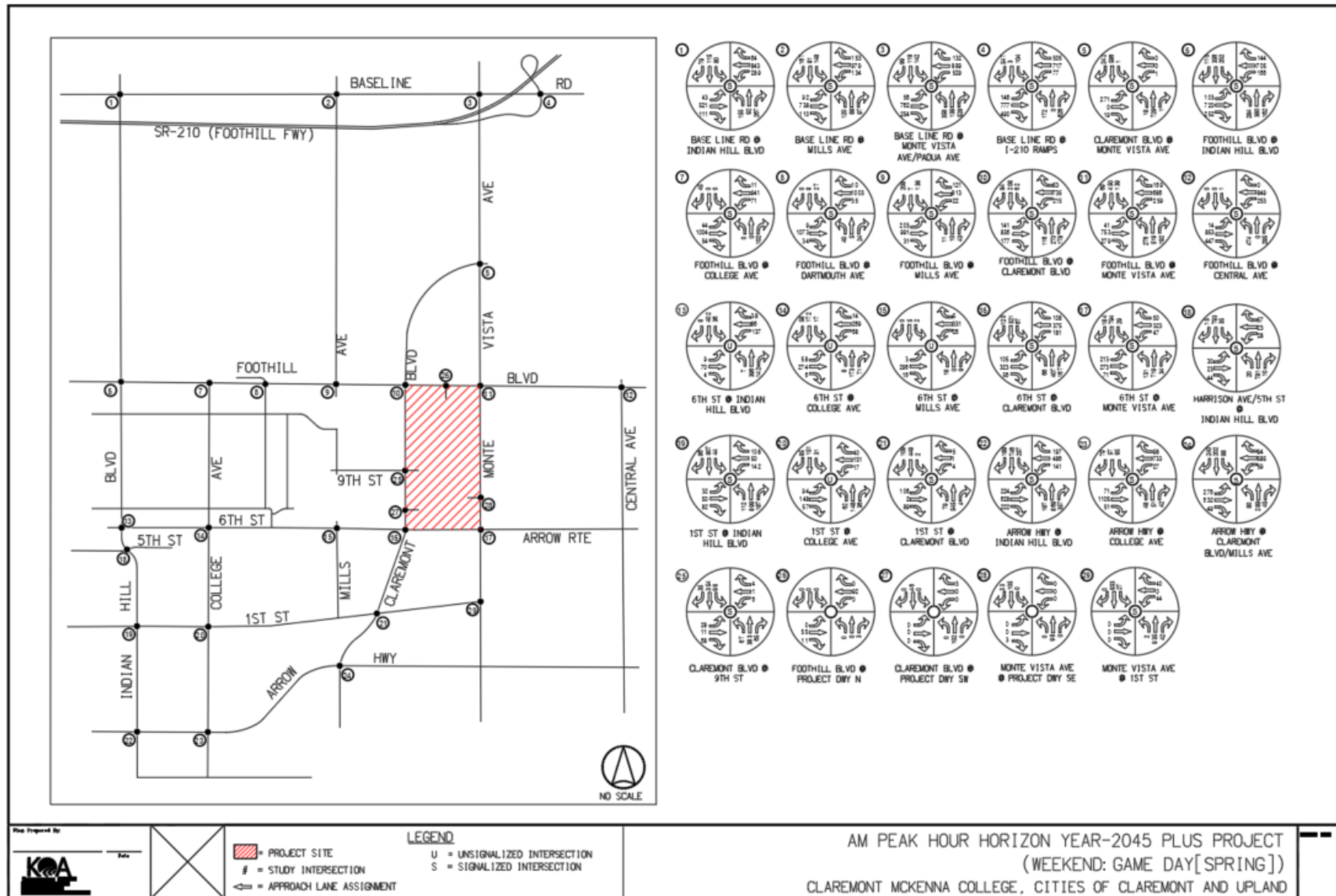


FIGURE 5.44 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[SPRING] PM

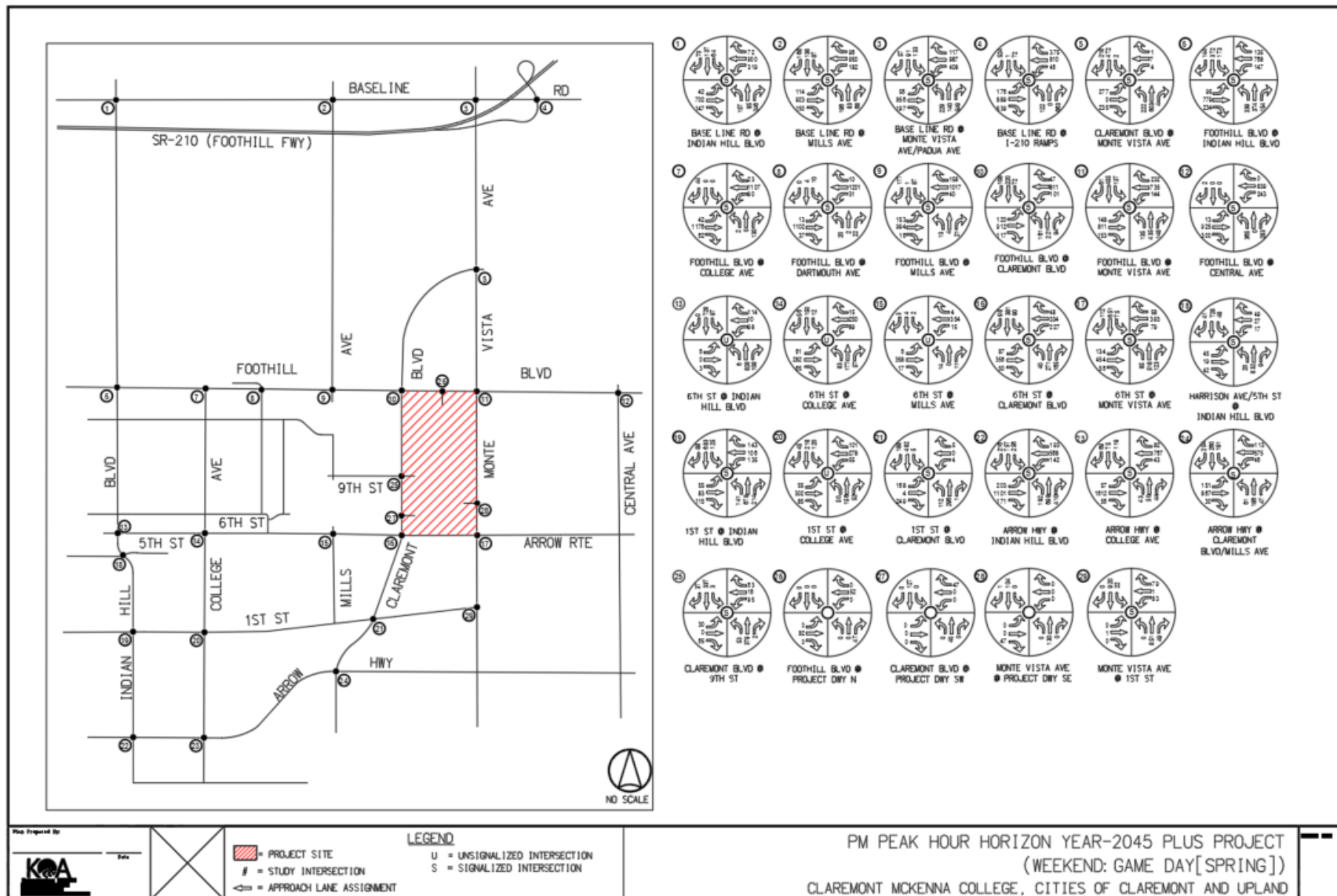
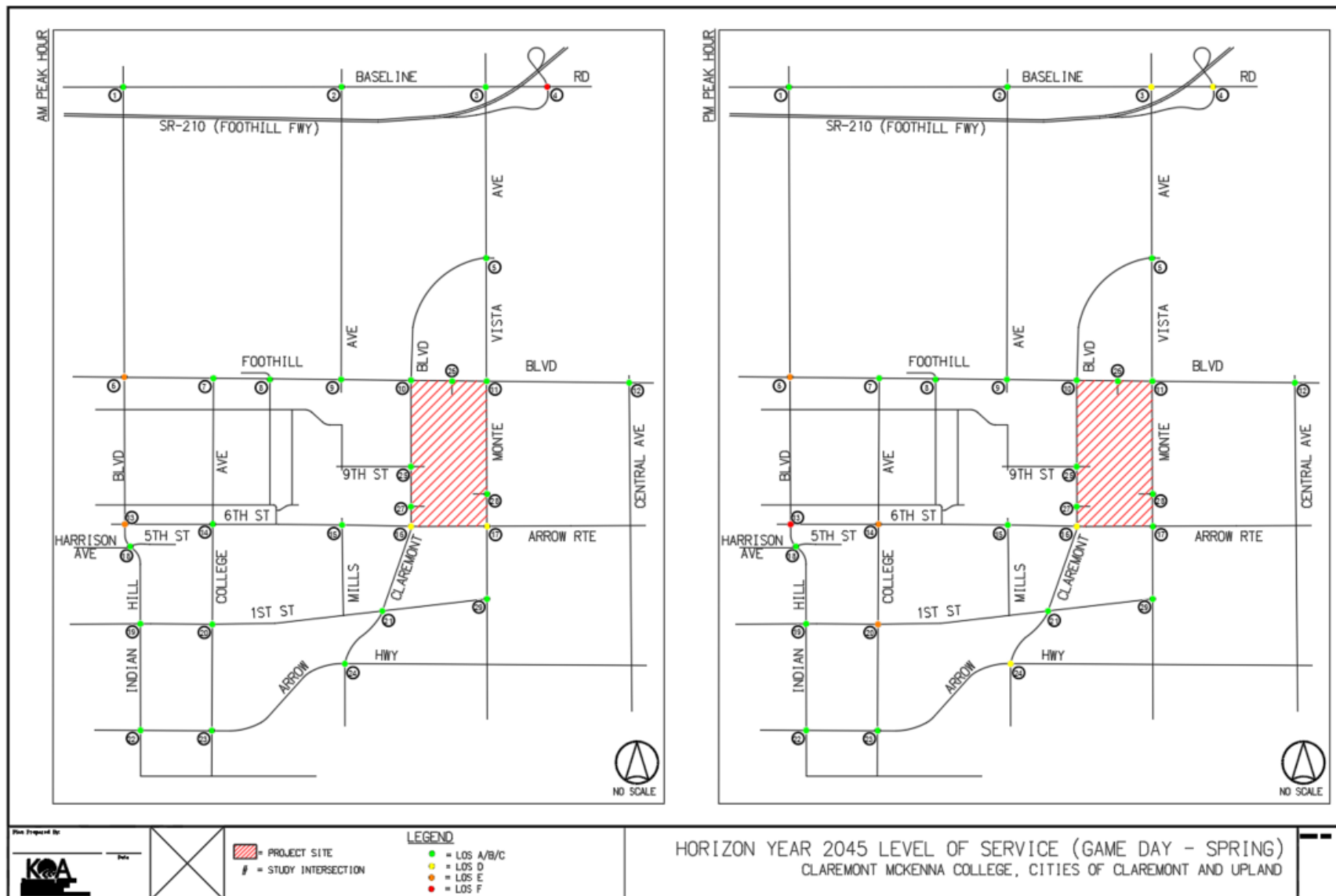


FIGURE 5.45 HORIZON YEAR 2045 WITH PROJECT WEEKDAY: GAME DAY[SPRING] LOS



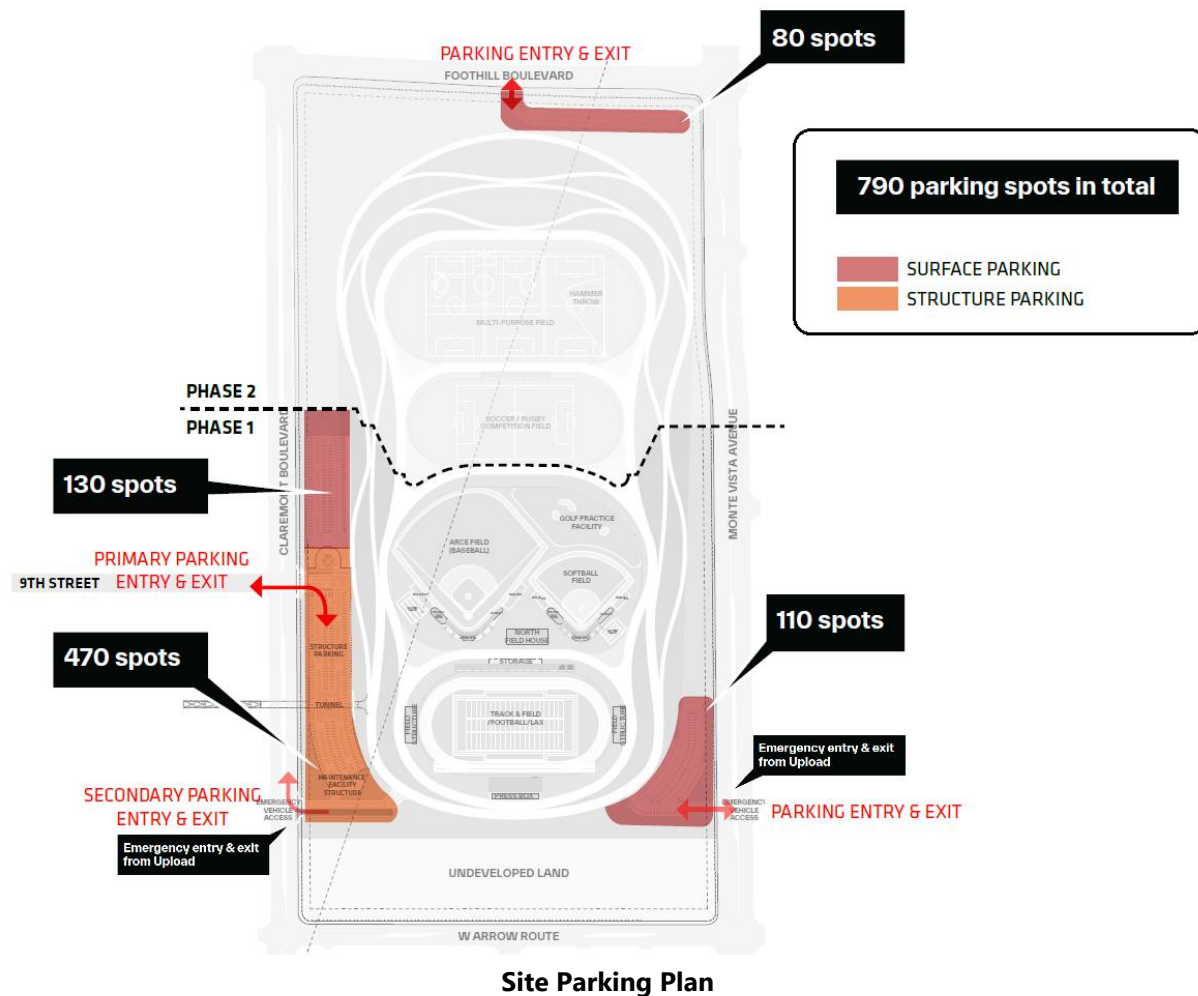
6.0 PARKING, ACCESS, AND CIRCULATION

6.1 PARKING PROVISIONS

The Project proposes various on-site parking facilities that will serve existing CMC campus uses including organized athletics activities occurring on the following eight sports fields to be located on the Project site:

- 1 Baseball Field
- 1 Softball Field
- 1 Soccer/Rugby Field
- 3 Multi-Purpose Fields
- 1 Track & Field / Football Field
- 1 Golf Practice Facility

The Project will include a total of 790 on-site parking spaces, as indicated in the Parking Plan exhibit below. A portion of the Project parking will replace an existing faculty and staff parking lot on the CMC campus west of Claremont Boulevard. Approximately 600 of these spaces will be situated in surface and structured parking along the westerly side of the site on Claremont Boulevard, spanning to the south of the Ninth Street entrance. The proposed parking structure will contain approximately 470 of the 600 parking spaces on the west side of the site. The remaining 130 westerly spaces will be located in a surface-level parking lot located to the north of the Ninth Street entrance.



A total of 80 surface-level parking spaces are proposed to be situated along the northerly perimeter of the site, along Foothill Boulevard, near the intersection at Monte Vista Avenue. 110 additional surface-level parking spaces are proposed at the southeast corner of the site along Monte Vista Avenue, just north of Arrow Route.

6.2 DRIVEWAY ACCESS

The primary access point for the Project Site is located at the intersection of Claremont Boulevard and 9th Street, currently a three-way unsignalized "T" intersection. A new four-way traffic signal is proposed at this intersection, including direct entry/exit access into the proposed parking structure. An additional Project driveway along Claremont Boulevard is proposed approximately 800 feet south of 9th Street. This southwesterly driveway will be designated for outbound traffic (i.e., right-turn exit only) departing from the site, and will remain as unsignalized. Inbound traffic movements into the southwesterly driveway may be permitted by emergency vehicles only.

A second unsignalized access driveway is proposed at midblock along the northerly perimeter of the site, along Foothill Boulevard, where entry and exit maneuvers are restricted to right turning movements only (i.e., no median curb cuts are proposed). At the southeast corner of the site along Monte Vista Avenue, approximately 375 feet north of Arrow Route, a third unsignalized driveway will be provided and similarly accommodate right-in/right-out maneuvers only.

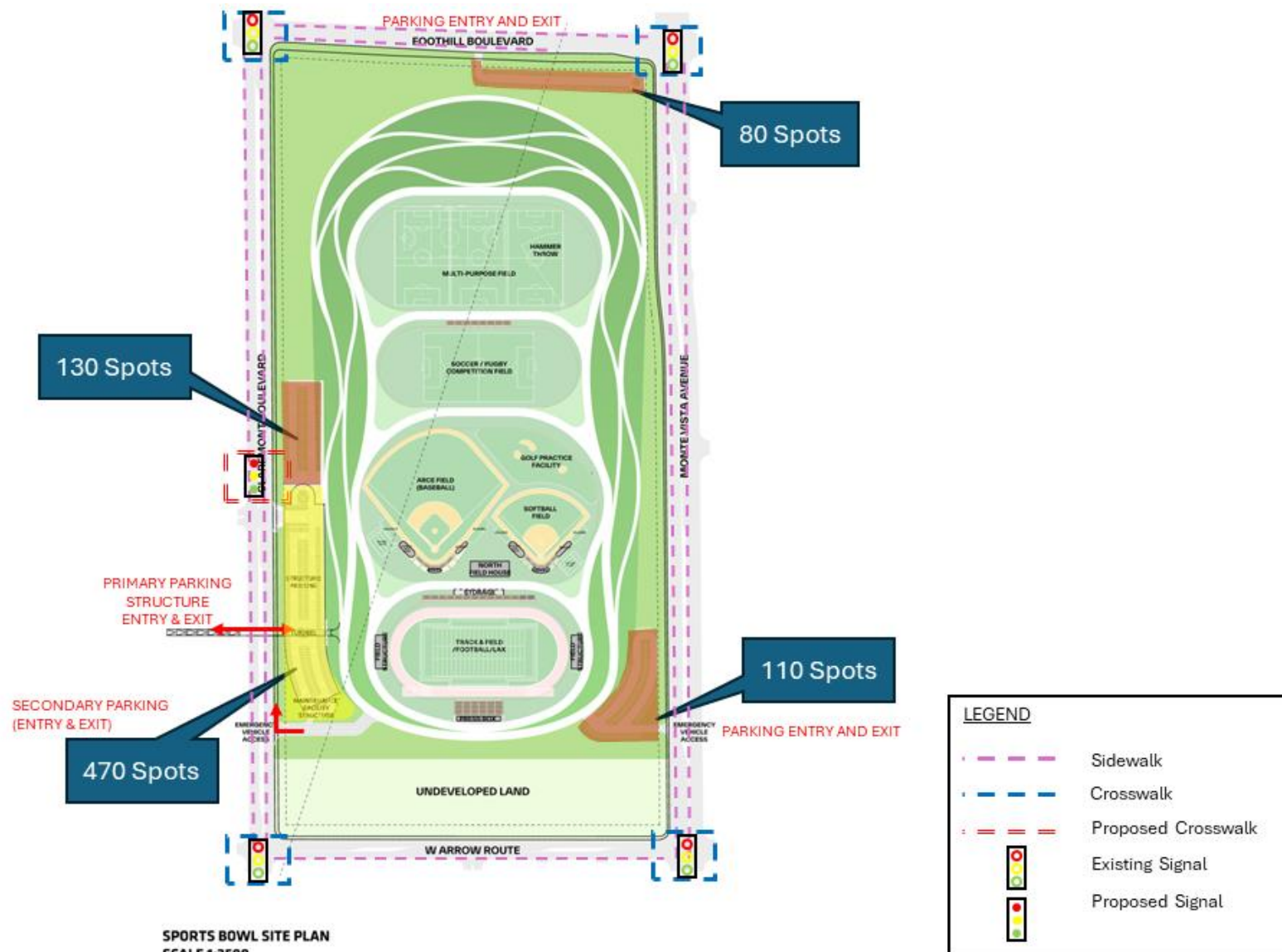
6.3 INTERNAL ACCESS AND CIRCULATION

Figure 6.1 presents the circulation diagram for the proposed Project, and illustrates vehicular access as well as pedestrian access to the site from the public streets bordering the proposed Project. A review of the proposed site access and circulation patterns confirms that pedestrian connectivity along Claremont Boulevard between the Project site and the CMC/Pitzer Colleges to the west will be provided at the intersections of Claremont Boulevard and Foothill Boulevard, Ninth Street and Sixth Street/Arrow Route. These intersections are currently (and/or will be) signalized with traffic signal-controlled crosswalks.

The signalization of the Claremont Boulevard and Ninth Street intersection, proposed in conjunction with the development of the Project (and required by prior CMC Master Plan approvals), will provide pedestrians with a street-level means of accessing the facilities and venues of the proposed sports complex. In addition, a pedestrian tunnel, crossing under Claremont Boulevard, is proposed to provide visitor access between the adjacent CMC campus (just south of the new Science Building near Ninth Street) and the internal walkway west of the Football/Track field. It is expected that this pedestrian tunnel will offer pedestrians on campus with primary access to the Project site, and will reduce the pedestrian crossing demand at the signalized crossing at Ninth Street.

Transit service to the Project site is provided by Foothill Transit, with existing bus stops located on Claremont Boulevard at Foothill Boulevard, Ninth Street, and Sixth Street. It is noted from Figure 6.1 that the site will not take any direct northbound access across Monte Vista Avenue. All site traffic along Monte Vista Avenue will occur in the southbound direction only, at the southeasterly driveway, and no inbound/outbound movements crossing the median are proposed. Similarly, along Foothill Boulevard, the site will not generate any median crossing maneuvers on Foothill Boulevard. All inbound and outbound site traffic along Foothill Boulevard will occur in the eastbound direction only, at the northerly driveway.

FIGURE 6.1 CIRCULATION DIAGRAM



7.0 ACTIVE TRANSPORTATION AND TRANSIT

This section addresses the potential impacts to public transit, pedestrian facilities and travel, and bicycle facilities and travel associated with the development of Project site. Claremont McKenna College is a private university in Claremont, California, with an enrollment of approximately 1,300 students. It is a part of the Claremont Colleges consortium, a group of seven colleges and graduate schools located on adjacent campuses within walking distance. The area is served by Foothill Boulevard, California State Route 210, Interstate 10, E. Arrow Highway, and two nearby Metrolink stations. Approximately 94 percent of Claremont McKenna College students live on campus.

The Project site is approximately 74.44 acres of land that is generally located south of Foothill Boulevard and east of Claremont Boulevard in the Cities of Claremont and Upland, California. Elements of the plan are collegiate sports venues (including football/track/lacrosse, baseball, softball, soccer) with spectator seating), golf practice and multi-purpose fields, related support facilities, and parking. These elements are generally upgraded and replacement facilities for existing sports venues and parking that have or will be removed on the Claremont McKenna College (CMC) campus, and also add some additional parking for the campus. The Project site vicinity and location map are shown in Figure 1.1.

The City of Claremont-City of Upland boundary extends diagonally through the proposed Project site from approximately 220 feet (measured along Foothill Boulevard) west of Monte Vista Avenue. This boundary also forms the Los Angeles County-San Bernardino County line, with Los Angeles County and the City of Claremont (29.14 acres) lying to the west, and San Bernardino County and the City of Upland (45.30 acres) lying to the east.

7.1 ACTIVE TRANSPORTATION AND PUBLIC TRANSIT

Following the passage of Senate Bill 743 (SB 743), the State of California's Governor's Office of Planning and Research (OPR) was tasked with developing new guidelines for evaluating transportation impacts under CEQA. These guidelines are intended to promote the reduction of greenhouse gas emissions and develop multimodal and diverse transportation networks by shifting the transportation performance metric from automobile delay and level of service (LOS) to vehicle miles traveled (VMT). As a result, OPR determined that under the proposed update to the CEQA guidelines, VMT would be established as the primary metric for evaluating environmental and transportation impacts.

In response to the updates to the CEQA guidelines, the City of Claremont and the City of Upland, respectively, updated the City of Claremont Transportation Study Guidelines in August 2020 and the City of Upland Traffic Impact Analysis Guidelines in July 2020 to conform to the requirements of SB 743. These guidelines shift the performance metric for evaluating transportation impacts under the CEQA from LOS to VMT for studies completed within the cities. The CEQA guidelines also require an evaluation of the Project's potential impacts on public transit, pedestrian facilities and travel, and bicycle facilities and travel using the following criteria:

- A significant impact occurs if the project conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Therefore, an evaluation of whether the Project is consistent with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities follows the guideline updates and is presented in the following sections. This analysis also considers any impact on the performance or safety of such facilities. Existing public transit is mentioned in Section 4.2 in this report.

7.1.1 Bicycle Facilities

According to the Los Angeles County Bikeways Map and San Bernardino County Active Transportation Plan (2020), there are limited bicycle facilities provided in both counties. Bike paths are provided along Thompson Creek and towards Mt. Baldy. Baseline Road and Foothill Boulevard provide various bike facilities east-west through Claremont and Upland. Bike lanes that travel north-south along Towne Avenue connect Baseline Road and Foothill Boulevard to a network of bike routes and bike lanes around the Claremont Colleges. North-south bicycle connection through Upland is provided by bike lanes along Euclid Avenue and a bike route along N. Campus Avenue. The Pacific Electric Inland Empire Trail is a 20-mile-long Class I bike path that starts along Claremont Boulevard in Upland and extends east to Rialto. Adjacent to the Project site, Class II (on-street marked) bike lanes are provided along Claremont Boulevard, Foothill Boulevard, and Monte Vista Avenue. The existing bicycle infrastructure serving the cities is depicted in **Figure 7.1**.

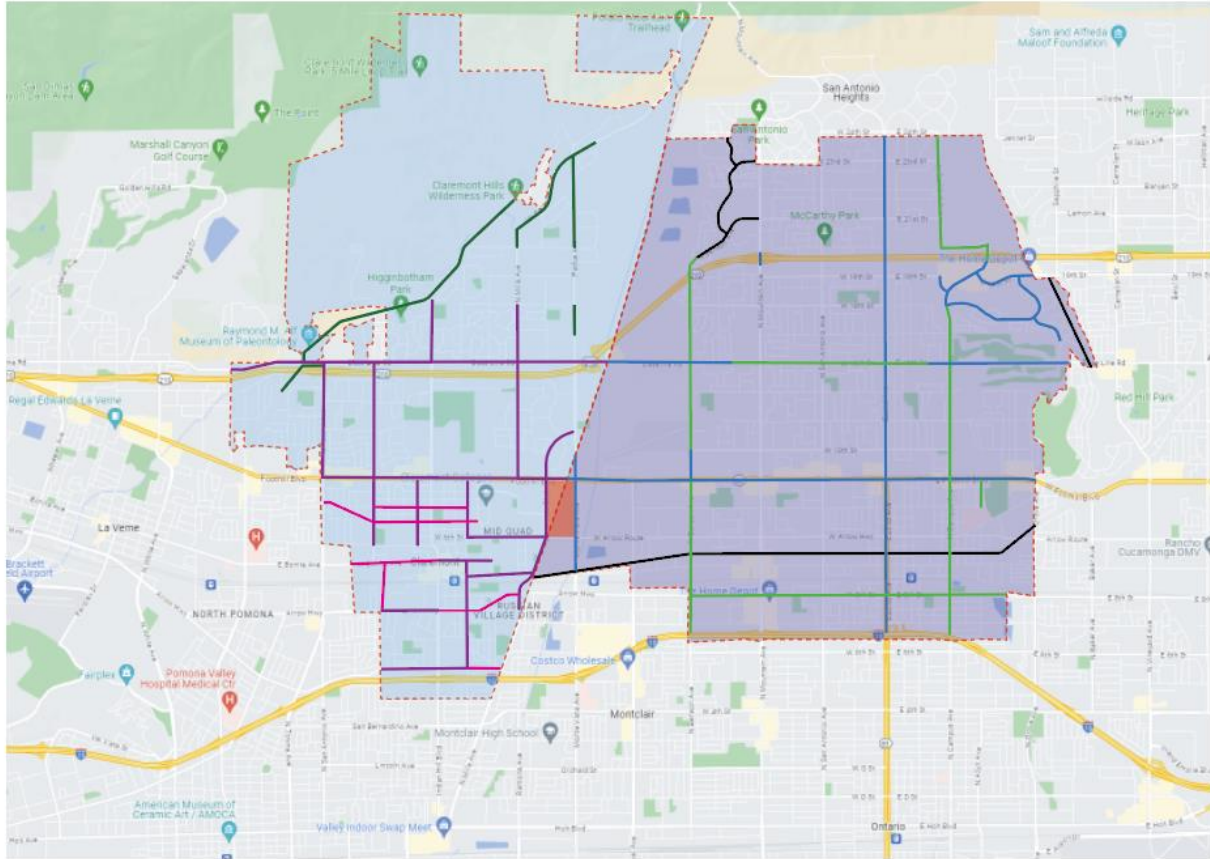
The City of Upland provides Metrolink Bicycle Locker Rentals at the Upland Metrolink Station. The City of Claremont in partnership with San Gabriel Valley Council of Governments (SGVCOG) and ActiveSGV offers an E-Bike Share Program for residents of the city.

7.1.2 Pedestrian Facilities

An inventory was conducted of the pedestrian infrastructure within an approximate one-half mile radius of the site. An overview of these study area facilities is geographically depicted in **Figure 7.2**. ADA-compliant curb ramps are provided at most intersections in the Project vicinity, with numerous ramps featuring tactile warning strips. Marked crosswalks are provided at major intersections along Foothill Boulevard, Claremont Boulevard, Monte Vista Avenue, E. 6th Street, and W. Arrow Highway. A majority of these crosswalks have continental markings to improve crosswalk visibility for motorists. Pedestrian pushbuttons are provided at most signalized marked crosswalks.

The Project is located central to the Claremont Colleges, several commercial areas, and four of the eleven City of Upland Specific Plans (College Park, College Commerce Center, Harvest at Upland, and The Enclave). These attractors are located within reasonable walking distance of the Project and implementation of the Project could increase connectivity between attractors.

FIGURE 7.1 EXISTING BICYCLE INFRASTRUCTURE



LEGEND

- Project Location
- Claremont
- Upland

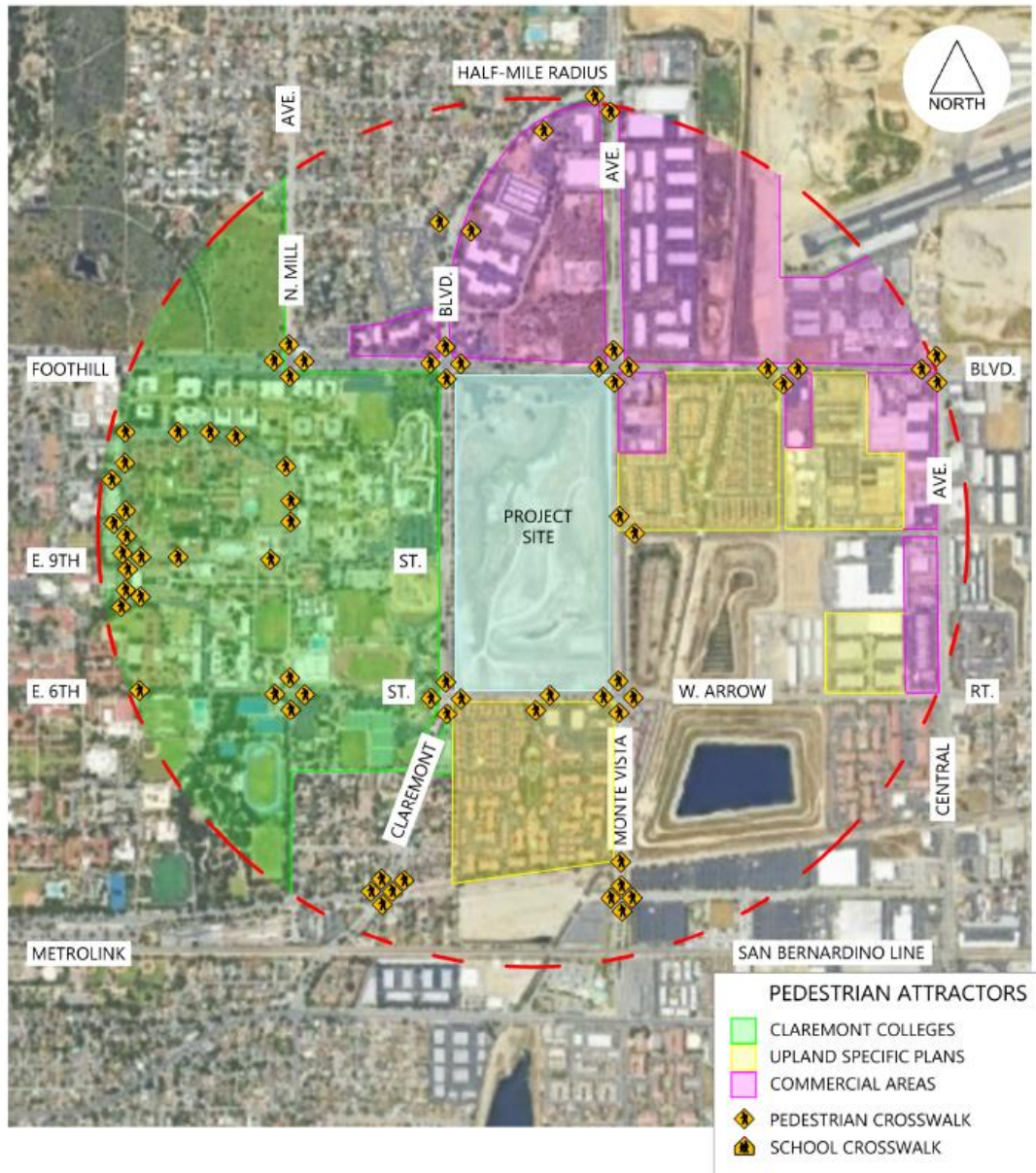
LA County Bikeways

- Existing Bike Path
- Existing Bike Lane
- Existing Route

San Bernardino County Active Transportation Plan (2020)

- Existing, Class I (Multi-Use Path)
- Existing, Class II (Lane)
- Existing, Class III (Route)

FIGURE 7.2 EXISTING PEDESTRIAN INFRASTRUCTURE



7.2 ADOPTED POLICIES, PLANS, AND PROGRAMS

Both the City of Claremont and the City of Upland have adopted policies, plans, and programs for their respective jurisdictions. The review of the applicable policies, plans, and programs included the Claremont General Plan, Upland General Plan, Claremont Municipal Code, Upland Municipal Code, and Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). These are discussed in further detail below.

Based on the reviews below, the Project will support and not preclude the implementation of the counties and cities transportation-related goals and policies. Therefore, the Project will not have a significant impact regarding compliance with adopted policies, plans, and programs.

7.2.1 Claremont General Plan

The Project would embrace the objectives of the Claremont General Plan, which contains the Community Mobility Element.

The Community Mobility Element designates Claremont Boulevard, the roadway boarding the Project to the west, as a secondary arterial. This designation entails a 40- to 60-foot wide roadway or 28- to 36-foot half-widths of the roadway with a 10-foot median. The segment of Claremont Boulevard adjacent to the Project site presently has 46-foot half-widths and an approximately 13-foot median within the roadway exceeding the roadway's classified dimensions. The Project, therefore, is not required to make additional improvements to Claremont Boulevard through a dedication to meet these standards as the roadway meets the roadway's ultimate right-of-way. Claremont Boulevard has existing Class II bike lanes. The existing Development Agreement between CMC and the City of Claremont provides for improvements along the east side of Claremont Boulevard adjacent to the Project site, and at the intersection with Ninth Street, and these improvements will be constructed as part of the proposed Project.

The Community Mobility Element designates Foothill Boulevard, the roadway boarding the Project to the north, as a major arterial. This designation entails a 72- to 88-foot-wide roadway or 36- to 44-foot half-widths of the roadway with a 12-foot median. The segment of Foothill Boulevard adjacent to the Project site presently has an approximately 30-foot half-width, and an approximately 13-foot wide median within the roadway, exceeding the roadway's classified dimensions. Per the Community Mobility Element, Foothill Boulevard has implemented Class II bike lanes as proposed in 2007.

In summary, the Project is consistent with the Claremont General Plan for development of bicycle facilities and public right-of-way classification standards/dedications.

7.2.2 Upland General Plan

The Project would embrace the objectives of the Upland General Plan, which contains the Circulation Element and the Healthy Community Element.

The Circulation Element designates Monte Vista Avenue, the roadway boarding the Project to the east, as a secondary arterial. This designation entails traffic volumes ranging between 10,000 and 30,000 vehicles per day and a typical 35- to 85-foot curb to curb roadway width. The segment of Monte Vista Avenue adjacent to the Project site presently has 110-foot curb to curb roadway width exceeding the roadway's classified dimensions. The Project, therefore, is not required to make additional improvements to Monte Vista Avenue through a dedication to meet these standards as the roadway meets the roadway's ultimate right-of-way. Monte Vista Avenue has existing Class II bike lanes. Monte Vista Avenue, adjacent to the Project site, is classified as a Pedestrian Needs Priority Area identified by the City of Upland as an area not conducive to pedestrian use. The existing Development Agreement between CMC and the City of Upland provides for improvements along the west side of Monte Vista Avenue adjacent to the Project site and these improvements will be constructed as part of the proposed Project.

The Circulation Element designates W. Arrow Route, the roadway boarding the Project to the south, as a secondary arterial. This designation entails traffic volumes ranging between 10,000 and 30,000 vehicles per day and a typical 35- to 85-foot curb to curb roadway width. The segment of W. Arrow Route adjacent to the Project site presently has 64-foot curb to curb roadway width meeting the roadway's classified dimensions. The Project, therefore, is not required to make additional improvements to W. Arrow Route through a dedication to meet these standards as the roadway meets the roadway's ultimate right-of-way.

W. Arrow Route, adjacent to the Project site, is classified as a Pedestrian Needs Priority Area identified by the City of Upland as an area not conducive to pedestrian use. The existing Development Agreement between CMC and the City of Upland provides for improvements along the north side of Arrow Route adjacent to the Project site, and these improvements will be constructed as part of the proposed Project.

The Healthy Community Element is meant to prioritize health in the City of Upland's plans for future growth and development. The Plan is guided by principles of holistic health, the link between community design and health, and active transportation, among other principles. Goal HC-1, promotes incorporating and prioritizing health and wellness principles in City planning decisions affecting transportation. Policies relating to this goal involve the creation of multi-modal corridors and accessible services as features of a safe and healthy city. Goal HC-2, promotes an active living environment that offers ample parks, community facilities, recreation activities, multiuse pedestrian and bicycle trails, and development types that encourage a healthy and active lifestyle. The development of the Project will not preclude the Plan's goals of promoting active transportation and a healthy city. As a collegiate athletic development, that will substantially improve the streetscape and general aesthetics of the existing site, the Project will be conducive to promoting active living and travel for residents, employees, and guests alike.

In summary, the Project is consistent with the Upland General Plan for the development of pedestrian facilities, bicycle facilities, and public right-of-way classification standards/dedications.

7.2.3 Claremont Municipal Code

Vehicle parking rates for the athletic facility land use are not specified in the Claremont Municipal Code. However, the parking requirements for Claremont McKenna College are addressed in the college's Master Plan and the college as a whole will comply with applicable requirements.

The current TDM requirements in Claremont Municipal Code § 16.136.080 outlines TDM measures that a development must implement and comply with which includes displaying mobility information, designating parking for carpool/vanpools, and providing bicycle parking. The Project, as part of the Claremont McKenna College campus, will be in compliance with the Code. This may include designating a portion of the parking supply for employees, providing bicycle parking spaces, and/or incorporating other trip-reducing measures.

The Project driveways will fulfill the specifications and requirements in compliance with § 12.16.060. The Project driveways will also provide sufficient site distance in order to identify conflicting vehicles, bicycles, and pedestrians.

In reviewing the abovementioned Claremont Municipal Code requirements, the Project does not conflict with the applicable parking or TDM policies.

7.2.4 Upland Municipal Code

The Upland Municipal Code § 17.11.030 requires the provision on-site vehicle parking spaces at a rate of 5 to 8 spaces per acre depending on spectator seating accommodations for athletic field land uses. The Project would meet the on-site vehicle parking requirements by providing 790 vehicle parking spaces in the various parking facilities. Upland Municipal Code § 17.11.030 requires the provision of short-term bicycle parking spaces at 10 percent of the number of required automobile parking spaces and long-term bicycle parking spaces at a rate of at least one space per 20 vehicle spaces. The Project will, therefore, provide convenient and adequate bicycle parking facilities.

In reviewing the abovementioned requirements, the Project does not conflict with the bicycle or vehicle policies.

7.2.5 SCAG RTP/SCS

The SCAG RTP/SCS balances future mobility and housing needs with economic, environmental, and public health goals in a long-term plan that are laid out for the period from 2020-2045. The Project is consistent with the SCAG RTP/SCS because the Project would not result in a significant VMT impact as detailed further in the VMT Analysis in Section 9 of this Traffic Impact Analysis.

7.3 CEQA MITIGATION MEASURES AND RECOMMENDED ACTIONS

As indicated in the preceding analyses, the Project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities of the respective jurisdictions. Thus, no CEQA transportation-related mitigation measures for this element are required for the Project.

8.0 NON-CEQA PROJECT IMPACTS

8.1 OPENING YEAR 2027 IMPACTS

Table 8.1 provides a summary of Level of Service (LOS) at the study intersection(s) for the Opening Year 2027 With Project scenario, indicating where a projected intersection LOS is not compliant with either the City of Upland's TIA guidelines or the City of Claremont Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment.

Under the Opening Year Plus Project (Practice and Game Day) traffic conditions, one (1) of the key study intersections is forecast to operate at unacceptable levels of service based on the LOS impact criteria mentioned in this report. The remaining key study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours for the Opening Plus Project traffic conditions. The location forecast to operate at an adverse LOS is as follows:

TABLE 8.1 UNACCEPTABLE LEVEL OF SERVICE (LOS) – OY 2027 WITH PROJECT

Key Intersection Jurisdiction	Jurisdiction	Practice Day		Game Day	
		AM Peak Hour		AM Peak Hour	
		LOS	Delay	LOS	Delay
Base Line Rd & I-210 Ramps	Claremont/Caltrans	F	151.2	F	151.2

This intersection would have an unacceptable LOS when measured against the LOS criteria identified in this report. The implementation of recommended (non-CEQA) offsite improvements outlined in this report would alleviate the adverse LOS condition associated with Opening Year Plus Project (Practice and Game Day) traffic conditions, and restore the affected intersections to acceptable projected conditions.

Under the Opening Year Plus Project (Game Day [Fall] and [Spring]) traffic conditions, all other key study intersections will operate at acceptable levels of service during the AM and PM peak hours.

Appendix C contains the Level of Service (LOS) Worksheets for the Opening Year (2027) without project conditions.

8.2 HORIZON YEAR 2045 IMPACTS

Table 8.2 provides a summary of Level of Service (LOS) at the study intersection(s) for the Horizon Year 2045 With Project scenario, indicating where a projected intersection LOS is not compliant with either the City of Upland's TIA guidelines or the City of Claremont Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment.

Under the Horizon Year Plus Project (Practice Day, Game Day, Game Day [Fall], and Game Day [Spring]) traffic conditions, four (4) of the key study intersections are forecast to operate at unacceptable levels of service based on the LOS impact criteria identified in this report. The remaining key study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours for the Horizon Plus Project traffic conditions. The locations forecast to operate at an adverse LOS is as follows:

TABLE 8.2 UNACCEPTABLE LEVEL OF SERVICE (LOS) – HY 2027 WITH PROJECT

Key Intersection Jurisdiction	Practice Day				Game Day				Game Day (Fall)				Game Day (Spring)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
6. Base Line Rd & I-210 Ramps	-	-	-	-	-	-	-	-	F	86.7	-	-	F	85.7	-	-
13. 6th St & Indian Hill Blvd	E	54.9	F	77.1	E	54.9	E	85.3	E	74.5	F	148.3	E	73.1	F	127.8
14. 6th St & College Ave	-	-	E	42.5	-	-	E	44.1	-	-	E	45.2	-	-	E	42.3
20. 1st St & College Ave	-	-	F	80.5	-	-	F	81.3	-	-	E	45.4	-	-	E	44.3

These intersections listed in Table 8.2 would have an unacceptable LOS when measured against the LOS criteria identified in this report. The implementation of recommended (non-CEQA) offsite improvements outlined in this report would alleviate the adverse LOS condition associated with the Horizon Year Plus Project (Practice Day, Game Day, Game Day [Fall], and Game Day [Spring]) traffic conditions, and restore the affected intersections to acceptable projected conditions.

Under the Horizon Year Plus Project (Practice and Game Day [Fall] & [Spring]) traffic conditions, all other key study intersections will operate at acceptable levels of service during the AM and PM peak hours.

Appendix E contains the Level of Service (LOS) Worksheets for Horizon Year (2045) without project conditions.

PART 3 – CEQA TRANSPORTATION ASSESSMENT

9.0 VMT ANALYSIS

The City of Claremont and the City of Upland have both developed VMT analysis guidelines which allow certain projects to screen out of VMT analysis based on certain characteristics of a project's location and uses. The City of Claremont published *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* in August 2020, while the City of Upland published the *Traffic Impact Analysis Guidelines* in July 2020.

Both the City of Claremont and the City of Upland provide the same three screening criteria, listed below, to determine if a VMT analysis will be required for a development project:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

These screening criteria were applied to the proposed Project uses to determine if further analysis would be required to evaluate the Project's VMT impact.

The San Gabriel Valley Council of Governments (SGVCOG) and San Bernardino County Transportation Authority (SBCTA) have developed online mapping tools which can be used to determine whether projects can be screened from further VMT analysis. These tools (the SGVCOG VMT Evaluation Tool and the SBCTA VMT Screening Tool) were used to determine whether the Project can be presumed to result in a less-than-significant VMT impact based on its location. The screening results from the SGVCOG VMT Evaluation Tool and the SBCTA VMT Screening Tool are presented in **Appendix H** and **I**, respectively.

Transit Priority Screening

Per both the City of Claremont's and the City of Upland's Guidelines, projects located within a TPA may be presumed to have a less-than-significant VMT impact based on their access to transit options. A TPA is defined as within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor which are defined by the California Public Resources Code:

- § Pub. Resources Code, § 21064.3: A "major transit stop" means a site containing any of the following: (a) an existing rail or bus rapid transit station, (b) a ferry terminal served by either a bus or rail transit service, (C) the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.
- § Pub. Resources Code, § 21155: For the purposes of this section, a high-quality transit corridor means a corridor with fixed-route bus service with service intervals of no longer than 15 minutes during peak commute hours.

Based on the SGVCOG VMT Evaluation Tool, the Project parcels located in the City of Claremont are not located within ½-mile of a major transit stop or a stop along high-quality transit corridor and therefore, do not qualify for screening per the TPA criteria.

However, per the SBCTA VMT Screening Tool, the southeastern portion of the site in the City of Upland is located within ½-mile of the Montclair Transit Station, which provides commuter rail and bus service from

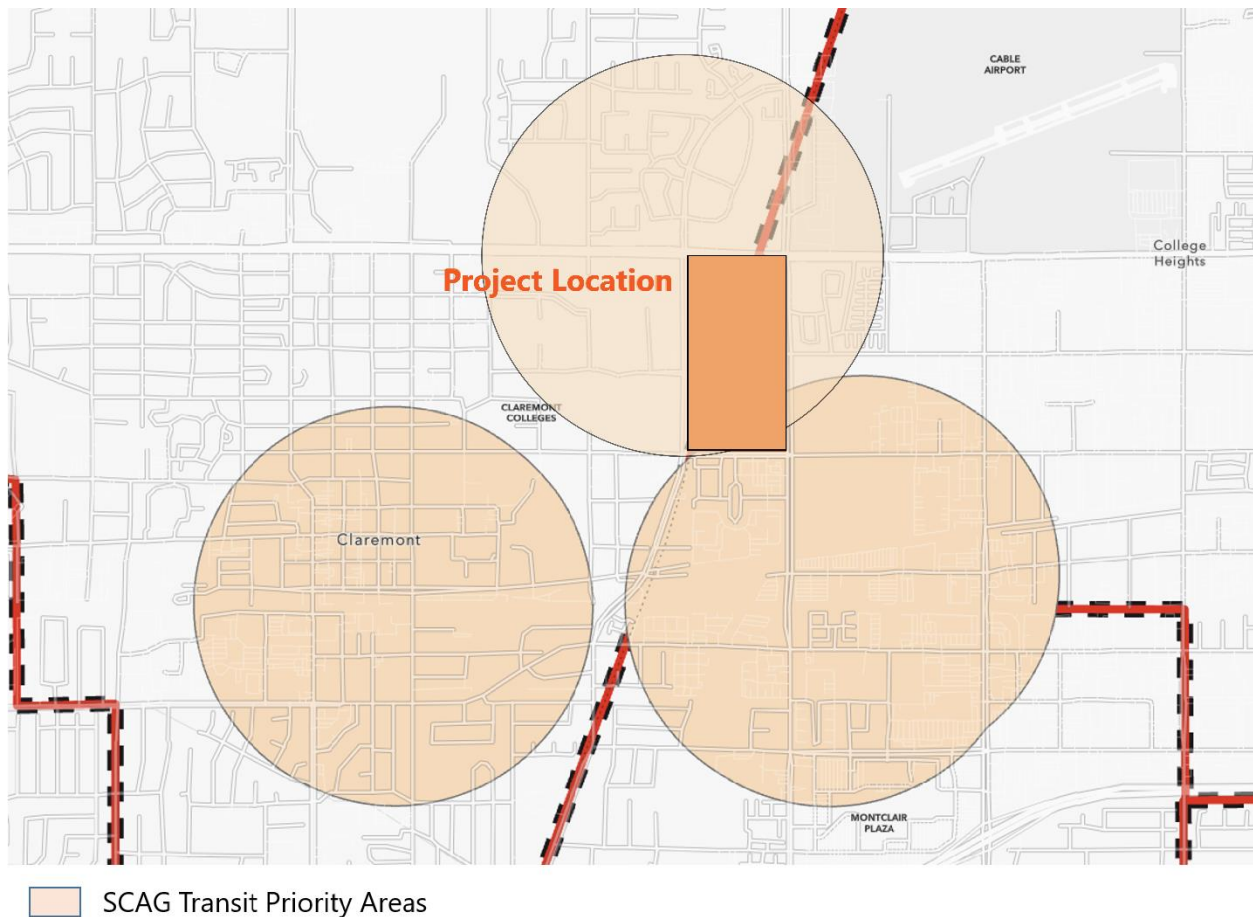
multiple transit agencies. The Foothill Transit Silver Streak bus line operates with weekday peak-hour headways of 15 minutes with a stop provided at the transit center. This route provides connections to Pomona, El Monte, and Downtown Los Angeles. The transit center is also served by the Metrolink San Bernardino Line, connecting Redlands to Los Angeles. A map depicting the SCAG Transit Priority Areas is shown in **Figure 9.1**.

Both the City of Claremont's and the City of Upland's Guidelines state that the TPA screening criteria is not applicable for projects that meet any of the following criteria:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the City;
- Is inconsistent with the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

As the Project consists of athletic facilities with few buildings proposed on the Project site, it has an FAR of less than 0.75 and thus the TPA screening criteria is not applicable. Thus, despite the Project's location near high-quality transit options, the Project was conservatively assumed to not be screened from further VMT analysis based on the TPA screening criterion.

FIGURE 9.1 SCAG TRANSIT PRIORITY AREAS



Low VMT Area Screening

The second screening criterion presented in both the City of Claremont's and the City of Upland's Guidelines allows residential and office projects located in low-VMT generating areas to be presumed to have a less-than-significant VMT impact if the proposed uses are expected to generate VMT at a similar rate to the existing uses in the area. Since the proposed Project land uses are not residential or office in nature, this screening criterion does not apply.

To be comprehensive, the SGVCOG VMT Evaluation Tool and the SBCTA VMT Screening Tool were used to determine whether the Project is located in a low-VMT area. As shown in **Attachment H**, per the SGVCOG VMT Evaluation Tool, the Project parcels within the City of Claremont have existing uses that generate VMT above the City's threshold of 15% below the SGVCOG Northeast subarea average. Additionally, per **Attachment I**, the SBCTA VMT Screening Tool outputs show that the Project parcels located in the City of Upland have existing uses that generate VMT at a rate above the threshold of the citywide average. Therefore, per both the City of Claremont's and the City of Upland's low VMT area screening criteria, the Project is not located in a low-VMT area and cannot be screened from further VMT analysis based on this criterion.

Project Type Screening

Finally, the City of Claremont's and the City of Upland's Guidelines provide lists of project types that can be considered local serving, and therefore can be presumed to reduce VMT. The land use types below are those identified in each jurisdiction's guidelines as being local serving in nature:

City of Claremont

- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving retail uses less than 50,000 square feet (e.g., gas stations, banks, restaurants, shopping centers, etc.)
- Local-serving hotels (e.g., non-destination hotels)
- Local-serving assembly uses (e.g., places of worship, community organizations)
- Community institutions (e.g., public libraries, fire stations, local government)
- Affordable, supportive, or transitional housing
- Assisted living facilities
- Senior housing (as defined by HUD)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Student housing projects on or adjacent to a college campus
- Other local serving uses as approved by the City Traffic Engineer
- Projects generating less than 110 daily vehicle trips

City of Upland

- Local parks
- Day care centers
- Local-serving retail uses less than 50,000 square feet (e.g., gas stations, banks, restaurants, shopping centers, etc.)
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (e.g., places of worship, community organizations)
- Community institutions (e.g., public libraries, fire stations, local government)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Hotels (non-destination or resort; no banquet or special event space)
- Affordable or supportive housing
- Assisted living facilities
- Senior housing (as defined by HUD)
- Projects generating less than 250 daily vehicle trips

As shown above, both the City of Claremont and the City of Upland established trip-based screening criteria to determine when a project can be considered small enough to not result in a significant VMT impact. As shown, the City of Claremont established this threshold at 110 daily trips while the City of Upland established this threshold at 250 daily trips. Per the Project trip generation table in **Table 5.3**, the Project is expected to exceed these thresholds, therefore the Project was assumed to not meet the trip-based screening criteria for determining when further VMT analysis is required.

However, while the City of Claremont's and the City of Upland's Guidelines do not list the Project's proposed collegiate athletic facilities land use as one of the project types that can screen from further VMT analysis, similar recreational and/or collegiate uses are included in the list of local-serving project types (e.g., local parks, local-serving community colleges, local-serving assembly uses, and student housing). Like these uses, the Project's proposed facilities would cater primarily to the students and faculty of the adjacent colleges and provide them with proximate facilities for athletic practices and games which would not require the use of an automobile to access.

Since the proposed athletic facilities will be utilized by students/staff at the college, a high proportion of trips to and from the site will not occur by private automobile. As shown in the trip generation notes in Attachment C, approximately 50% of all trips are expected to be walk-in trips. This accounts for both the student athletes and faculty walking to the Project site for games and practice, as well as spectators walking from the college on game days.

As the proposed athletic facilities will service the CMC population, the Project's proposed land use is expected to be local serving and can be considered to meet the project type VMT screening criteria for both the City of Claremont and the City of Upland. Thus, the Project can be presumed to result in a less-than-significant VMT impact.

VMT Screening Analysis Conclusion

Given that the Project will primarily serve the student and faculty population of the adjacent CMC campus, the proposed Project uses can be considered to be local-serving and will reduce VMT within the surrounding community. Thus, based on the proposed project type, the Project meets the City of Claremont's and the City of Upland's VMT screening requirements and is not required to prepare additional VMT analysis. It should also be noted that most of the proposed Project athletic facilities will replace existing facilities at other locations on the CMC campus and the trips generated by the proposed Project facilities will primarily shift from these existing facilities. Nonetheless, to provide a comprehensive VMT analysis for the Project, a quantitative VMT analysis has been prepared for the proposed Project uses to demonstrate that the Project will generate VMT below the region average.

9.1 VEHICLE MILES TRAVELED ANALYSIS METHODOLOGY AND THRESHOLD

Both the City of Claremont and the City of Upland have developed VMT analysis guidelines for their respective jurisdictions. The City of Claremont published the *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* in August 2020, while the City of Upland published the *Traffic Impact Analysis Guidelines* in July 2020. Both sets of guidelines recommend the use of the local travel demand model (the Southern California Association of Governments [SCAG] Travel Model or the San Bernardino Transportation Analysis Model [SBTAM]) for analyzing VMT impacts. However, the athletic facilities proposed by the Project cannot be easily input into the model socioeconomic data assumptions. Thus, an alternative methodology was developed to estimate the VMT generated by the proposed Project land uses.

This VMT Analysis assumes an Opening Year of 2027. However, some uses on the site will activate prior to 2027. This analysis takes a conservative approach by analyzing 2027 in order to evaluate the impacts of a fully operational site; it can be assumed that, if the fully operational site is below VMT thresholds, and trip generation closely correlates with service population (as it does in this case), then a partially operational site will be below VMT thresholds as well.

The total VMT generated by the proposed Project land uses was calculated based on the number and average length of vehicle trips arriving to and departing from the Project site. The number of daily vehicle trips was calculated using rates from the ITE *Trip Generation Manual* (11th Edition, 2021) and based on estimates of daily athletic team participants and spectators expected on the Project site. The trip generation rates and assumptions used to estimate the number of trips traveling to and from the Project site are presented in Table 5.3.

Average trip lengths for the Project site were calculated using local travel demand models. Since the Project site spans parcels in both the City of Claremont and the City of Upland, two travel demand models are applicable for the Project site: the SCAG Travel Model (Los Angeles County) and the SBTAM (San Bernardino County). Using the person trip matrices and the skim length matrices, weighted average trip lengths were calculated using data from each model for the Project site for the home-based college/university trip type. This trip type was selected as the most appropriate trip type for determining an average trip length for the site, as participants and spectators at the athletic facilities are expected to be drawn from a similar area as the students at the CMC campus.

To determine the average trip lengths for the Project, the VMT associated with the Project TAZ⁸ was calculated for the home-based college/university trip purpose and divided by the total daily home-based college/university trips. The Production-Attraction (PA) methodology was used to calculate the VMT as it allows for the calculation of the VMT associated with specific trip types. This methodology consists of converting the peak (PK) and off-peak (OP) PA matrices from person trips to vehicles trips using average vehicle occupancy rates. This process replicated the model process of converting PA matrices to origin-destination (OD) matrices; however it was conducted only for the home-based college/university trip type while keeping departure and return trips distinct. The PK and OP skim length matrices were then multiplied by the custom-calculated home-based college/university vehicle trip matrices to estimate VMT. The custom-calculated trip matrices and VMT matrices were then summed to combine PK and OP VMT estimates for departure and return trips to determine the daily home-based college/university trips and VMT for the Project TAZ. This process was repeated for the base and future model files for both the SCAG Travel Model and the SBTAM. **Table 9.1** presents a summary of the trip and VMT estimates calculated for the Project site from the two models.

TABLE 9.1 SCAG TRAVEL MODEL AND SBTAM DAILY VMT AND TRIP METRICS

Model Year	Daily VMT	Daily Trips	Average Trip Length (mi)
SCAG Travel Model			
Base Year (2016)	14,606	2,461	5.94
Future Year (2040)	17,323	2,299	7.53
SBTAM			
Base Year (2016)	26,840	3,038	8.83
Future Year (2040)	17,833	3,298	5.41

Using this data, average Project trip lengths for the anticipated opening year of 2027 were estimated by interpolating between the trip lengths calculated from the model base year (2016) and future year (2040)

⁸ It should be noted that for the SBTAM, no home-based college/university trips traveled to or from the Project parcel as it is currently does not contain any university-related land uses. Therefore, the TAZ associated with the CMC campus was used to represent the Project TAZ for the SBTAM as it is assumed that the CMC campus and the CMC Roberts Campus East athletic facilities would draw students and visitors from a similar catchment area.

data. This interpolation is performed by assuming a linear growth between 2016 and 2040 and calculating a value for 2027 along this slope. The results shown below in **Table 9.2** are the assumed trip lengths for the Project upon completion and were used to determine the total VMT associated with the Project uses.

TABLE 9.2 PROJECT OPENING YEAR AVERAGE TRIP LENGTH

Model	Average Trip Length (mi)
SCAG Travel Model	6.67
SBTAM	7.26

The average trip lengths calculated from the travel demand models were then multiplied by the total number of daily trips for the Project site shown in Table 5.3 to determine the total daily VMT associated with the site. The same trip length was applied to all trips. Daily VMT estimates were calculated for the four scenarios outlined in the trip generation table (Weekday Practice Day, Weekday Game Day, Weekend Game Day [Fall], and Weekend Game Day [Spring]). The total VMT for the site was then divided by the total number of daily users (service population) for the corresponding scenario to determine the daily VMT per service population metric for the Project. Assumptions for the daily number of athletic facility participants and spectators used to determine the service population for the Project are outlined in **Table 9.3**.

Because the Project site is located partially in both the City of Upland and the City of Claremont, with both cities in different counties, the Project's VMT metrics were compared against the VMT impact criteria for both jurisdictions.

Per the City of Claremont *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* a significant VMT impact is determined if a Project meets one of the following conditions:

- The baseline project generated VMT per service population exceeds 15% below the San Gabriel Valley Council of Governments (SGVCOG) Northeast Subarea baseline VMT per service population;
- The cumulative project generated VMT per service population exceeds 15% below the SGVCOG Northeast Subarea baseline VMT per service population;

Per the City of Upland *Traffic Impact Analysis Guidelines*, a significant VMT impact is determined if a Project meets one of the following conditions:

- The baseline project-generated VMT per service population exceeds the City of Upland General Plan Buildout VMT per service population;
- The cumulative project-generated VMT per service population exceeds the City of Upland General Plan Buildout VMT per service population;

TABLE 9.3 PROJECT SERVICE POPULATION ASSUMPTIONS

	Weekday Practice Day			Weekday Game Day			Weekend Game Day (Fall)			Weekend Game Day (Spring)		
	Participants	Spectators	Service Population	Participants	Spectators	Service Population	Participants	Spectators	Service Population	Participants	Spectators	Service Population
Multi-Purpose Field ^[1]	36	0	36	36	0	36	56	0	56	56	0	56
Baseball Field ^[2]	30	0	30	60	250	310	-	-	-	60	250	310
Softball Field ^[2]	20	0	20	40	250	290	-	-	-	40	250	290
Football or Track and Field ^[2]	100	0	100	100	100	200	200	1800	2000	-	-	-
Soccer/Rugby ^[2]	40	0	40	40	0	40	80	100	180	80	100	180
Golf	25	0	25	-	-	-	-	-	-	25	0	25
Total	251	0	251	276	600	876	336	1900	2236	261	600	861

^[1] Daily participant estimates for the Multi-Purpose Field were conservatively estimated based on the number of daily trips associated with the land use, assuming each vehicle makes one inbound and one outbound trip a day with an average vehicle ridership (AVR) of 1.0.

^[2] Participant estimates for the listed athletic teams based on the team sizes below (including coaches). Participant numbers doubled on game days to account for visiting team players and coaches.

Baseball: 30 team members

Softball: 20 team members

Football or Track and Field: 100 team members

Soccer or Rugby: 40 team members

Golf: 25 team members

9.2 VEHICLE MILES TRAVELED ANALYSIS RESULTS

Using the methodology described previously, estimates for daily VMT and VMT per service population were calculated for the Project uses based on the SCAG Travel Model and SBTAM average trip length data. A summary of the VMT calculations is provided in **Table 9.4**.

TABLE 9.4 PROJECT VMT PER SERVICE POPULATION SUMMARY

Scenario	Daily Project Trips	Average Trip Length (mi)	Project Daily VMT	Service Population (SP)	VMT per Service Population	VMT Threshold	Significant?
SCAG Travel Model							
Weekday Practice Day	179	6.67	1,194	251	4.76	30.61	No
Weekday Game Day	379	6.67	2,528	876	2.89	30.61	No
Weekend Game Day (Fall)	764	6.67	5,095	2,236	2.28	30.61	No
Weekend Game Day (Spring)	381	6.67	2,541	861	2.95	30.61	No
SBTAM							
Weekday Practice Day	179	7.26	1,300	251	5.18	24.60	No
Weekday Game Day	379	7.26	2,753	876	3.14	24.60	No
Weekend Game Day (Fall)	764	7.26	5,549	2,236	2.48	24.60	No
Weekend Game Day (Spring)	381	7.26	2,767	861	3.21	24.60	No

Table 9.5 below compare the Project impacts to the Claremont and Upland VMT impact thresholds.

As shown, based on data from the SCAG Travel Model, the Project is estimated to generate VMT at a rate between 2.28 and 4.76 VMT per service population for the four trip generation scenarios analyzed for the Project. This rate is much lower than the City of Claremont VMT threshold of 30.61 VMT per service population, which is shown on the screening results worksheets from the SGVCOG VMT Evaluation Tool in **Attachment H**. Thus, the Project is not expected to result in a significant VMT impact per the City of Claremont *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment*.

TABLE 9.5 PROJECT VMT PER SERVICE POPULATION COMPARED TO THRESHOLD

Jurisdiction	Worst-Case VMT per Service Population	Jurisdiction VMT Baseline	Jurisdiction VMT Threshold	Significant?
Claremont	4.76	36.02	30.61 (15% below)	No
Upland	5.18	24.60	24.60	No

Additionally, based on data from the SBTAM, the Project is estimated to generate VMT at a rate between 2.48 and 5.18 VMT per service population for the four trip generation scenarios analyzed for the Project. This rate is much lower than the City of Upland VMT threshold of 24.60 VMT per service population, which is shown on the screening results output from the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool in **Attachment I**. Thus, the Project is not expected to result in a significant VMT impact per the City of Upland *Traffic Impact Analysis Guidelines*.

Both sets of guidelines additionally contain language that considers a project to have no cumulative VMT impact if it is consistent with the local RTP/SCS. This project is an infill project that reduces the urban heat island effect and is in close proximity to most of its users on the adjacent college campus. As a result, this Project has no significant cumulative project generated VMT impact.

Based on the analysis herein, the Project is expected to generate VMT well below the thresholds set by the Cities of Claremont and Upland. Therefore, the Project will not result in a significant VMT impact under CEQA.

PART 4 – CONCLUSION

10.0 NON-CEQA FINDINGS AND RECOMMENDATIONS

This section of the report summarizes the improvements and associated costs required to address “Non-CEQA” traffic impacts, to meet the Cities of Claremont and Upland’s level of service requirements for the analyses in Section 8. The improvement costs have been estimated using cost guidelines contained in **Appendix G** of the San Bernardino County CMP, 2005 Update, with some price escalation factors to account for economic and inflationary considerations. While originating in the San Bernardino County CMP, this cost menu is frequently employed in other settings. The Project’s fair-share contribution to the improvements at each location is identified in **Section 10.3** of this report.

The following offsite improvements are recommended to offset the Project’s area-wide “Non-CEQA” traffic impacts in conjunction with each “With-Project” scenario. The timing and phasing to construct such improvements will be contingent on each agency’s available project development capabilities and schedules, including collection of fair-share funds, project programming, design and construction.

- 6. Base Line Road & I-210 Ramps (Claremont): Widen and/or restripe the southbound approach of the I-210 Southbound On/Off-Ramp at Base Line Road to provide a second (dual) southbound right-turn lane. Modify the existing traffic signal to accommodate and optimize the additional lane and traffic volume demand.
- 13. 6th Street & Indian Hill Boulevard: Reconfigure the northbound approach lanes by adding a dedicated right-turn (curbside) lane. Implement active traffic management measures during Game Day events to divert westbound (outbound) event traffic away from the Indian Hill Boulevard/^{6th} Street intersection, to travel south along Yale Avenue toward the traffic signal at 5th Street and Indian Hill Boulevard. Reconfigure the northbound approach lanes by adding a dedicated right-turn (curbside) lane. Restripe the westbound approach lanes from a single shared left/through/right-turn lane to one (1) left and one (1) shared through/right lane.
- 14. 6th Street & College Avenue: Modify the southbound, westbound and eastbound approaches on 6th Street and College Avenue to provide a shared through-right turn while maintaining one left-turn lane.
- 20. 1st Street & College Avenue: Widen and/or restripe the northbound and southbound approach lanes provide a dedicated left-turn lane, through lane, and shared through/right-turn lane, as well as two receiving lanes. Adjust the existing bicycle lanes to accommodate the proposed geometry.

It should be noted that the improvement costs and the corresponding fair-share costs presented in the following sections are preliminary and are subject to being updated to account for current costs. Improvement measures, specifics, and cost estimates would require final approval from the respective City Engineer(s), and where Caltrans jurisdiction is required, involve coordination with Caltrans District 7 and relevant regional planning agencies.

For those intersections where forecast traffic volumes—both from pre-Project and Project-related traffic sources—are expected to result in unacceptable operating conditions, this report recommends roadway improvements that would serve to improve intersection operations, lane geometry, increase capacity and/or reduce traffic delays. These capacity improvements involve a variety of roadway widening, traffic signal modification, and re-striping improvements to add lanes to specific approaches of impacted key intersections. The identified improvements are concluded to:

- Address the impact of existing traffic, Project traffic, and future non-project (ambient traffic growth and cumulative projects) traffic; and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

10.1 NON-CEQA RECOMMENDED OFFSITE IMPROVEMENTS – OPENING YEAR 2027

Under the Opening Year 2027 With Project conditions, the following offsite improvements described in sub-sections 10.1.1 and 10.1.2 below are recommended to restore the affected intersections to projected satisfactory operations.

10.1.1 Opening Year 2027 Cumulative Plus Project (Practice Day) Gross Improvement Costs

Table 10.1 presents the improvements and their respective costs to alleviate the Year 2027 Cumulative Plus Project (Practice Day) (non-CEQA) traffic impacts at the one (1) impacted key study intersection. A review of Table 10.1 shows that the improvements recommended at the one (1) impacted intersection in the City of Claremont would cost approximately **\$627,000** before any consideration of fair-share allocations. This improvement estimate includes bridge modification costs on the southbound approach of the I-210 On/Off-Ramps at Baseline Road. The relative scope and

TABLE 10.1 OPENING YEAR 2027 CUMULATIVE PLUS PROJECT (PRACTICE DAY) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
Base Line Rd & I-210 Ramps	Claremont/Caltrans	- Bridge Modification.	\$462,000
		- Construct 2nd SB right-turn lane.	\$66,000
		- Modify existing traffic signal.	\$99,000
		<i>Total</i>	<i>\$627,000</i>
City of Claremont Total Costs of Year 2027 Cumulative Plus Project (Practice Day) Improvements			\$627,000

10.1.2 Opening Year 2027 Cumulative Plus Project (Game Day) Gross Improvement Costs

Table 10.2 presents the improvements and their respective costs to alleviate the Year 2045 Cumulative Plus Project (Game Day) (non-CEQA) traffic impacts at the one (1) impacted key study intersection. A review of Table 10.2 shows that the improvements recommended at the one (1) impacted intersections in the City of Claremont would cost approximately **\$627,000** before any consideration of fair-share allocations. This improvement estimate includes bridge modification costs on the southbound approach of SR-210 Ramps at Baseline Road.

TABLE 10.2 OPENING YEAR 2027 CUMULATIVE PLUS PROJECT (GAME DAY) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
Base Line Rd & I-210 Ramps	Claremont/Caltrans	- Bridge Modification.	\$462,000
		- Construct 2nd SB right-turn lane.	\$66,000
		- Modify existing traffic signal	\$99,000
		Total	\$627,000
City of Claremont Total Costs of Year 2027 Cumulative Plus Project (Game Day) Improvements			\$627,000

10.2 NON-CEQA RECOMMENDED OFFSITE IMPROVEMENTS – HORIZON YEAR 2045

Under the Horizon Year 2045 With Project conditions, the following offsite improvements described in sub-sections 10.2.1 and 10.2.2 below are recommended to restore the affected intersections to projected satisfactory operations.

10.2.1 Horizon Year 2045 Cumulative Plus Project (Practice Day) Gross Improvement Costs

Table 10.3 presents the recommended offsite improvements, and their respective costs, to alleviate the Year 2045 Cumulative Plus Project (Practice Day) (non-CEQA) traffic impacts at the three (3) affected key study intersections. A review of Table 10.3 shows that the additional improvements recommended at the three (3) affected intersections in the City of Claremont would cost approximately **\$250,000** before any consideration of fair-share allocations. This improvement estimate includes lane modifications and additions.

TABLE 10.3 HORIZON YEAR 2045 CUMULATIVE PLUS PROJECT (PRACTICE DAY) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
6th St & Indian Hill Blvd	Claremont	Reconfigure approach lanes: - Install NB right-turn lane; - Reconfigure WB approach lanes as 1 Left + 1 Through/Right	\$25,000
			\$25,000
		Total	\$50,000
6th St & College Ave	Claremont	- Construct shared thru-right turn lane in SB, WB & EB directions	\$150,000
		Total	\$150,000
1st St & College Ave	Claremont	- Restripe NB/SB approach lanes to provide a dedicated left, through and through/right-turn lane, as well as two receiving lanes. Adjust existing bicycle lanes to accommodate the proposed geometry	\$100,000
		Total	\$100,000
City of Claremont Total Costs of Year 2045 Cumulative Plus Project (Practice Day) Improvements			\$300,000

10.2.2 Horizon Year 2045 Cumulative Plus Project (Game Day) Gross Improvement Costs

Table 10.4 presents the recommended offsite improvements, and their respective costs, to alleviate the Year 2045 Cumulative Plus Project (Game Day) (non-CEQA) traffic impacts at the three (3) affected key study intersections. Review of Table 10.4 shows that the improvements recommended at the three (3) affected intersections in the City of Claremont would cost approximately **\$250,000** before any consideration of fair-share allocations. This improvement estimate includes lane modifications and additions.

TABLE 10.4 HORIZON YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
6th St & Indian Hill Blvd	Claremont	Reconfigure approach lanes: - Install NB right-turn lane; - Reconfigure WB approach lanes as 1 Left + 1 Through/Right	\$25,000
			\$25,000
		Total	\$50,000
6th St & College Ave	Claremont	- Construct shared thru-right turn lane in SB, WB & EB directions	\$150,000
		Total	\$150,000
1st St & College Ave	Claremont	- Restripe NB/SB approach lanes to provide a dedicated left, through and through/right-turn lane, as well as two receiving lanes. Adjust existing bicycle lanes to accommodate the proposed geometry	\$100,000
		Total	\$100,000
City of Claremont Total Costs of Year 2045 Cumulative Plus Project (Practice Day) Improvements			\$300,000

10.3.7 Horizon Year 2045 Cumulative Plus Project (Game Day: Fall) Gross Improvement Costs

Table 10.5 presents the recommended offsite improvements, and their respective costs, to alleviate the Year 2045 Cumulative Plus Project (Game Day: Fall) (non-CEQA) traffic impacts at the four (4) affected key study intersections. A review of Table 10.5 shows that the improvements recommended at the four (4) affected intersections in the City of Claremont would cost approximately **\$725,000** before any consideration of fair-share allocations. This improvement estimate includes lane modifications and additions.

TABLE 10.5 HORIZON YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY: FALL) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
Base Line Rd & I-210 Ramps	Claremont/ Caltrans	- Bridge Modification	\$462,000
		- Construct 2nd SB right-turn lane	\$66,000
		- Modify existing traffic signal	\$99,000
		<i>Total</i>	<i>\$627,000</i>
6th St & Indian Hill Blvd	Claremont	Reconfigure approach lanes: - Install NB right-turn lane;	\$25,000

		- Reconfigure WB approach lanes as 1 Left + 1 Through/Right	\$25,000
		<i>Total</i>	<i>\$50,000</i>
6th St & College Ave	Claremont	- Construct shared thru-right turn lane in SB, WB & EB directions	\$150,000
		<i>Total</i>	<i>\$150,000</i>
1st St & College Ave	Claremont	- Restripe NB/SB approach lanes to provide a dedicated left, through and through/right-turn lane, as well as two receiving lanes. Adjust existing bicycle lanes to accommodate the proposed geometry	\$100,000
		<i>Total</i>	<i>\$100,000</i>
City of Claremont Total Costs of Year 2045 Cumulative Plus Project (Game Day: Fall) Improvements			\$927,000

10.3.8 Horizon Year 2045 Cumulative Plus Project (Game Day: Spring) Gross Improvement Costs

Table 10.6 presents the improvements and their respective costs to alleviate the Year 2045 Cumulative Plus Project (Game Day: Spring) (non-CEQA) traffic impacts at the four (4) impacted key study intersections. A review of Table 10.6 shows that the improvements recommended at the four (4) impacted intersections in the City of Claremont would cost approximately **\$725,000** before any consideration of fair-share allocations. This improvement estimate includes lane modifications and additions.

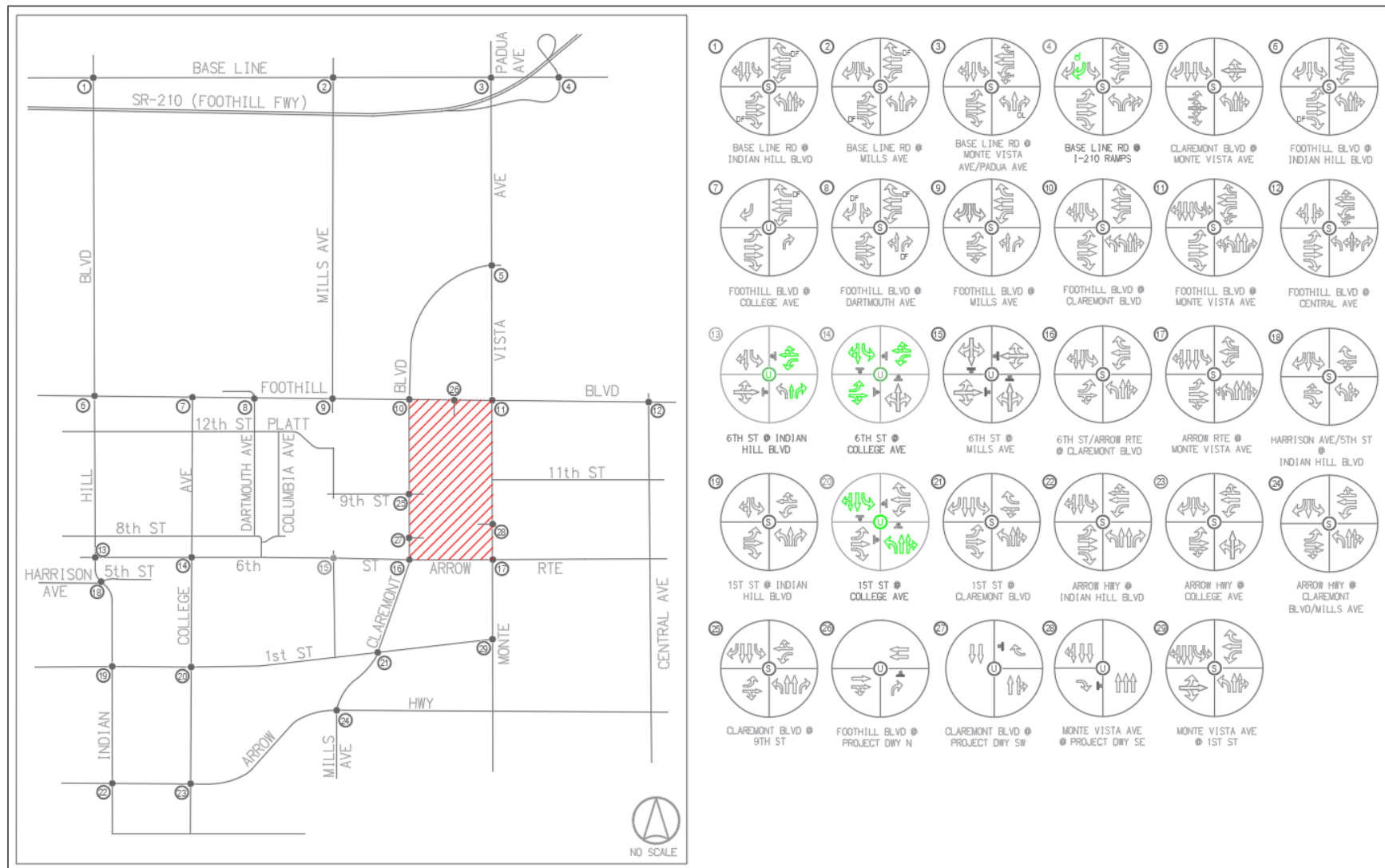
TABLE 10.6 HORIZON YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY: SPRING) IMPROVEMENTS AND COSTS

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
Base Line Rd & I-210 Ramps	Claremont/ Caltrans	- Bridge Modification	\$462,000
		- Construct 2nd SB right-turn lane	\$66,000
		- Modify existing traffic signal	\$99,000
		Total	\$627,000
6th St & Indian Hill Blvd	Claremont	Reconfigure approach lanes:	
		- Install NB right-turn lane;	\$25,000
		- Reconfigure WB approach lanes as 1 Left + 1 Through/Right	\$25,000
		Total	\$50,000
6th St & College Ave	Claremont	- Construct shared thru-right turn lane in SB, WB & EB directions	\$150,000
		Total	\$150,000
1st St & College Ave	Claremont	- Restripe NB/SB approach lanes to provide a dedicated left, through and through/right-turn lane, as well as two receiving lanes. Adjust existing bicycle lanes to accommodate the proposed geometry	\$100,000
		Total	\$100,000
City of Claremont Total Costs of Year 2045 Cumulative Plus Project (Game Day: Fall) Improvements			\$927,000

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost
Base Line Rd & I-210 Ramps	Claremont/ Caltrans	- Bridge Modification	\$462,000
		- Construct 2nd SB right-turn lane	\$66,000
		- Modify existing traffic signal	\$99,000
		Total	\$627,000
6th St & Indian Hill Blvd	Claremont	Reconfigure approach lanes:	
		- Install NB right-turn lane;	\$25,000
		- Reconfigure WB approach lanes as 1 Left + 1 Through/Right	\$25,000
		Total	\$50,000
6th St & College Ave	Claremont	- Construct shared thru-right turn lane in SB, WB & EB directions	\$150,000
		Total	\$150,000
1st St & College Ave	Claremont	- Restripe NB/SB approach lanes to provide a dedicated left, through and through/right-turn lane, as well as two receiving lanes. Adjust existing bicycle lanes to accommodate the proposed geometry	\$100,000
		Total	\$100,000
City of Claremont Total Costs of Year 2045 Cumulative Plus Project (Game Day: Spring) Improvements			\$927,000

Figure 10.1 graphically illustrates the updated level of service results for the affected intersections after implementation of the recommended improvements.

FIGURE 10.1 H.Y. WITH PROJECT RECOMMENDED IMPROVEMENTS



10.3 FAIR-SHARE ANALYSIS

The (non-CEQA) LOS transportation impacts associated with the development of the Project were determined based on a comparative analysis of "Pre-Project" conditions (i.e., Year 2027 Without Project, and Year 2045 Without Project) versus "With Project" conditions. Based on the results of these analyses, the Project may be expected to construct improvements and/or pay a proportional "fair-share" of the improvement costs to alleviate the total (non-CEQA) traffic impact incurred at each affected intersection, resulting from background traffic growth, cumulative development project traffic, and the Project's own generated trips. These fair-share calculations are consistent with typical traffic engineering practice as well as the recommended methodology contained in the San Bernardino County CMP as carried over to this setting.

10.3.1 Opening Year 2027 Plus Project

The Project fair-share percentages (based on greatest peak hour impact) at the one (1) impacted intersection for the Opening Year Plus Project (Practice and Game Day) traffic conditions are shown below in **Table 10.7** and **Table 10.8**:

TABLE 10.7
INTERSECTION PROJECT FAIR-SHARE CONTRIBUTION – OY 2027 PLUS PROJECT (PRACTICE DAY)

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
6. Base Line Rd & I-210 Ramps	Claremont /Caltrans	AM	3,367	3,970	3,986	3%	\$627,000	\$ 17,000

TABLE 10.8
INTERSECTION PROJECT FAIR-SHARE CONTRIBUTION – OY 2027 PLUS PROJECT (GAME DAY)

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
6. Base Line Rd & I-210 Ramps	Claremont /Caltrans	AM	3,367	3,970	3,996	4%	\$627,000	\$ 26,000

10.3.2 Horizon Year 2045 Plus Project

The Project fair-share percentages, based on greatest peak hour impact, at the three (and four) affected intersections for the Horizon Year Plus Project (i.e., Practice Day, Game Day, Game Day [Fall], and Game Day [Spring]) scenarios are shown below in **Table 10.9** through **Table 10.12**:

TABLE 10.9
YEAR 2045 CUMULATIVE PLUS PROJECT (PRACTICE DAY) INTERSECTION PROJECT FAIR-SHARE CONTRIBUTION

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
13. 6th St & Indian Hill Blvd	Claremont	AM	1,288	1,833	1,833	0.0%	\$ 50,000	N/A
		PM	1,155	1,781	1,789	1.2%	\$ 50,000	\$ 1,000
14. 6th St & College Ave	Claremont	PM	742	1,296	1,304	1.5%	\$ 150,000	\$ 3,000
20. 1st St & College Ave	Claremont	PM	952	1,642	1,650	1.1%	\$ 100,000	\$ 2,000

TABLE 10.10
YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY) INTERSECTION PROJECT FAIR-SHARE CONTRIBUTION

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
13. 6th St & Indian Hill Blvd	Claremont	AM	1,288	1,833	1,833	0.0%	\$ 50,000	N/A
		PM	1,155	1,781	1,794	2.0%	\$ 50,000	\$ 1,000
14. 6th St & College Ave	Claremont	PM	742	1,296	1,309	2.3%	\$ 150,000	\$ 4,000
20. 1st St & College Ave	Claremont	PM	952	1,642	1,655	1.8%	\$ 100,000	\$ 2,000

TABLE 10.11
YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY - FALL) INTERSECTION PROJECT FAIR-SHARE CONTRIBUTION

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
6. Base Line Rd & I-210 Ramps	Claremont /Caltrans	AM	1,855	4,128	4,184	2.4%	\$ 627,000	\$ 16,000
13. 6th St & Indian Hill Blvd	Claremont	AM	1,288	1,324	1,343	34.7%	\$ 50,000	\$ 18,000
		PM	1,155	1,983	2,009	3.0%	\$ 50,000	\$ 2,000
14. 6th St & College Ave	Claremont	PM	742	1,281	1,307	4.7%	\$ 150,000	\$ 7,000
20. 1st St & College Ave	Claremont	PM	952	1,501	1,527	4.6%	\$ 100,000	\$ 5,000

TABLE 10.12
YEAR 2045 CUMULATIVE PLUS PROJECT (GAME DAY - SPRING) INTERSECTION PROJECT FAIR-SHARE
CONTRIBUTION

Key Intersection	Jurisdiction	Affected Time Period	Existing Traffic	Year 2027 Cumulative Traffic	Year 2027 Cum. + Project Traffic	Net Project Percent Increase	Total Improvement Cost	Project Fair-Share Contribution
6. Base Line Rd & I-210 Ramps	Claremont /Caltrans	AM	3,367	4,128	4,163	4.4%	\$ 427,500	\$ 19,000
13. 6th St & Indian Hill Blvd	Claremont	AM	1,288	1,324	1,336	25.2%	\$ 50,000	\$ 13,000
		PM	1,155	1,983	1,999	1.9%	\$ 50,000	\$ 1,000
14. 6th St & College Ave	Claremont	PM	742	1,281	1,297	2.9%	\$ 150,000	\$ 5,000
20. 1st St & College Ave	Claremont	PM	952	1,501	1,517	2.8%	\$ 100,000	\$ 3,000

APPENDIX A

TRAFFIC COUNT DATA

**Base Line Rd & Indian Hill Blvd
Claremont California
Thursday, January 25, 2024**

Time	Southbound Indian Hill Blvd						Westbound Base Line Rd						Northbound Indian Hill Blvd						Eastbound Base Line Rd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	9	3	8	0	20	0	18	152	5	2	175	0	13	2	15	0	30	0	5	34	11	2	50	275
7:15 AM	0	6	9	10	0	25	0	30	181	3	1	214	0	9	7	15	0	31	0	2	49	8	0	59	329
7:30 AM	0	12	12	13	1	37	0	71	217	6	1	294	0	17	2	29	0	48	0	2	73	22	0	97	476
7:45 AM	2	12	28	16	0	58	0	79	259	2	0	340	0	29	9	37	0	75	0	5	101	39	3	145	618
Hourly Total	2	39	52	47	1	140	0	198	809	16	4	1023	0	68	20	96	0	184	0	14	257	80	5	351	1698
8:00 AM	0	2	36	12	0	50	0	105	167	10	0	282	0	22	10	50	0	82	0	8	120	60	3	188	602
8:15 AM	0	10	83	13	0	106	0	122	185	44	0	351	1	40	14	76	0	131	0	11	108	89	7	208	796
8:30 AM	0	9	13	12	0	34	0	45	127	8	0	180	1	32	12	101	3	146	0	8	103	31	1	142	502
8:45 AM	0	4	13	16	0	33	0	43	138	6	0	187	0	15	8	15	0	38	0	10	94	25	0	129	387
Hourly Total	0	25	145	53	0	223	0	315	617	68	0	1000	2	109	44	242	3	397	0	37	425	205	11	667	2287
4:00 PM	0	9	16	3	0	28	0	37	95	10	0	142	0	35	8	49	0	92	0	18	177	18	1	213	475
4:15 PM	0	9	11	4	0	24	0	34	125	8	2	167	0	43	10	49	0	102	0	11	178	35	1	224	517
4:30 PM	0	7	13	7	1	27	0	33	87	11	3	131	0	27	13	41	0	81	0	7	168	32	2	207	446
4:45 PM	0	10	12	7	3	29	0	37	121	10	0	168	0	34	12	51	0	97	0	9	196	23	1	228	522
Hourly Total	0	35	52	21	4	108	0	141	428	39	5	608	0	139	43	190	0	372	0	45	719	108	5	872	1960
5:00 PM	0	13	17	9	0	39	0	33	108	18	1	159	1	69	20	66	1	156	0	16	158	25	2	199	553
5:15 PM	1	12	12	9	0	34	0	43	103	12	2	158	0	36	16	54	1	106	0	18	185	30	0	233	531
5:30 PM	0	10	8	10	0	28	0	43	93	7	0	143	0	28	17	48	1	93	0	15	152	18	0	185	449
5:45 PM	0	4	14	9	0	27	0	49	107	10	0	166	0	32	13	47	0	92	0	17	179	28	0	224	509
Hourly Total	1	39	51	37	0	128	0	168	411	47	3	626	1	165	66	215	3	447	0	66	674	101	2	841	2042
4 Hours TOTAL	3	138	300	158	5	599	0	822	2265	170	12	3257	3	481	173	743	6	1400	0	162	2075	494	23	2731	7987
Cars	3	138	299	155	5	595	0	819	2249	168	12	3236	3	475	172	742	5	1392	0	159	2067	488	19	2714	7937
Heavy Vehicles	0	0	1	3	0	4	0	3	16	2	0	21	0	6	1	1	1	8	0	3	8	6	4	17	50
Heavy Vehicle %	0.00%	0.00%	0.33%	1.90%	0.00%	0.67%	0.00%	0.36%	0.71%	1.18%	0.00%	0.64%	0.00%	1.25%	0.58%	0.13%	16.67%	0.57%	0.00%	1.85%	0.39%	1.21%	17.39%	0.62%	0.63%

**Base Line Rd & Indian Hill Blvd
Claremont California
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:45 AM	2	12	28	16	0	58	0	79	259	2	0	340	0	29	9	37	0	75	0	5	101	39	3	145	618
8:00 AM	0	2	36	12	0	50	0	105	167	10	0	282	0	22	10	50	0	82	0	8	120	60	3	188	602
8:15 AM	0	10	83	13	0	106	0	122	185	44	0	351	1	40	14	76	0	131	0	11	108	89	7	208	796
8:30 AM	0	9	13	12	0	34	0	45	127	8	0	180	1	32	12	101	3	146	0	8	103	31	1	142	502
Peak Hour Total	2	33	160	53	0	248	0	351	738	64	0	1153	2	123	45	264	3	434	0	32	432	219	14	683	2518
PHF	0.250	0.688	0.482	0.828	0.000	0.585	0.000	0.719	0.712	0.364	0.000	0.821	0.500	0.769	0.804	0.653	0.250	0.743	0.000	0.727	0.900	0.615	0.500	0.821	0.791

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:45 PM	0	10	12	7	3	29	0	37	121	10	0	168	0	34	12	51	0	97	0	9	196	23	1	228	522
5:00 PM	0	13	17	9	0	39	0	33	108	18	1	159	1	69	20	66	1	156	0	16	158	25	2	199	553
5:15 PM	1	12	12	9	0	34	0	43	103	12	2	158	0	36	16	54	1	106	0	18	185	30	0	233	531
5:30 PM	0	10	8	10	0	28	0	43	93	7	0	143	0	28	17	48	1	93	0	15	152	18	0	185	449
Peak Hour Total	1	45	49	35	3	130	0	156	425	47	3	628	1	167	65	219	3	452	0	58	691	96	3	845	2055
PHF	0.250	0.865	0.721	0.875	0.250	0.833	0.000	0.907	0.878	0.653	0.375	0.935	0.250	0.605	0.813	0.830	0.750	0.724	0.000	0.806	0.881	0.800	0.375	0.907	0.929

Total Vehicles On Leg 1107

Vehicles Entering Intersection 599			Vehicles Exiting Intersection 508		
Southbound					
Cars	155	299	138	3	5
Heavy	3	1	0	0	0
Total	158	300	138	3	5



Total Vehicles on Leg 5635	Vehicles Entering Intersection 2731	Eastbound	Cars	Heavy	Total
			19	4	23
			0	0	0
	Vehicles Exiting Intersection 2904		159	3	162
			2067	8	2075
			488	6	494



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3257	Total Vehicles on Leg 6213
168	2	170			
2249	16	2265			
819	3	822		Vehicles Exiting Intersection 2956	
0	0	0			
12	0	12			



4 Hour Volumes

Cars	5	3	475	172	742
Heavy	1	0	6	1	1
Total	6	3	481	173	743
Northbound					
Vehicles Entering Intersection 1400			Vehicles Exiting Intersection 1619		
Total Vehicles On Leg			3019		



**Base Line Rd & Indian Hill Blvd
Claremont California
Saturday, January 27, 2024**

Time	Southbound Indian Hill Blvd						Westbound Base Line Rd						Northbound Indian Hill Blvd						Eastbound Base Line Rd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	11	17	20	1	48	0	38	118	20	1	176	0	18	10	40	0	68	0	6	110	17	0	133	425
11:15 AM	0	20	17	7	0	44	0	49	112	10	1	171	0	30	11	54	2	95	0	8	96	15	2	119	429
11:30 AM	0	15	13	16	4	44	0	58	120	10	0	188	0	22	10	47	0	79	0	17	87	20	2	124	435
11:45 AM	0	21	20	21	0	62	0	61	135	13	0	209	0	24	6	48	0	78	0	10	101	20	4	131	480
Hourly Total	0	67	67	64	5	198	0	206	485	53	2	744	0	94	37	189	2	320	0	41	394	72	8	507	1769
12:00 PM	0	13	12	7	0	32	0	59	113	13	0	185	0	30	9	40	0	79	0	10	95	19	0	124	420
12:15 PM	0	20	14	10	0	44	0	47	105	10	1	162	0	24	10	37	0	71	0	8	110	21	1	139	416
12:30 PM	0	11	16	17	0	44	0	32	104	11	0	147	0	18	15	53	0	86	0	6	109	21	0	136	413
12:45 PM	0	12	12	21	0	45	0	57	115	9	1	181	0	23	13	28	0	64	0	11	111	16	1	138	428
Hourly Total	0	56	54	55	0	165	0	195	437	43	2	675	0	95	47	158	0	300	0	35	425	77	2	537	1677
1:00 PM	0	9	12	10	0	31	0	49	117	8	1	174	0	38	13	45	0	96	0	9	79	19	1	107	408
1:15 PM	0	8	11	10	0	29	0	44	107	12	0	163	0	15	12	61	0	88	0	18	98	19	2	135	415
1:30 PM	0	7	12	8	0	27	0	45	97	8	0	150	0	29	13	55	1	97	0	18	108	17	0	143	417
1:45 PM	0	12	9	9	0	30	1	33	107	12	0	153	0	26	19	54	0	99	0	6	111	21	0	138	420
Hourly Total	0	36	44	37	0	117	1	171	428	40	1	640	0	108	57	215	1	380	0	51	396	76	3	523	1660
2:00 PM	0	6	10	8	0	24	0	35	97	4	0	136	0	31	9	40	0	80	0	13	112	18	0	143	383
2:15 PM	0	11	7	9	0	27	0	40	115	9	0	164	0	29	6	48	0	83	0	8	104	21	6	133	407
2:30 PM	0	11	16	10	0	37	0	36	108	8	1	152	0	27	7	35	4	69	0	5	105	23	0	133	391
2:45 PM	1	9	17	8	0	35	0	44	106	11	0	161	0	32	13	46	2	91	0	13	108	15	1	136	423
Hourly Total	1	37	50	35	0	123	0	155	426	32	1	613	0	119	35	169	6	323	0	39	429	77	7	545	1604
4 Hours TOTAL Cars	1	196	215	191	5	603	1	727	1776	168	6	2672	0	416	176	731	9	1323	0	166	1644	302	20	2112	6710
Heavy Vehicles	1	196	215	191	4	603	1	724	1763	168	5	2656	0	411	175	730	9	1316	0	166	1639	299	16	2104	6679
Heavy Vehicle %	0.00%	0.00%	0.00%	0.00%	20.00%	0.00%	0.00%	0.41%	0.73%	0.00%	16.67%	0.60%	0.00%	1.20%	0.57%	0.14%	0.00%	0.53%	0.00%	0.00%	0.30%	0.99%	20.00%	0.38%	0.46%

**Base Line Rd & Indian Hill Blvd
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	11	17	20	1	48	0	38	118	20	1	176	0	18	10	40	0	68	0	6	110	17	0	133	425
11:15 AM	0	20	17	7	0	44	0	49	112	10	1	171	0	30	11	54	2	95	0	8	96	15	2	119	429
11:30 AM	0	15	13	16	4	44	0	58	120	10	0	188	0	22	10	47	0	79	0	17	87	20	2	124	435
11:45 AM	0	21	20	21	0	62	0	61	135	13	0	209	0	24	6	48	0	78	0	10	101	20	4	131	480
Peak Hour Total	0	67	67	64	5	198	0	206	485	53	2	744	0	94	37	189	2	320	0	41	394	72	8	507	1769
PHF	0.000	0.798	0.838	0.762	0.313	0.798	0.000	0.844	0.898	0.663	0.500	0.890	0.000	0.783	0.841	0.875	0.250	0.842	0.000	0.603	0.895	0.900	0.500	0.953	0.921

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 PM	0	13	12	7	0	32	0	59	113	13	0	185	0	30	9	40	0	79	0	10	95	19	0	124	420
12:15 PM	0	20	14	10	0	44	0	47	105	10	1	162	0	24	10	37	0	71	0	8	110	21	1	139	416
12:30 PM	0	11	16	17	0	44	0	32	104	11	0	147	0	18	15	53	0	86	0	6	109	21	0	136	413
12:45 PM	0	12	12	21	0	45	0	57	115	9	1	181	0	23	13	28	0	64	0	11	111	16	1	138	428
Peak Hour Total	0	56	54	55	0	165	0	195	437	43	2	675	0	95	47	158	0	300	0	35	425	77	2	537	1677
PHF	0.000	0.700	0.844	0.655	0.000	0.917	0.000	0.826	0.950	0.827	0.500	0.912	0.000	0.792	0.783	0.745	0.000	0.872	0.000	0.795	0.957	0.917	0.500	0.966	0.980

Total Vehicles On Leg 1114

Vehicles Entering Intersection 603			Vehicles Exiting Intersection 511		
Southbound					
Cars	191	215	196	1	4
Heavy	0	0	0	0	1
Total	191	215	196	1	5



Total Vehicles on Leg 4495	Vehicles Entering Intersection 2112	Eastbound	Cars	Heavy	Total
			16	4	20
			0	0	0
	Vehicles Exiting Intersection 2383		166	0	166
			1639	5	1644
			299	3	302



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2672	Total Vehicles on Leg 5244
168	0	168			
1763	13	1776			
724	3	727		Vehicles Exiting Intersection 2572	
1	0	1			
5	1	6			



4 Hour Volumes

Cars	9	0	411	175	730
Heavy	0	0	5	1	1
Total	9	0	416	176	731
Northbound					
Vehicles Entering Intersection 1323			Vehicles Exiting Intersection 1244		
Total Vehicles On Leg			2567		



**Base Line Rd & Mills Ave
Claremont California
Thursday, January 25, 2024**

Time	Southbound Mills Ave						Westbound Base Line Rd						Northbound Mills Ave						Eastbound Base Line Rd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	5	9	15	0	29	0	19	140	4	1	163	0	14	10	11	0	35	0	8	45	5	0	58	285
7:15 AM	0	14	11	25	0	50	0	27	149	5	0	181	0	22	10	10	0	42	0	4	62	8	1	74	347
7:30 AM	0	11	38	34	0	83	0	33	225	2	0	260	0	20	15	15	0	50	0	11	76	27	1	114	507
7:45 AM	0	16	76	46	1	138	0	48	224	7	0	279	0	35	27	35	1	97	0	13	95	50	0	158	672
Hourly Total	0	46	134	120	1	300	0	127	738	18	1	883	0	91	62	71	1	224	0	36	278	90	2	404	1811
8:00 AM	0	28	39	41	1	108	0	31	224	4	0	259	0	42	50	39	0	131	0	21	104	36	0	161	659
8:15 AM	0	17	21	45	0	83	0	39	219	10	0	268	0	27	13	11	0	51	0	18	116	24	0	158	560
8:30 AM	0	9	12	21	0	42	0	33	132	6	1	171	0	23	18	14	0	55	0	21	174	24	0	219	487
8:45 AM	0	17	20	22	0	59	0	27	138	9	1	174	0	21	12	12	0	45	0	8	87	21	0	116	394
Hourly Total	0	71	92	129	1	292	0	130	713	29	2	872	0	113	93	76	0	282	0	68	481	105	0	654	2100
4:00 PM	0	17	20	10	1	47	0	20	97	14	3	131	0	26	28	19	0	73	0	19	171	22	0	212	463
4:15 PM	0	9	14	23	0	46	0	27	124	12	0	163	0	31	13	20	1	64	1	18	184	20	0	223	496
4:30 PM	0	12	14	10	1	36	0	11	99	16	2	126	0	28	17	21	2	66	0	17	164	26	1	207	435
4:45 PM	0	17	26	26	0	69	1	30	108	9	0	148	0	39	18	27	3	84	0	25	179	18	11	222	523
Hourly Total	0	55	74	69	2	198	1	88	428	51	5	568	0	124	76	87	6	287	1	79	698	86	12	864	1917
5:00 PM	0	16	17	20	3	53	0	17	118	16	3	151	0	32	34	33	0	99	0	20	200	18	0	238	541
5:15 PM	0	14	11	25	1	50	0	25	112	12	1	149	0	29	19	25	0	73	0	21	193	24	0	238	510
5:30 PM	0	13	18	14	0	45	0	19	118	9	0	146	0	28	24	24	1	76	0	26	156	22	0	204	471
5:45 PM	0	15	8	20	0	43	0	22	115	15	6	152	0	25	18	17	1	60	0	17	169	25	7	211	466
Hourly Total	0	58	54	79	4	191	0	83	463	52	10	598	0	114	95	99	2	308	0	84	718	89	7	891	1988
4 Hours TOTAL	0	230	354	397	8	981	1	428	2342	150	18	2921	0	442	326	333	9	1101	1	267	2175	370	21	2813	7816
Cars	0	226	352	394	5	972	1	423	2332	149	14	2905	0	437	323	329	5	1089	1	266	2167	369	21	2803	7769
Heavy Vehicles	0	4	2	3	3	9	0	5	10	1	4	16	0	5	3	4	4	12	0	1	8	1	0	10	47
Heavy Vehicle %	0.00%	1.74%	0.56%	0.76%	37.50%	0.92%	0.00%	1.17%	0.43%	0.67%	22.22%	0.55%	0.00%	1.13%	0.92%	1.20%	44.44%	1.09%	0.00%	0.37%	0.37%	0.27%	0.00%	0.36%	0.60%

**Base Line Rd & Mills Ave
Claremont California
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	11	38	34	0	83	0	33	225	2	0	260	0	20	15	15	0	50	0	11	76	27	1	114	507
7:45 AM	0	16	76	46	1	138	0	48	224	7	0	279	0	35	27	35	1	97	0	13	95	50	0	158	672
8:00 AM	0	28	39	41	1	108	0	31	224	4	0	259	0	42	50	39	0	131	0	21	104	36	0	161	659
8:15 AM	0	17	21	45	0	83	0	39	219	10	0	268	0	27	13	11	0	51	0	18	116	24	0	158	560
Peak Hour Total	0	72	174	166	2	412	0	151	892	23	0	1066	0	124	105	100	1	329	0	63	391	137	1	591	2398
PHF	0.000	0.643	0.572	0.902	0.500	0.746	0.000	0.786	0.991	0.575	0.000	0.955	0.000	0.738	0.525	0.641	0.250	0.628	0.000	0.750	0.843	0.685	0.250	0.918	0.892

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:45 PM	0	17	26	26	0	69	1	30	108	9	0	148	0	39	18	27	3	84	0	25	179	18	11	222	523
5:00 PM	0	16	17	20	3	53	0	17	118	16	3	151	0	32	34	33	0	99	0	20	200	18	0	238	541
5:15 PM	0	14	11	25	1	50	0	25	112	12	1	149	0	29	19	25	0	73	0	21	193	24	0	238	510
5:30 PM	0	13	18	14	0	45	0	19	118	9	0	146	0	28	24	24	1	76	0	26	156	22	0	204	471
Peak Hour Total	0	60	72	85	4	217	1	91	456	46	4	594	0	128	95	109	4	332	0	92	728	82	11	902	2045
PHF	0.000	0.882	0.692	0.817	0.333	0.786	0.250	0.758	0.966	0.719	0.333	0.983	0.000	0.821	0.699	0.826	0.333	0.838	0.000	0.885	0.910	0.854	0.250	0.947	0.945

Total Vehicles On Leg	1724
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Vehicles Entering Intersection		Vehicles Exiting Intersection			
981		743			
Southbound					
Cars	394	352	226	0	5
Heavy	3	2	4	0	3
Total	397	354	230	0	8



Total Vehicles on Leg 5995	Vehicles Entering Intersection 2813	Eastbound	Cars	Heavy	Total
			21	0	21
			1	0	1
	Vehicles Exiting Intersection 3182		266	1	267
			2167	8	2175
			369	1	370



4 Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2921	Total Vehicles on Leg 5660
149	1	150			
2332	10	2342			
423	5	428		Vehicles Exiting Intersection 2739	
1	0	1			
14	4	18			



Cars	5	0	437	323	329
Heavy	4	0	5	3	4
Total	9	0	442	326	333
Northbound					
Vehicles Entering Intersection 1101			Vehicles Exiting Intersection 1152		
Total Vehicles On Leg			2253		



**Base Line Rd & Mills Ave
Claremont California
Saturday, January 27, 2024**

Time	Southbound Mills Ave						Westbound Base Line Rd						Northbound Mills Ave						Eastbound Base Line Rd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	18	15	33	1	66	0	13	107	20	5	140	0	30	17	15	2	62	0	15	117	12	1	144	412
11:15 AM	0	31	21	47	3	99	0	26	107	16	4	149	0	32	33	17	5	82	0	21	117	16	1	154	484
11:30 AM	0	18	23	24	1	65	0	17	116	20	0	153	0	20	14	24	6	58	0	19	141	9	4	169	445
11:45 AM	0	22	22	33	0	77	0	28	144	25	1	197	0	21	24	14	5	59	1	15	121	28	2	165	498
Hourly Total	0	89	81	137	5	307	0	84	474	81	10	639	0	103	88	70	18	261	1	70	496	65	8	632	1839
12:00 PM	0	30	17	30	0	77	0	22	108	16	3	146	0	39	29	21	4	89	0	12	128	15	1	155	467
12:15 PM	0	16	14	38	0	68	0	15	108	11	4	134	0	24	20	17	2	61	0	22	122	13	1	157	420
12:30 PM	0	33	22	30	0	85	0	27	83	11	3	121	1	23	7	20	1	51	0	18	114	13	1	145	402
12:45 PM	0	24	25	28	0	77	0	24	134	11	4	169	0	19	22	14	3	55	0	14	113	13	0	140	441
Hourly Total	0	103	78	126	0	307	0	88	433	49	14	570	1	105	78	72	10	256	0	66	477	54	3	597	1730
1:00 PM	0	22	28	32	0	82	0	18	115	19	1	152	0	26	25	15	0	66	0	14	119	9	1	142	442
1:15 PM	0	25	23	33	1	81	0	28	89	16	1	133	0	29	19	23	4	71	1	22	126	17	0	166	451
1:30 PM	0	15	24	27	1	66	0	17	97	15	5	129	0	24	19	14	1	57	0	9	133	20	1	162	414
1:45 PM	0	22	38	36	2	96	0	18	98	15	4	131	0	17	20	16	0	53	0	16	138	14	0	168	448
Hourly Total	0	84	113	128	4	325	0	81	399	65	11	545	0	96	83	68	5	247	1	61	516	60	2	638	1755
2:00 PM	0	17	14	31	0	62	0	30	92	16	1	138	0	22	22	13	1	57	0	15	143	15	1	173	430
2:15 PM	0	15	28	25	0	68	1	15	108	10	1	134	0	33	15	20	2	68	0	20	107	16	0	143	413
2:30 PM	0	16	20	32	0	68	0	20	85	13	2	118	0	18	15	14	0	47	0	20	130	13	0	163	396
2:45 PM	0	19	17	30	0	66	0	18	99	11	5	128	0	32	18	15	1	65	0	12	147	10	0	169	428
Hourly Total	0	67	79	118	0	264	1	83	384	50	9	518	0	105	70	62	4	237	0	67	527	54	1	648	1667
4 Hours TOTAL	0	343	351	509	9	1203	1	336	1690	245	44	2272	1	409	319	272	37	1001	2	264	2016	233	14	2515	6991
Cars	0	341	350	505	9	1196	1	334	1675	244	38	2254	1	402	316	269	25	988	2	263	2006	229	11	2500	6938
Heavy Vehicles	0	2	1	4	0	7	0	2	15	1	6	18	0	7	3	3	12	13	0	1	10	4	3	15	53
Heavy Vehicle %	0.00%	0.58%	0.28%	0.79%	0.00%	0.58%	0.00%	0.60%	0.89%	0.41%	13.64%	0.79%	0.00%	1.71%	0.94%	1.10%	32.43%	1.30%	0.00%	0.38%	0.50%	1.72%	21.43%	0.60%	0.76%

**Base Line Rd & Mills Ave
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	18	15	33	1	66	0	13	107	20	5	140	0	30	17	15	2	62	0	15	117	12	1	144	412
11:15 AM	0	31	21	47	3	99	0	26	107	16	4	149	0	32	33	17	5	82	0	21	117	16	1	154	484
11:30 AM	0	18	23	24	1	65	0	17	116	20	0	153	0	20	14	24	6	58	0	19	141	9	4	169	445
11:45 AM	0	22	22	33	0	77	0	28	144	25	1	197	0	21	24	14	5	59	1	15	121	28	2	165	498
Peak Hour Total	0	89	81	137	5	307	0	84	474	81	10	639	0	103	88	70	18	261	1	70	496	65	8	632	1839
PHF	0.000	0.718	0.880	0.729	0.417	0.775	0.000	0.750	0.823	0.810	0.500	0.811	0.000	0.805	0.667	0.729	0.750	0.796	0.250	0.833	0.879	0.580	0.500	0.935	0.923

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
1:00 PM	0	22	28	32	0	82	0	18	115	19	1	152	0	26	25	15	0	66	0	14	119	9	1	142	442
1:15 PM	0	25	23	33	1	81	0	28	89	16	1	133	0	29	19	23	4	71	1	22	126	17	0	166	451
1:30 PM	0	15	24	27	1	66	0	17	97	15	5	129	0	24	19	14	1	57	0	9	133	20	1	162	414
1:45 PM	0	22	38	36	2	96	0	18	98	15	4	131	0	17	20	16	0	53	0	16	138	14	0	168	448
Peak Hour Total	0	84	113	128	4	325	0	81	399	65	11	545	0	96	83	68	5	247	1	61	516	60	2	638	1755
PHF	0.000	0.840	0.743	0.889	0.500	0.846	0.000	0.723	0.867	0.855	0.550	0.896	0.000	0.828	0.830	0.739	0.313	0.870	0.250	0.693	0.935	0.750	0.500	0.949	0.973

Total Vehicles On Leg 2031

Vehicles Entering Intersection 1203			Vehicles Exiting Intersection 828		
Southbound					
Cars	505	350	341	0	9
Heavy	4	1	2	0	0
Total	509	351	343	0	9



Total Vehicles on Leg 5125	Vehicles Entering Intersection 2515	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 2610		11	3	14
			2	0	2
			263	1	264
			2006	10	2016
			229	4	233



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2272	Total Vehicles on Leg 4904
244	1	245			
1675	15	1690			
334	2	336			
1	0	1			
38	6	44			
				Vehicles Exitng Intersection 2632	



4 Hour Volumes

Northbound					
Cars	25	1	402	316	269
Heavy	12	0	7	3	3
Total	37	1	409	319	272
Northbound					
Vehicles Entering Intersection 1001			Vehicles Exiting Intersection 921		
Total Vehicles On Leg			1922		



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Apr 13, 23

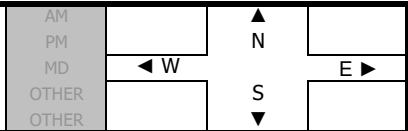
LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Padua
Baseline

PROJECT #:
LOCATION #:
CONTROL:

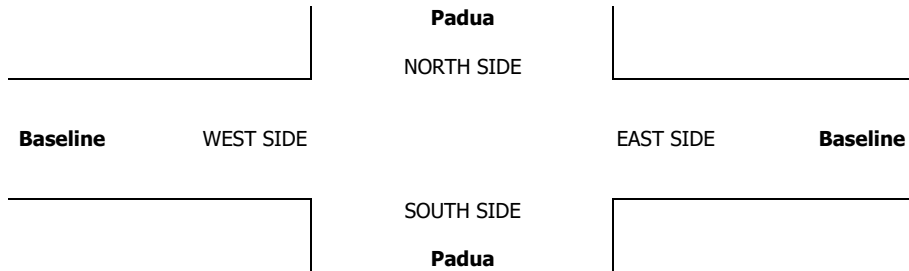
SC3943
16
SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Padua			Padua			Baseline			Baseline			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1.5	SR 0.5	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL

AM	7:00 AM	27	8	62	13	10	4	2	46	16	86	205	13	492
	7:15 AM	43	9	85	27	26	16	7	86	25	109	206	24	663
	7:30 AM	49	11	108	22	16	16	1	75	23	115	207	20	663
	7:45 AM	61	13	87	27	15	20	2	79	39	121	210	18	692
	8:00 AM	51	17	94	25	21	16	10	102	33	132	208	18	727
	8:15 AM	37	20	72	16	19	18	14	123	51	130	211	29	740
	8:30 AM	47	19	71	37	16	2	8	84	28	122	157	34	625
	8:45 AM	23	11	59	16	22	6	4	84	34	144	154	26	583
	VOLUMES	338	108	638	183	145	98	48	679	249	959	1,558	182	5,185
	APPROACH %	31%	10%	59%	43%	34%	23%	5%	70%	26%	36%	58%	7%	
PM	APP/DEPART	1,084	/	338	426	/	1,352	976	/	1,501	2,699	/	1,994	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	198	61	361	90	71	70	27	379	146	498	836	85	2,822
	APPROACH %	32%	10%	58%	39%	31%	30%	5%	69%	26%	35%	59%	6%	
	PEAK HR FACTOR	0.923			0.931			0.734			0.959			0.953
	APP/DEPART	620	/	173	231	/	714	552	/	831	1,419	/	1,104	0
	4:00 PM	25	14	128	19	17	4	10	186	30	115	138	22	708
	4:15 PM	45	17	106	22	28	4	7	173	37	102	96	35	672
	4:30 PM	29	29	134	29	12	8	14	185	31	93	96	42	702
	4:45 PM	32	25	127	18	17	8	15	188	50	122	111	36	749
PM	5:00 PM	39	29	137	24	16	8	13	194	39	102	118	35	754
	5:15 PM	47	36	141	25	21	16	9	168	42	127	128	28	788
	5:30 PM	25	27	112	17	16	7	16	159	28	129	118	26	680
	5:45 PM	28	30	107	15	11	12	9	171	50	124	127	20	704
	VOLUMES	270	207	992	169	138	67	93	1,424	307	914	932	244	5,757
	APPROACH %	18%	14%	68%	45%	37%	18%	5%	78%	17%	44%	45%	12%	
	APP/DEPART	1,469	/	544	374	/	1,359	1,824	/	2,585	2,090	/	1,269	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	147	119	539	96	66	40	51	735	162	444	453	141	2,993
	APPROACH %	18%	15%	67%	48%	33%	20%	5%	78%	17%	43%	44%	14%	
	PEAK HR FACTOR	0.898			0.815			0.937			0.917			0.950
	APP/DEPART	805	/	311	202	/	672	948	/	1,370	1,038	/	640	0

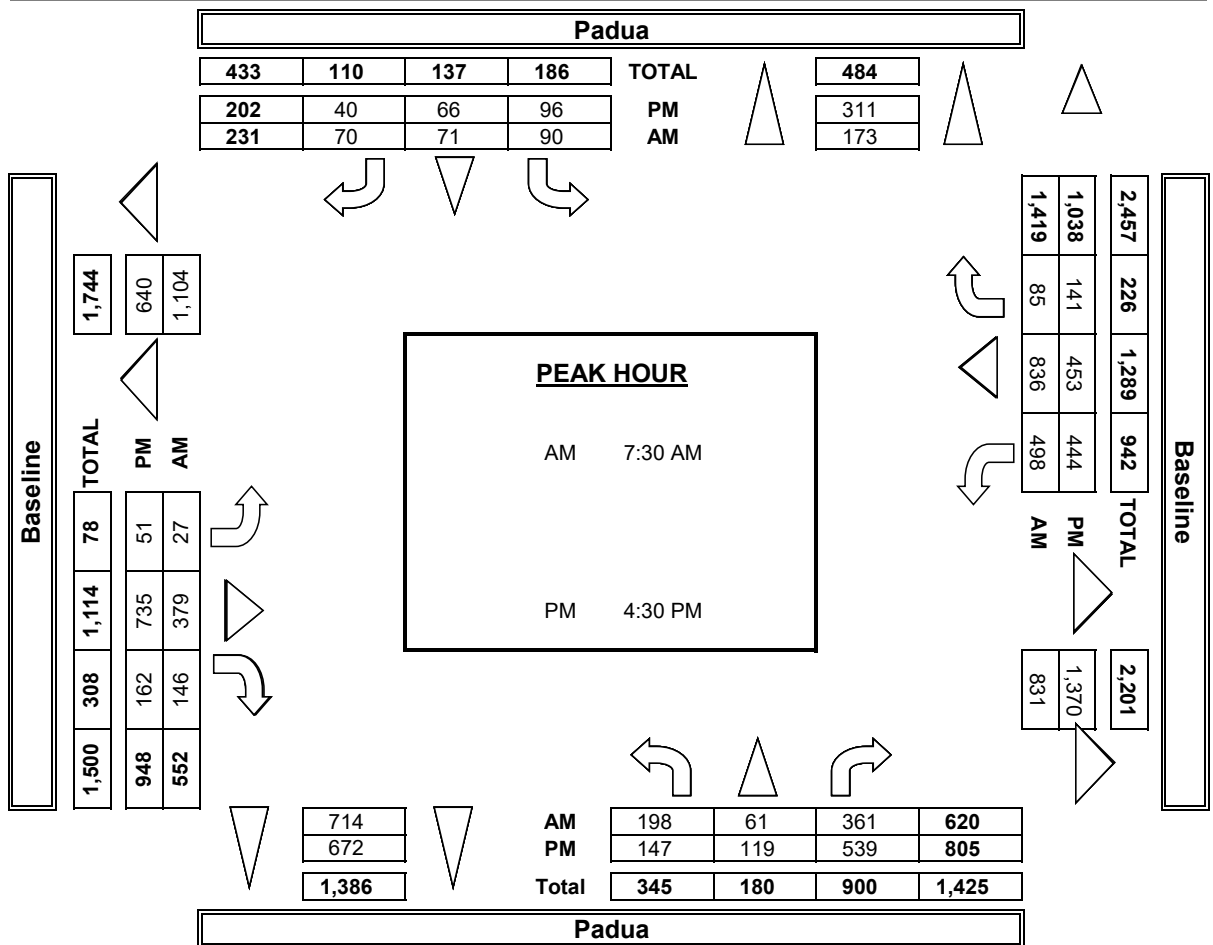
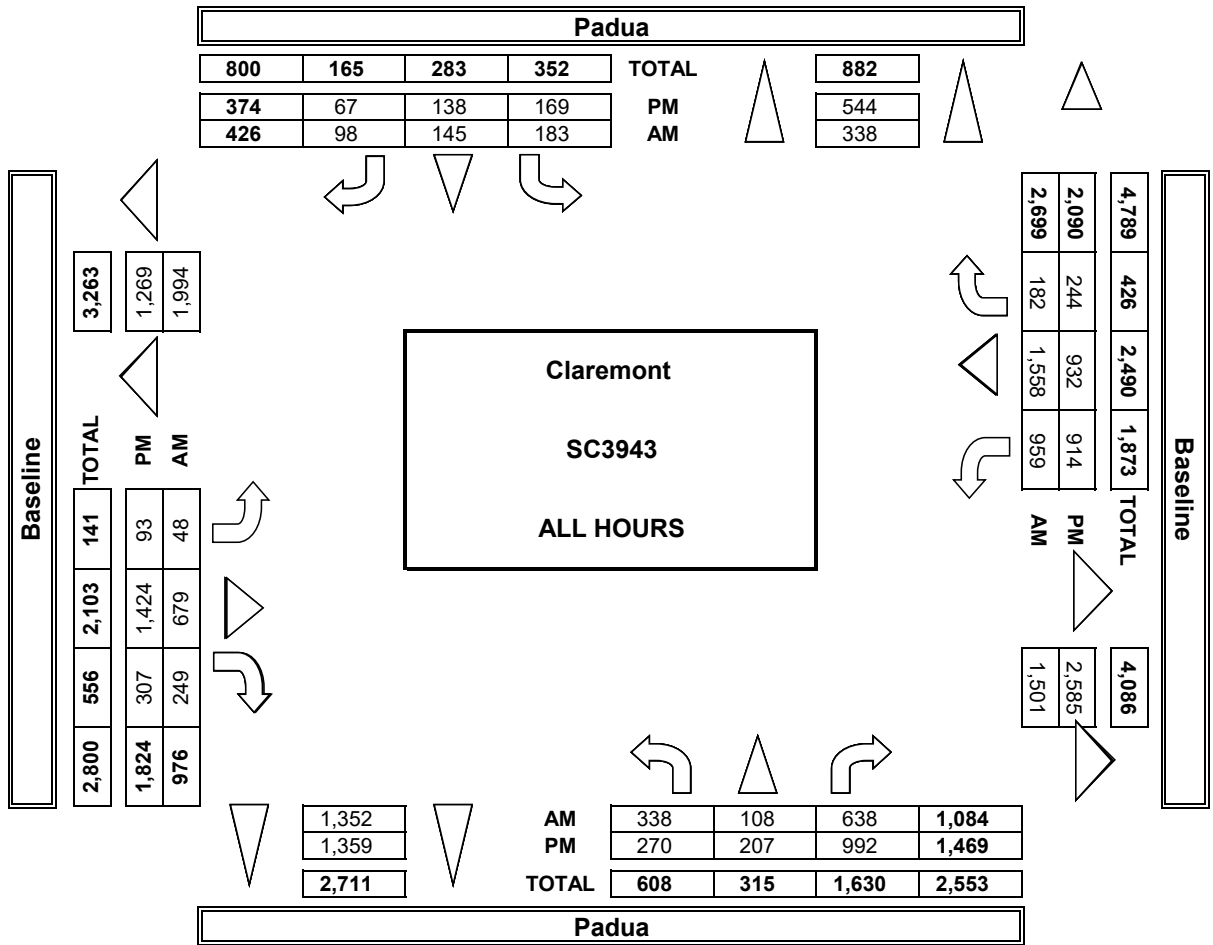


AM	7:00 AM	27	8	62	13	10	4	2	46	16	86	205	13	492
	7:15 AM	43	9	85	27	26	16	7	86	25	109	206	24	663
	7:30 AM	49	11	108	22	16	16	1	75	23	115	207	20	663
	7:45 AM	61	13	87	27	15	20	2	79	39	121	210	18	692
	8:00 AM	51	17	94	25	21	16	10	102	33	132	208	18	727
	8:15 AM	37	20	72	16	19	18	14	123	51	130	211	29	740
	8:30 AM	47	19	71	37	16	2	8	84	28	122	157	34	625
	8:45 AM	23	11	59	16	22	6	4	84	34	144	154	26	583
	TOTAL	338	108	638	183	145	98	48	679	249	959	1,558	182	5,185
	APPROACH %	31%	10%	59%	43%	34%	23%	5%	70%	26%	36%	58%	7%	
PM	APP/DEPART	1,084	/	338	426	/	1,352	976	/	1,501	2,699	/	1,994	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	198	61	361	90	71	70	27	379	146	498	836	85	2,822
	APPROACH %	32%	10%	58%	39%	31%	30%	5%	69%	26%	35%	59%	6%	
	PEAK HR FACTOR	0.923			0.931			0.734			0.959			0.953
	APP/DEPART	620	/	173	231	/	714	552	/	831	1,419	/	1,104	0
	4:00 PM	25	14	128	19	17	4	10	186	30	115	138	22	708
	4:15 PM	45	17	106	22	28	4	7	173	37	102	96	35	672
	4:30 PM	29	29	134	29	12	8	14	185	31	93	96	42	702
	4:45 PM	32	25	127	18	17	8	15	188	50	122	111	36	749
PM	5:00 PM	39	29	137	24	16	8	13	194	39	102	118	35	754
	5:15 PM	47	36	141	25	21	16	9	168	42	127	128	28	788
	5:30 PM	25	27	112	17	16	7	16	159	28	129	118	26	680
	5:45 PM	28	30	107	15	11	12	9	171	50	124	127	20	704
	VOLUMES	270	207	992	169	138	67	93	1,424	307	914	932	244	5,757
	APPROACH %	18%	14%	68%	45%	37%	18%	5%	78%	17%	44%	45%	12%	
	APP/DEPART	1,469	/	544	374	/	1,359	1,824	/	2,585	2,090	/	1,269	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	147	119	539	96	66	40	51	735	162	444	453	141	2,993
	APPROACH %	18%	15%	67%	48%	33%	20%	5%	78%	17%	43%	44%	14%	
	PEAK HR FACTOR	0.898			0.815			0.937			0.917			0.950
	APP/DEPART	805	/	311	202	/	672	948	/	1,370	1,038	/	640	0

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	4	0	2	6
0	0	0	0	0
0	0	1	0	1
1	0	0	1	2
1	6	1	3	11

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	4	0	2	6
0	0	0	0	0
0	0	1	0	1
1	0	0	1	2
1	6	1	3	11

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Padua
Baseline

PROJECT #:
LOCATION #:
CONTROL:

SC3943
16
SIGNAL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Padua			Padua			Baseline			Baseline			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1.5	SR 0.5	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL

MD	11:00 AM	22	24	118	37	20	16	3	109	36	108	109	29	631
	11:15 AM	25	17	107	36	26	26	6	114	27	96	105	18	603
	11:30 AM	23	27	103	39	28	24	13	117	35	107	103	39	658
	11:45 AM	35	23	99	37	21	9	8	137	39	122	144	33	707
	12:00 PM	33	22	119	34	20	9	8	128	30	101	118	28	650
	12:15 PM	33	30	118	30	18	7	4	126	35	114	121	30	666
	12:30 PM	27	22	112	26	22	19	7	137	37	106	112	20	647
	12:45 PM	30	28	115	33	19	9	11	127	25	114	109	36	656
	1:00 PM	23	27	103	39	29	13	7	133	32	96	91	25	618
	1:15 PM	35	28	92	33	17	7	14	103	27	97	108	35	596
	1:30 PM	25	26	105	47	22	11	5	128	29	108	129	36	671
	1:45 PM	30	16	121	26	11	7	8	122	25	83	80	32	561
	VOLUMES	341	290	1,312	417	253	157	94	1,481	377	1,252	1,329	361	7,664
	APPROACH %	18%	15%	68%	50%	31%	19%	5%	76%	19%	43%	45%	12%	
	APP/DEPART	1,943	/	745	827	/	1,882	1,952	/	3,210	2,942	/	1,827	0
PM	BEGIN PEAK HR	11:30 AM												
	VOLUMES	124	102	439	140	87	49	33	508	139	444	486	130	2,681
	APPROACH %	19%	15%	66%	51%	32%	18%	5%	75%	20%	42%	46%	12%	
	PEAK HR FACTOR	0.919												
	APP/DEPART	665	/	265	276	/	670	680	/	1,087	1,060	/	659	0
	02:00 PM	23	21	100	34	17	3	7	120	28	108	117	30	608
	2:15 PM	21	28	118	35	23	5	4	97	24	92	103	43	593
	2:30 PM	26	16	110	40	26	1	10	158	34	82	119	26	648
	2:45 PM	22	24	93	35	25	6	8	123	30	105	80	22	573
	3:00 PM	27	19	112	35	13	6	9	139	25	83	116	31	615
	3:15 PM	28	14	118	31	20	7	7	111	18	93	111	29	587
	3:30 PM	25	17	129	36	17	3	7	157	27	91	122	27	658
	3:45 PM	19	23	141	24	20	10	6	128	28	87	118	28	632
	4:00 PM	26	37	97	36	15	9	10	141	28	87	122	27	635
	4:15 PM	20	22	87	35	22	3	9	141	28	97	113	33	610
	4:30 PM	36	22	85	19	21	5	4	121	31	92	99	24	559
	4:45 PM	20	23	74	31	19	6	6	132	35	83	87	26	542
	VOLUMES	293	266	1,264	391	238	64	87	1,568	336	1,100	1,307	346	7,260
	APPROACH %	16%	15%	69%	56%	34%	9%	4%	79%	17%	40%	47%	13%	
	APP/DEPART	1,823	/	700	693	/	1,676	1,991	/	3,222	2,753	/	1,662	0
	BEGIN PEAK HR	3:30 PM												
	VOLUMES	90	99	454	131	74	25	32	567	111	362	475	115	2,535
	APPROACH %	14%	15%	71%	57%	32%	11%	5%	80%	16%	38%	50%	12%	
	PEAK HR FACTOR	0.878												
	APP/DEPART	643	/	247	230	/	547	710	/	1,151	952	/	590	0

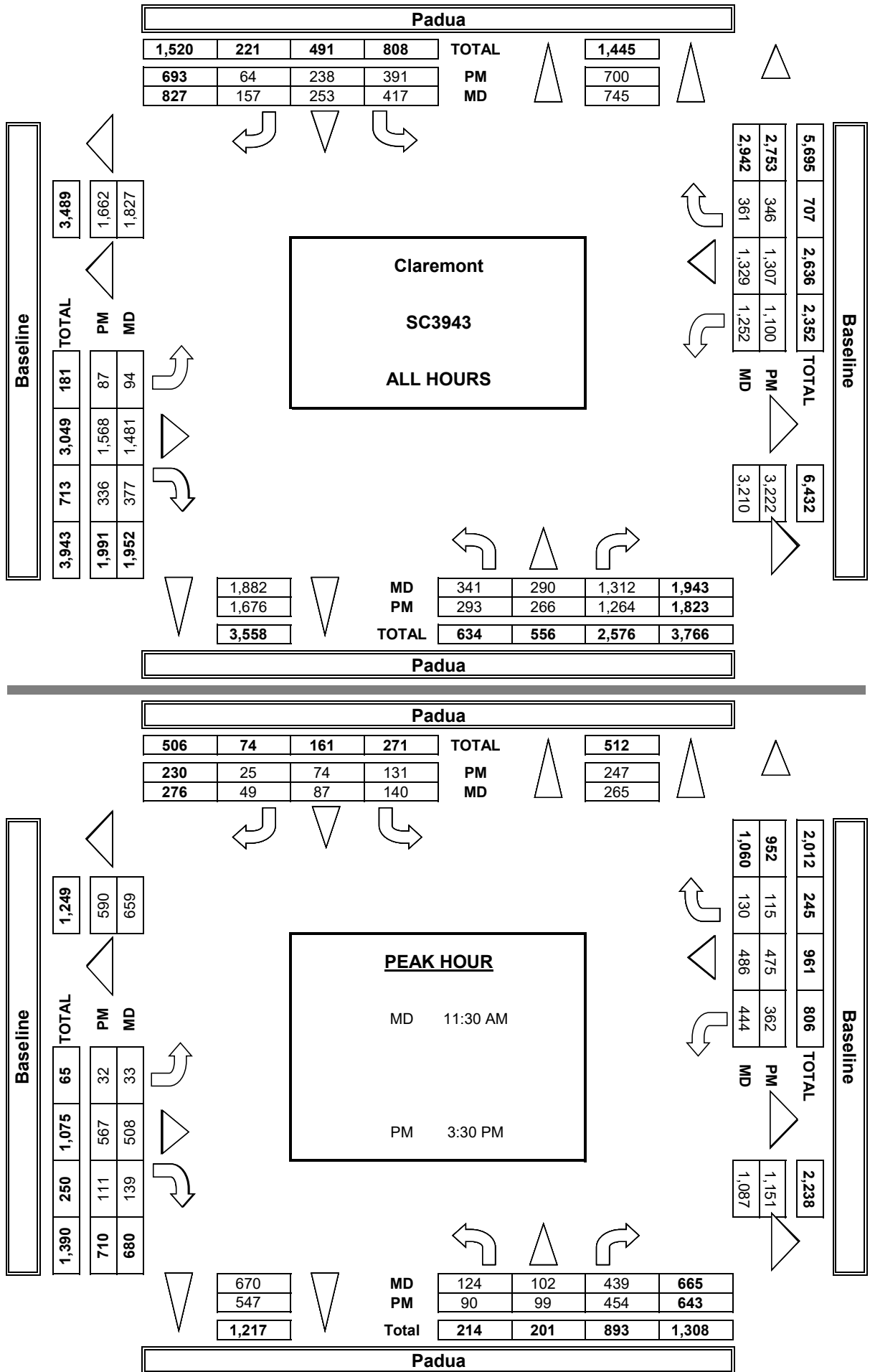
	Padua	
	NORTH SIDE	
Baseline	WEST SIDE	EAST SIDE
	Baseline	
	SOUTH SIDE	
	Padua	

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
	1:30 PM	
	1:45 PM	
	TOTAL	
PM	2:00 PM	
	2:15 PM	
	2:30 PM	
	2:45 PM	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
5	3	1	0	9
1	4	0	0	5
2	6	0	1	9
3	6	0	1	10
5	1	0	0	6
2	4	0	0	6
0	0	1	0	1
1	0	1	0	2
1	1	0	0	2
1	0	0	0	1
0	6	0	0	6
0	3	2	0	5
21	34	5	2	62
1	0	0	0	1
0	2	0	0	2
3	1	2	1	7
1	1	1	0	3
0	1	0	0	1
0	1	0	0	1
4	1	0	1	6
1	0	0	0	1
1	1	0	0	2
0	1	0	1	2
1	2	0	0	3
12	13	3	4	32

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	1	1	0	2
0	2	1	1	4
0	0	0	0	0
0	2	0	0	2
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	4	0	3	7

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

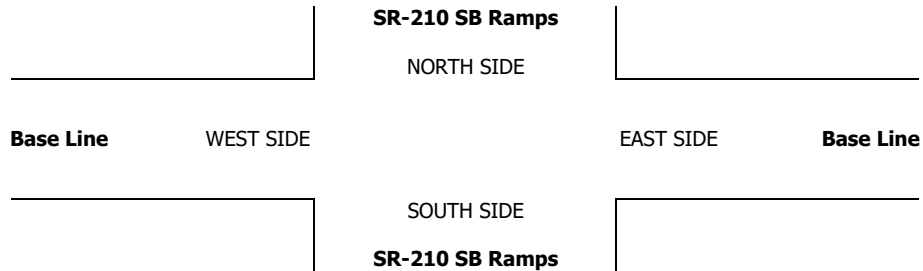
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont SR-210 SB Ramps Base Line	PROJECT #: LOCATION #: CONTROL:	SC3943 20 SIGNAL
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NOTES:	AM PM MD OTHER OTHER	◀ W S ▶ E	▲ N ▼
Queue EB			

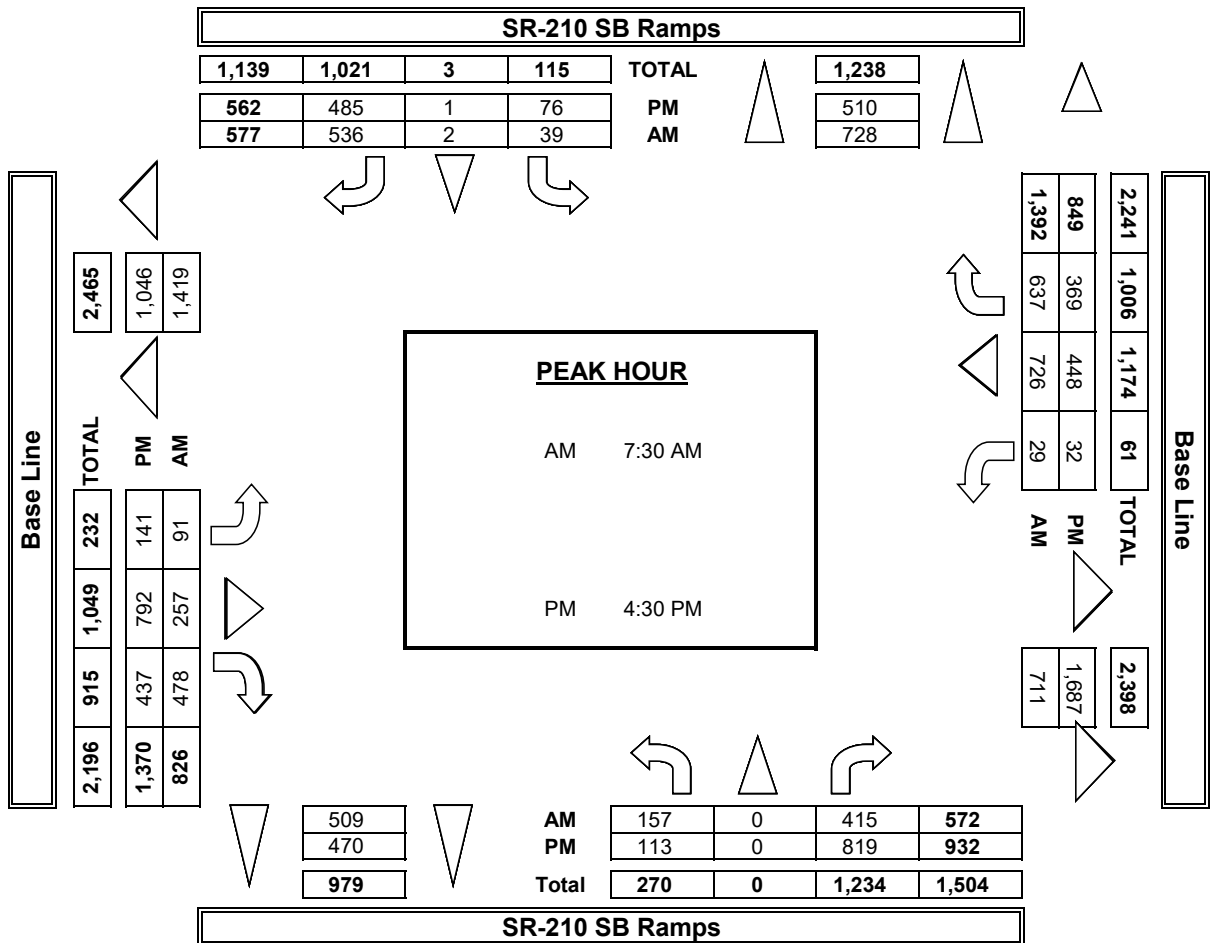
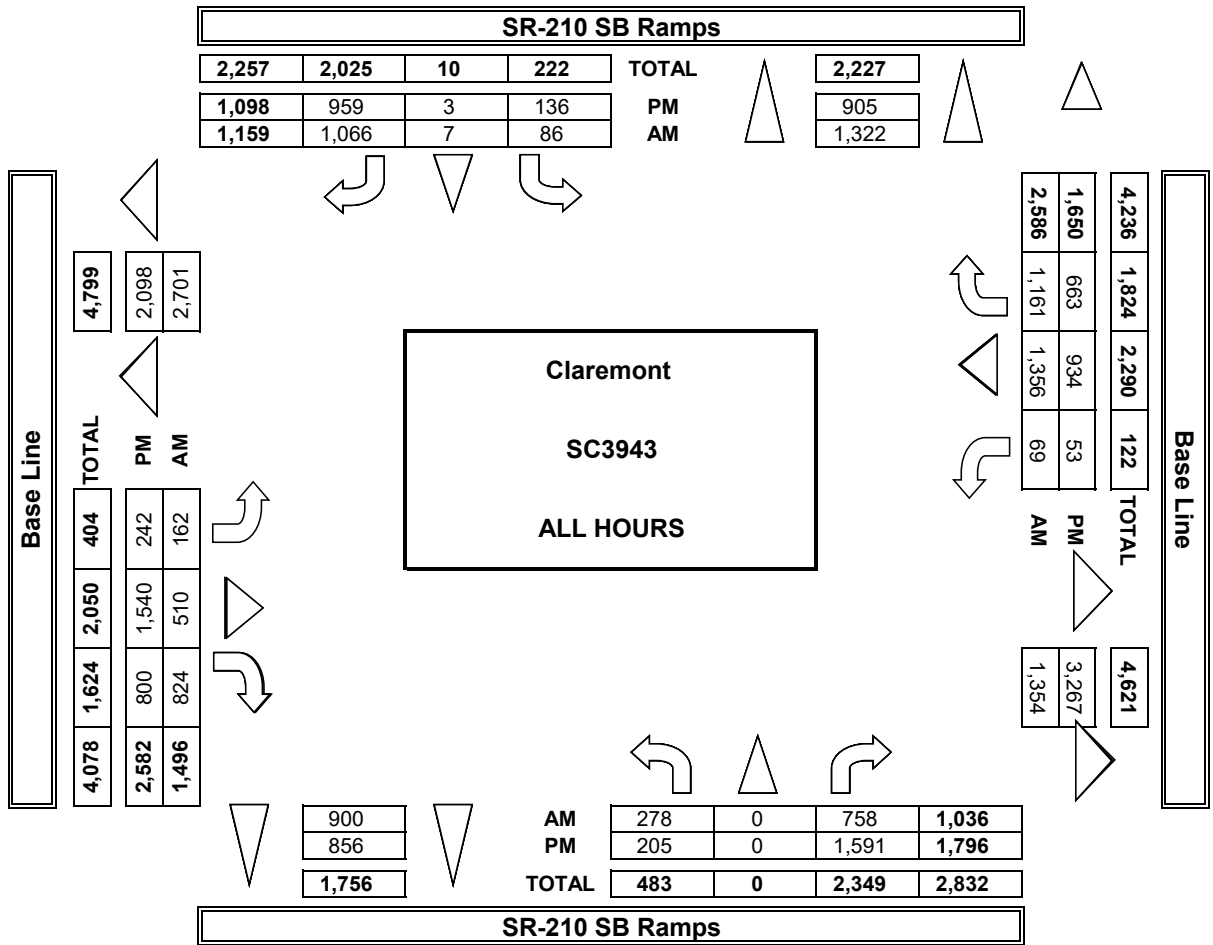
	NORTHBOUND SR-210 SB Ramps			SOUTHBOUND SR-210 SB Ramps			EASTBOUND Base Line			WESTBOUND Base Line			
LANES:	NL 1	NT X	NR 2	SL 1	ST 0	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL

AM	7:00 AM	17	0	61	6	1	128	12	41	68	8	158	147	647
	7:15 AM	34	0	69	10	0	134	18	74	106	7	171	168	791
	7:30 AM	41	0	84	6	0	109	20	49	136	2	192	195	834
	7:45 AM	26	0	95	9	1	139	22	68	103	14	184	178	839
	8:00 AM	56	0	131	17	1	146	24	51	147	4	156	154	887
	8:15 AM	34	0	105	7	0	142	25	89	92	9	194	110	807
	8:30 AM	40	0	112	19	2	137	27	71	94	16	138	107	763
	8:45 AM	30	0	101	12	2	131	14	67	78	9	163	102	709
	VOLUMES	278	0	758	86	7	1,066	162	510	824	69	1,356	1,161	6,277
	APPROACH %	27%	0%	73%	7%	1%	92%	11%	34%	55%	3%	52%	45%	
PM	APP/DEPART	1,036	/	1,322	1,159	/	900	1,496	/	1,354	2,586	/	2,701	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	157	0	415	39	2	536	91	257	478	29	726	637	3,367
	APPROACH %	27%	0%	73%	7%	0%	93%	11%	31%	58%	2%	52%	46%	
	PEAK HR FACTOR	0.765			0.880			0.930			0.895			0.949
	APP/DEPART	572	/	728	577	/	509	826	/	711	1,392	/	1,419	0
	4:00 PM	10	0	178	9	1	116	23	205	102	11	149	68	872
	4:15 PM	6	0	207	15	0	118	22	188	91	0	109	69	825
	4:30 PM	18	0	194	20	0	127	30	216	102	6	101	79	893
	4:45 PM	35	0	190	20	1	126	33	202	98	6	108	88	907
	5:00 PM	34	0	221	16	0	91	35	199	121	8	123	98	946
	5:15 PM	26	0	214	20	0	141	43	175	116	12	116	104	967
	5:30 PM	41	0	211	18	0	120	28	183	77	6	112	80	876
	5:45 PM	35	0	176	18	1	120	28	172	93	4	116	77	840
	VOLUMES	205	0	1,591	136	3	959	242	1,540	800	53	934	663	7,126
	APPROACH %	11%	0%	89%	12%	0%	87%	9%	60%	31%	3%	57%	40%	
	APP/DEPART	1,796	/	905	1,098	/	856	2,582	/	3,267	1,650	/	2,098	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	113	0	819	76	1	485	141	792	437	32	448	369	3,713
	APPROACH %	12%	0%	88%	14%	0%	86%	10%	58%	32%	4%	53%	43%	
	PEAK HR FACTOR	0.914			0.873			0.965			0.915			0.960
	APP/DEPART	932	/	510	562	/	470	1,370	/	1,687	849	/	1,046	0



ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	0	1	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0
PM	TOTAL	1	0	0	1	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	4	0	4	0	0	4	0	0	4
	5:30 PM	0	0	0	0	0	0	0	0	0	0
TOTAL	5:45 PM	0	1	0	1	0	0	1	0	0	1
	TOTAL	0	5	0	5	0	0	5	0	0	5

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
SR-210 SB Ramps
Base Line

PROJECT #:
LOCATION #:
CONTROL:

SC3943
20
SIGNAL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	SR-210 SB Ramps			SR-210 SB Ramps			Base Line			Base Line			
LANES:	NL 1	NT X	NR 2	SL 1	ST 0	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL

MD	11:00 AM	34	0	82	12	0	115	33	108	123	12	97	81	697
	11:15 AM	25	0	85	19	0	125	39	112	106	10	69	93	683
	11:30 AM	34	0	104	21	0	125	31	121	107	23	90	85	741
	11:45 AM	49	0	130	22	0	92	21	143	109	16	158	88	828
	12:00 PM	32	0	132	20	3	131	36	147	98	15	95	78	787
	12:15 PM	39	0	104	20	0	101	34	123	117	14	119	84	755
	12:30 PM	41	0	182	22	0	103	24	145	101	16	94	65	793
	12:45 PM	47	0	170	12	0	101	28	155	92	15	111	80	811
	1:00 PM	22	0	169	19	0	100	44	132	99	17	90	89	781
	1:15 PM	29	0	190	14	0	97	30	105	93	7	114	88	767
	1:30 PM	27	0	132	25	0	104	39	123	118	13	142	80	803
	1:45 PM	29	0	131	25	0	89	39	121	109	11	77	66	697
	VOLUMES	408	0	1,611	231	3	1,283	398	1,535	1,272	169	1,256	977	9,143
	APPROACH %	20%	0%	80%	15%	0%	85%	12%	48%	40%	7%	52%	41%	
	APP/DEPART	2,019	/	1,377	1,517	/	1,444	3,205	/	3,375	2,402	/	2,947	0
PM	BEGIN PEAK HR	11:45 AM												
	VOLUMES	161	0	548	84	3	427	115	558	425	61	466	315	3,163
	APPROACH %	23%	0%	77%	16%	1%	83%	10%	51%	39%	7%	55%	37%	
	PEAK HR FACTOR		0.795			0.834			0.977			0.803		0.955
	APP/DEPART	709	/	430	514	/	489	1,098	/	1,190	842	/	1,054	0
	02:00 PM	33	0	147	19	0	119	34	125	95	20	103	77	772
	2:15 PM	39	0	145	16	1	104	36	95	119	22	95	99	771
	2:30 PM	18	0	136	13	0	103	37	141	125	9	106	87	775
	2:45 PM	21	0	136	11	0	110	32	130	89	20	85	69	703
	3:00 PM	25	0	123	28	0	85	32	138	116	16	120	92	775
	3:15 PM	26	0	104	19	0	109	32	114	114	13	98	79	708
	3:30 PM	32	0	126	17	1	98	41	126	155	11	110	89	806
	3:45 PM	30	0	136	21	0	124	44	122	127	13	79	86	782
	4:00 PM	24	0	183	16	0	99	39	156	78	10	114	66	785
	4:15 PM	30	0	216	18	0	113	36	157	70	12	100	86	838
	4:30 PM	20	0	167	11	0	111	32	130	63	9	84	94	721
	4:45 PM	32	0	195	17	0	83	35	136	66	7	81	65	717
	VOLUMES	330	0	1,814	206	2	1,258	430	1,570	1,217	162	1,175	989	9,153
	APPROACH %	15%	0%	85%	14%	0%	86%	13%	49%	38%	7%	51%	43%	
	APP/DEPART	2,144	/	1,419	1,466	/	1,382	3,217	/	3,590	2,326	/	2,762	0
	BEGIN PEAK HR	3:30 PM												
	VOLUMES	116	0	661	72	1	434	160	561	430	46	403	327	3,211
	APPROACH %	15%	0%	85%	14%	0%	86%	14%	49%	37%	6%	52%	42%	
	PEAK HR FACTOR		0.790			0.874			0.894			0.924		0.958
	APP/DEPART	777	/	487	507	/	478	1,151	/	1,294	776	/	952	0

SR-210 SB Ramps

NORTH SIDE

Base Line

WEST SIDE

EAST SIDE

Base Line

SOUTH SIDE

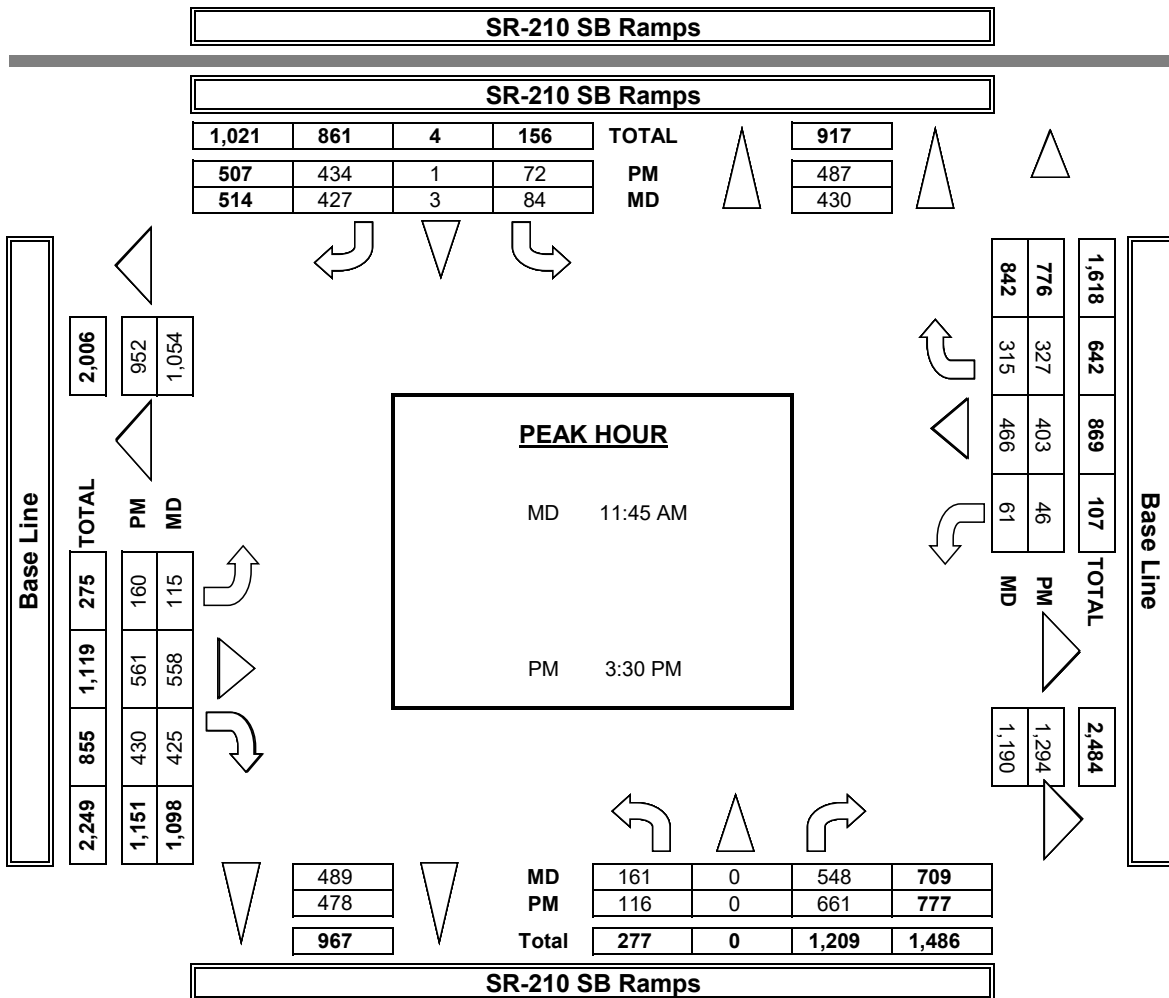
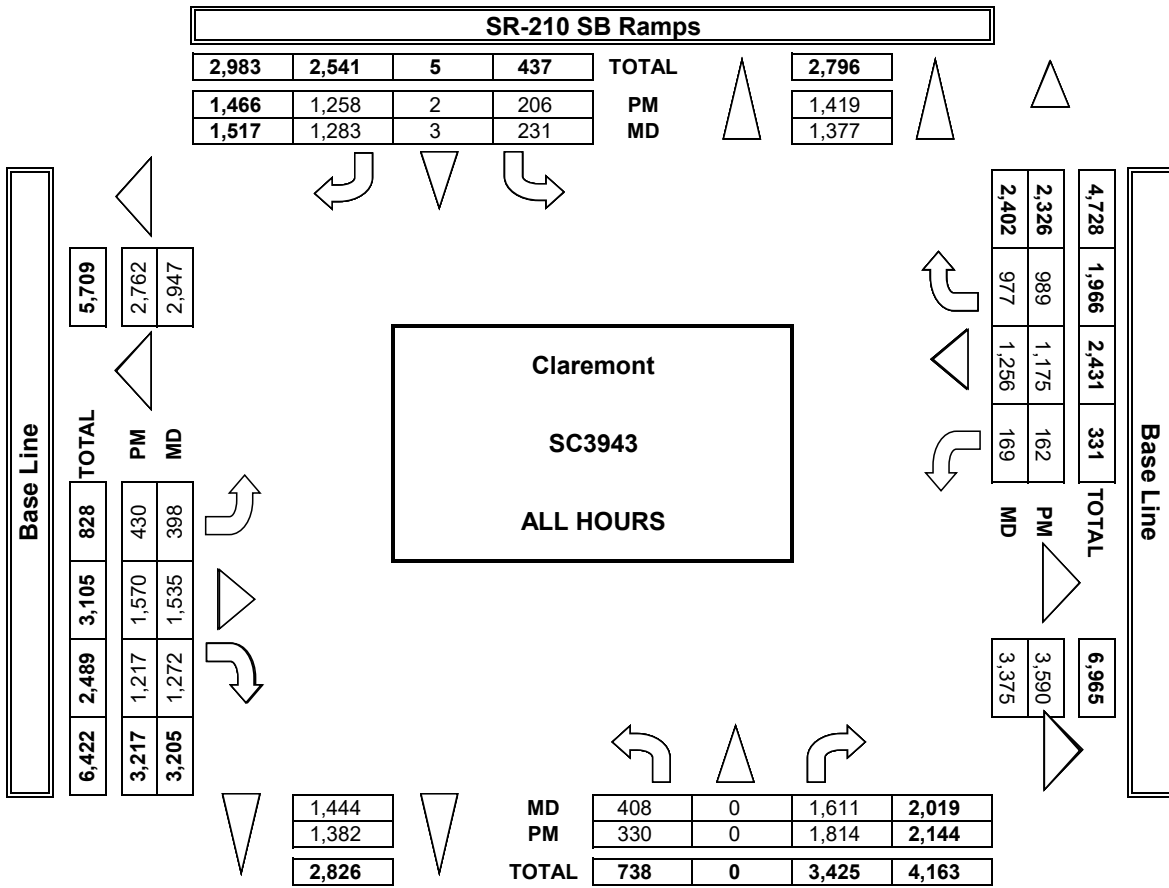
SR-210 SB Ramps

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
	1:30 PM	
	1:45 PM	
	TOTAL	
PM	2:00 PM	
	2:15 PM	
	2:30 PM	
	2:45 PM	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	1	0	0	4
1	7	0	0	8
2	6	0	0	8
5	5	0	0	10
5	3	0	0	8
1	4	0	0	5
1	1	0	0	2
1	1	0	0	2
1	2	0	0	3
1	0	0	0	1
0	6	0	0	6
2	2	0	0	4
23	38	0	0	61
1	2	0	0	3
0	0	0	0	0
1	1	0	0	2
1	1	0	0	2
0	1	0	0	1
1	2	0	0	3
1	2	0	0	3
4	2	0	0	6
2	1	0	0	3
2	1	0	0	3
0	2	0	0	2
1	2	0	0	3
14	17	0	0	31

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	2	0	0	2
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	3	0	0	3

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Monte Vista Claremont	PROJECT #: LOCATION #: CONTROL:	SC3943 17 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

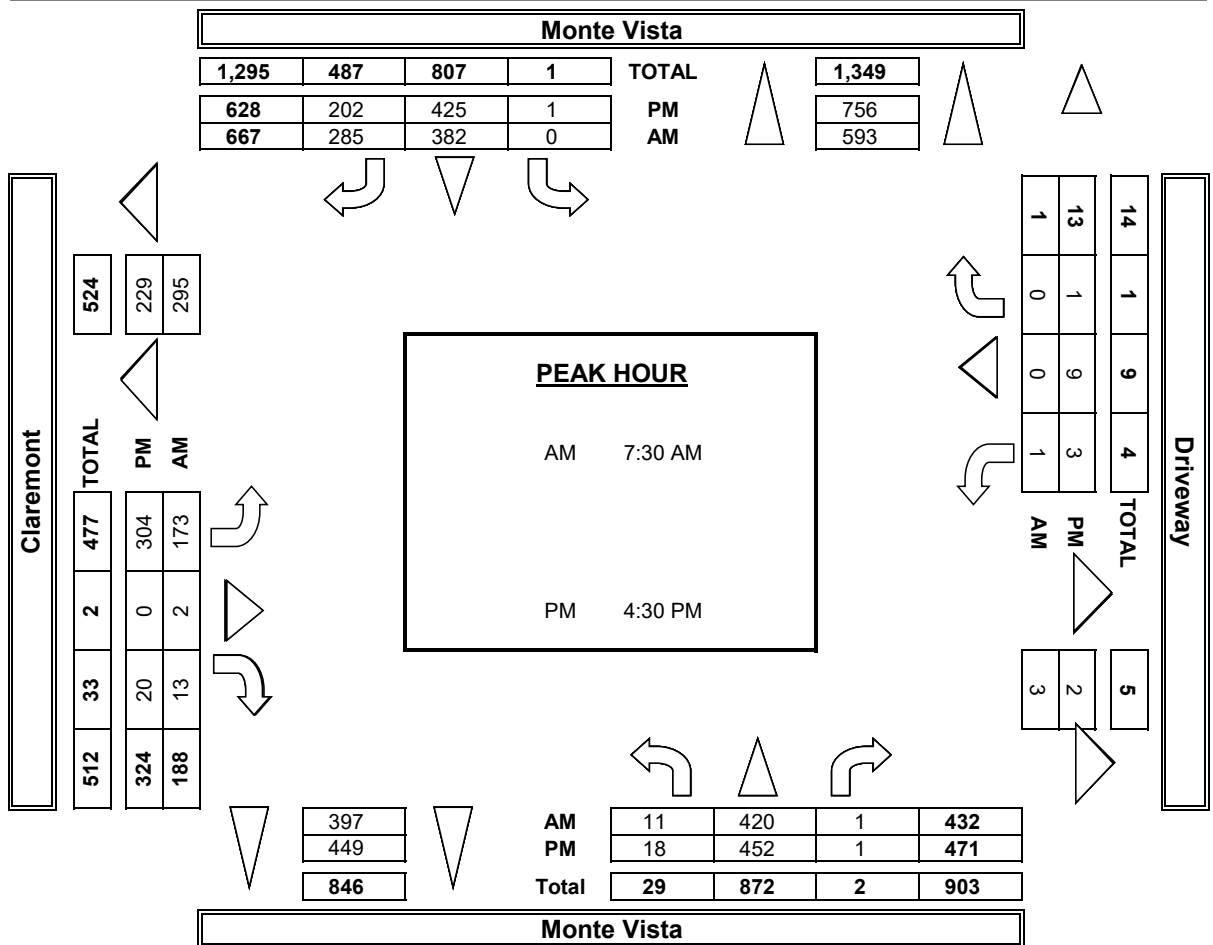
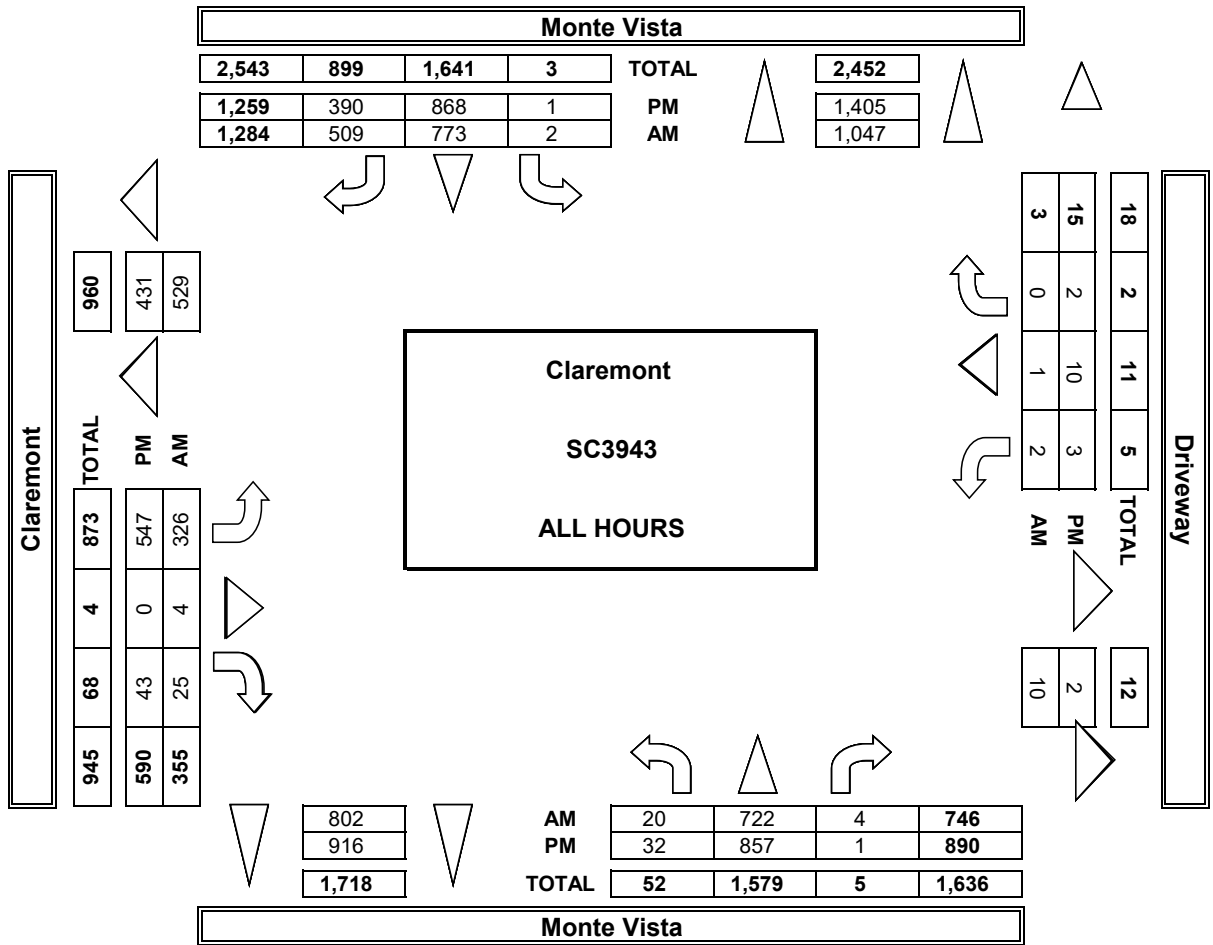
	NORTHBOUND Monte Vista			SOUTHBOUND Monte Vista			EASTBOUND Claremont			WESTBOUND Driveway			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1.3	ET 0.3	ER 1.3	WL 0	WT 1	WR 0	TOTAL

AM	7:00 AM	1	59	3	2	68	36	37	2	3	0	0	0	211
	7:15 AM	2	83	0	0	107	49	44	0	3	0	0	0	288
	7:30 AM	2	118	0	0	96	54	44	1	0	1	0	0	316
	7:45 AM	3	115	1	0	87	80	42	0	3	0	0	0	331
	8:00 AM	3	92	0	0	96	88	48	0	3	0	0	0	330
	8:15 AM	3	95	0	0	103	63	39	1	7	0	0	0	311
	8:30 AM	3	92	0	0	93	77	34	0	2	0	0	0	301
	8:45 AM	3	68	0	0	123	62	38	0	4	1	1	0	300
	VOLUMES	20	722	4	2	773	509	326	4	25	2	1	0	2,388
	APPROACH %	3%	97%	1%	0%	60%	40%	92%	1%	7%	67%	33%	0%	
APP/DEPART	746	/	1,047	1,284	/	802	355	/	10	3	/	529	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	11	420	1	0	382	285	173	2	13	1	0	0	1,288	
APPROACH %	3%	97%	0%	0%	57%	43%	92%	1%	7%	100%	0%	0%		
PEAK HR FACTOR	0.900			0.906			0.922			0.250			0.973	
APP/DEPART	432	/	593	667	/	397	188	/	3	1	/	295	0	
PM	4:00 PM	6	111	0	0	106	36	72	0	8	0	1	0	340
	4:15 PM	2	91	0	0	125	50	70	0	3	0	0	0	341
	4:30 PM	3	107	0	0	88	38	71	0	3	3	8	1	322
	4:45 PM	4	89	0	0	116	58	75	0	8	0	1	0	351
	5:00 PM	8	139	0	1	108	49	75	0	4	0	0	0	384
	5:15 PM	3	117	1	0	113	57	83	0	5	0	0	0	379
	5:30 PM	5	97	0	0	104	53	46	0	3	0	0	0	308
	5:45 PM	1	106	0	0	108	49	55	0	9	0	0	1	329
	VOLUMES	32	857	1	1	868	390	547	0	43	3	10	2	2,754
	APPROACH %	4%	96%	0%	0%	69%	31%	93%	0%	7%	20%	67%	13%	
APP/DEPART	890	/	1,405	1,259	/	916	590	/	2	15	/	431	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	18	452	1	1	425	202	304	0	20	3	9	1	1,436	
APPROACH %	4%	96%	0%	0%	68%	32%	94%	0%	6%	23%	69%	8%		
PEAK HR FACTOR	0.801			0.902			0.920			0.271			0.935	
APP/DEPART	471	/	756	628	/	449	324	/	2	13	/	229	0	



ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	1	0	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	1	0	1	0	0	1	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	1	1	0	0	0	1	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	1	1	3	0	0	1	1	2	2

AimTD LLC
TURNING MOVEMENT COUNTS



PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

SC3943
17
SIGNAL

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

11:00 AM	2	100	1	0	140	50	55	0	2	1	0	1	352
11:15 AM	1	87	0	0	95	51	44	0	6	0	0	0	284
11:30 AM	1	91	0	0	114	49	59	0	5	0	1	0	320
11:45 AM	6	92	0	0	123	48	49	0	8	0	0	0	326
12:00 PM	1	78	0	0	113	44	61	0	3	0	0	0	300
12:15 PM	7	113	1	0	102	54	54	0	2	0	0	0	333
12:30 PM	3	108	0	0	102	46	60	0	6	0	0	0	325
12:45 PM	6	109	0	0	103	50	52	0	9	0	0	0	329
1:00 PM	2	90	0	1	111	44	55	0	0	1	0	0	304
1:15 PM	5	107	0	2	94	41	44	0	3	0	0	0	296
1:30 PM	3	111	0	1	103	39	45	0	3	0	0	0	305
1:45 PM	5	76	1	0	72	44	63	0	7	0	0	0	268

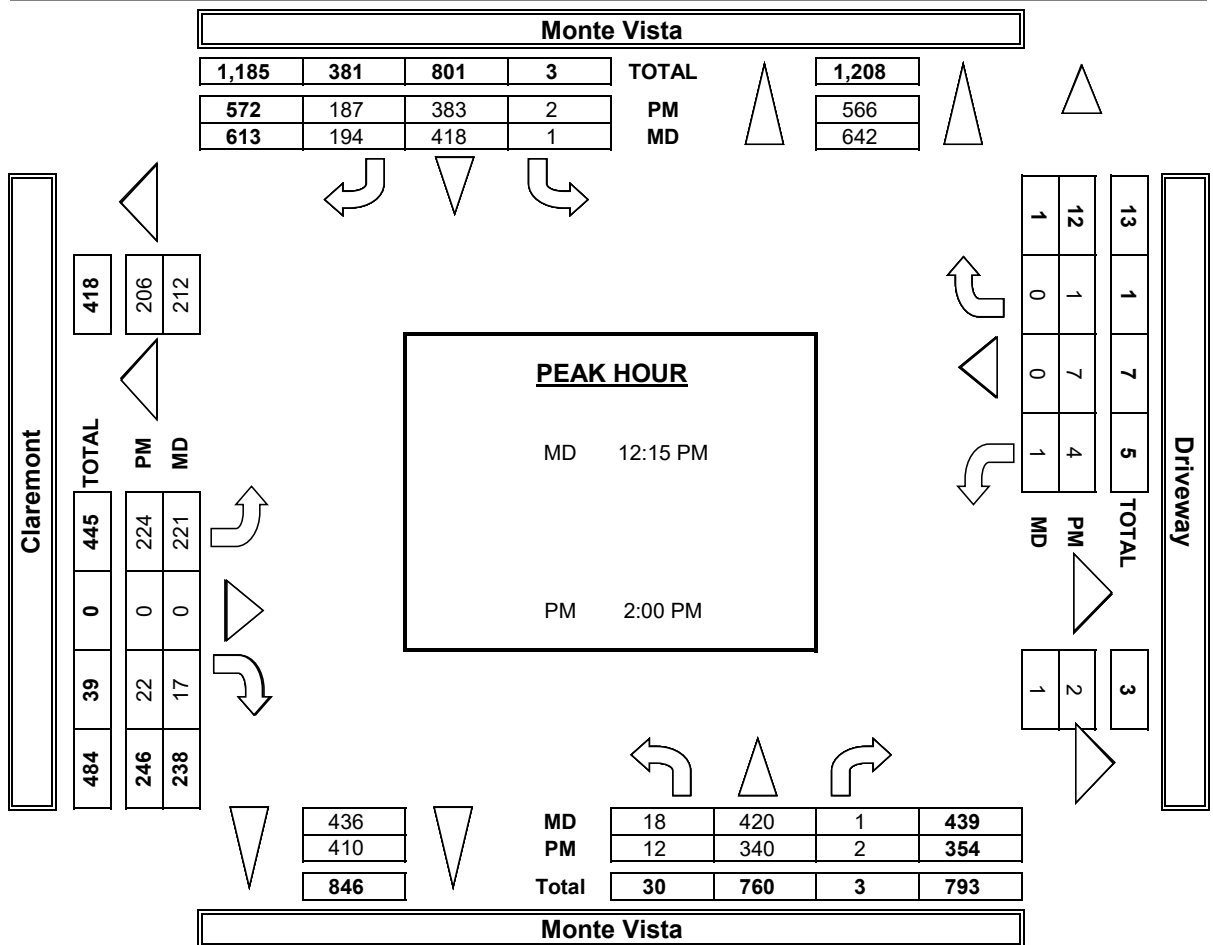
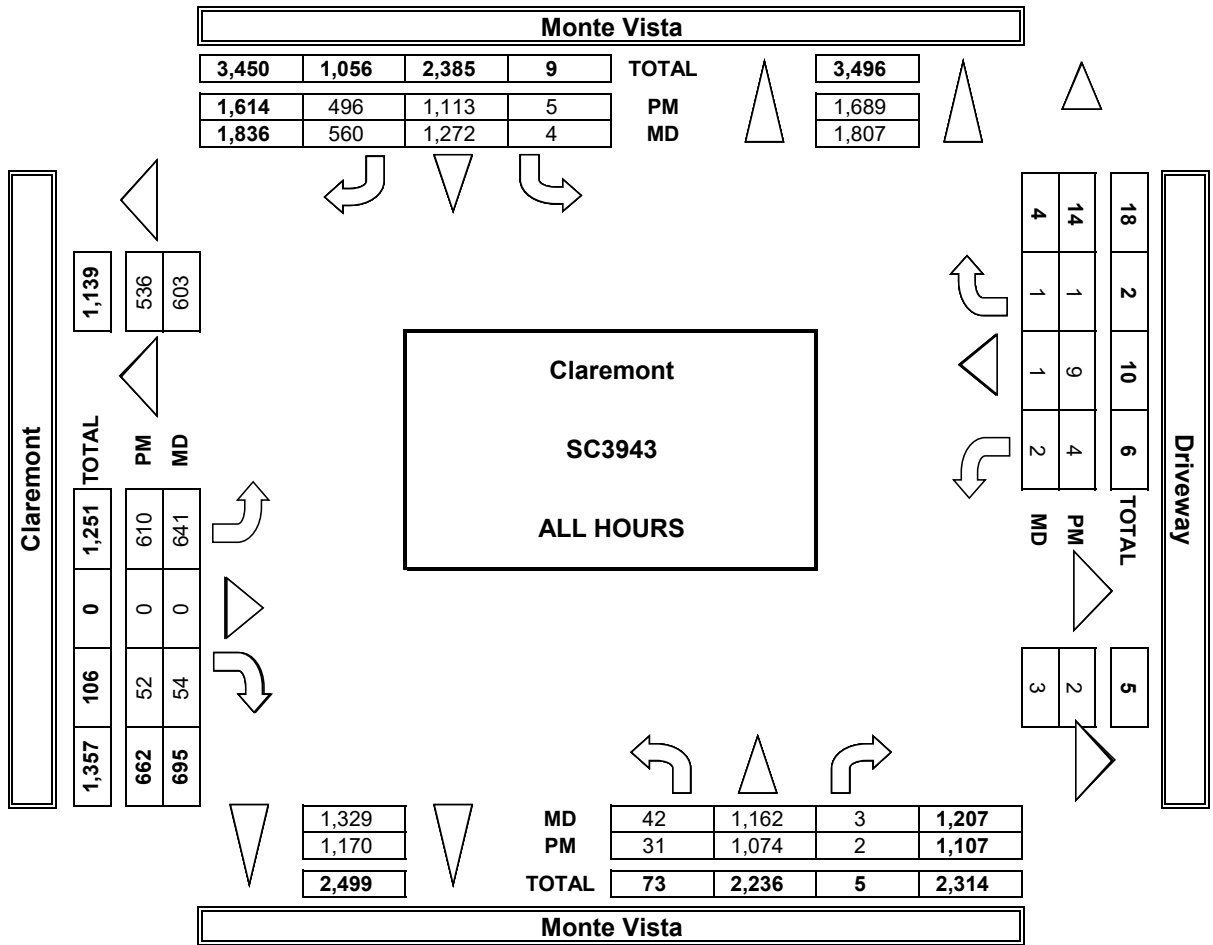
02:00 PM	2	101	0	0	93	43	48	0	6	0	1	0	294
2:15 PM	6	78	2	1	97	47	65	0	6	0	0	0	302
2:30 PM	3	82	0	0	88	46	65	0	4	3	5	1	297
2:45 PM	1	79	0	1	105	51	46	0	6	1	1	0	291
3:00 PM	1	103	0	0	77	38	45	0	1	0	2	0	267
3:15 PM	3	91	0	0	86	37	51	0	2	0	0	0	270
3:30 PM	0	113	0	1	84	40	55	0	5	0	0	0	298
3:45 PM	2	103	0	1	92	40	66	0	2	0	0	0	306
4:00 PM	3	98	0	0	92	44	40	0	3	0	0	0	280
4:15 PM	5	71	0	0	96	36	46	0	8	0	0	0	262
4:30 PM	1	82	0	1	104	40	50	0	6	0	0	0	284
4:45 PM	4	73	0	0	99	34	33	0	3	0	0	0	246
VOLUMES	31	1,074	2	5	1,113	496	610	0	52	4	9	1	3,397
APPROACH %	3%	97%	0%	0%	69%	31%	92%	0%	8%	29%	64%	7%	
APP/DEPART	1,107	/	1,689	1,614	/	1,170	662	/	2	14	/	536	0
BEGIN PEAK HR		2:00 PM											
VOLUMES	12	340	2	2	383	187	224	0	22	4	7	1	1,184
APPROACH %	3%	96%	1%	0%	67%	33%	91%	0%	9%	33%	58%	8%	
PEAK HR FACTOR		0.859			0.911			0.866			0.333		0.980
APP/DEPART	354	/	566	572	/	410	246	/	2	12	/	206	0

Monte Vista

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	1	0	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	1	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	1	3	2	6
0	0	0	2	2
0	0	0	0	0
0	0	2	1	3
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	1	2	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	3	8	12

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	2	3
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	4	4

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Indian Hill Foothill	PROJECT #: LOCATION #: CONTROL:	SC3943 1 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

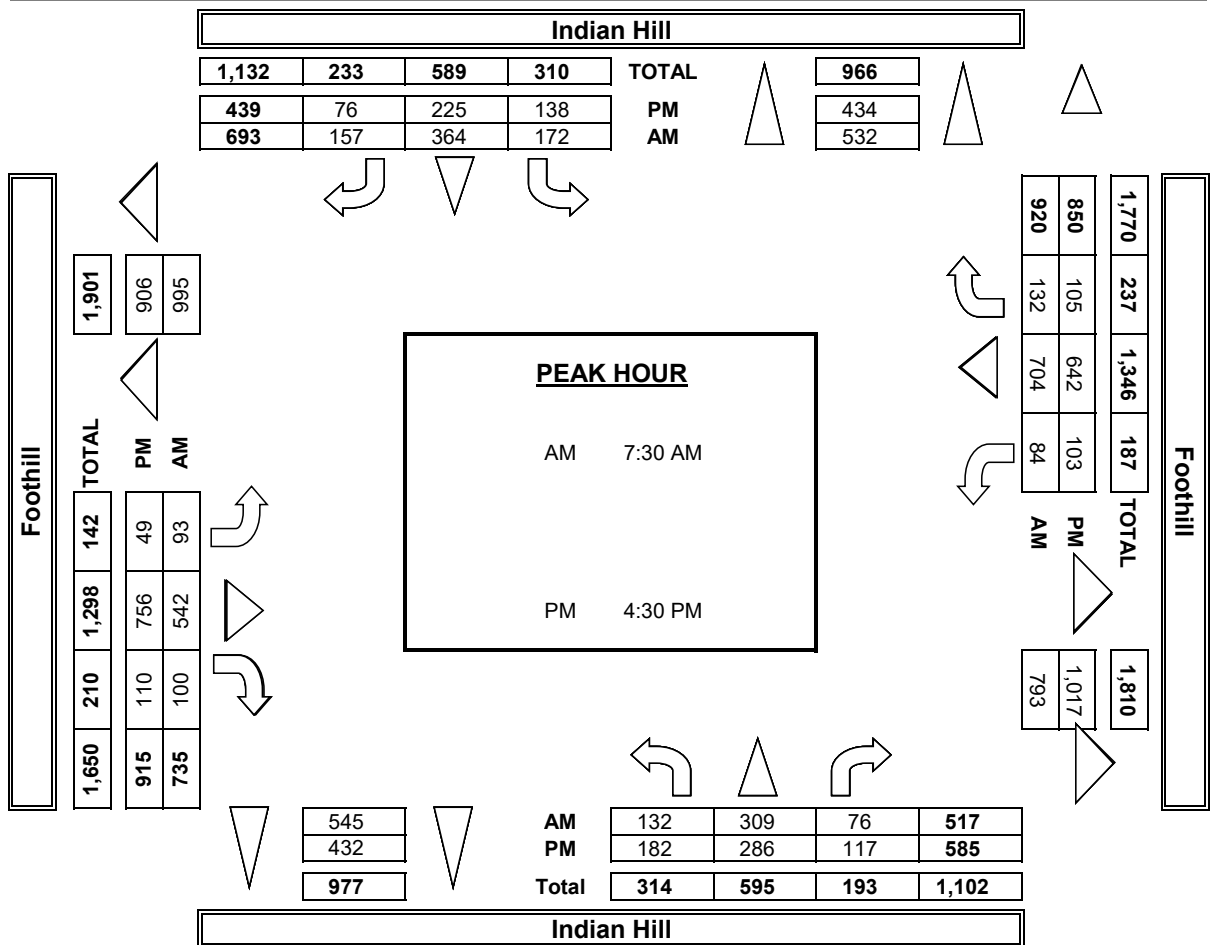
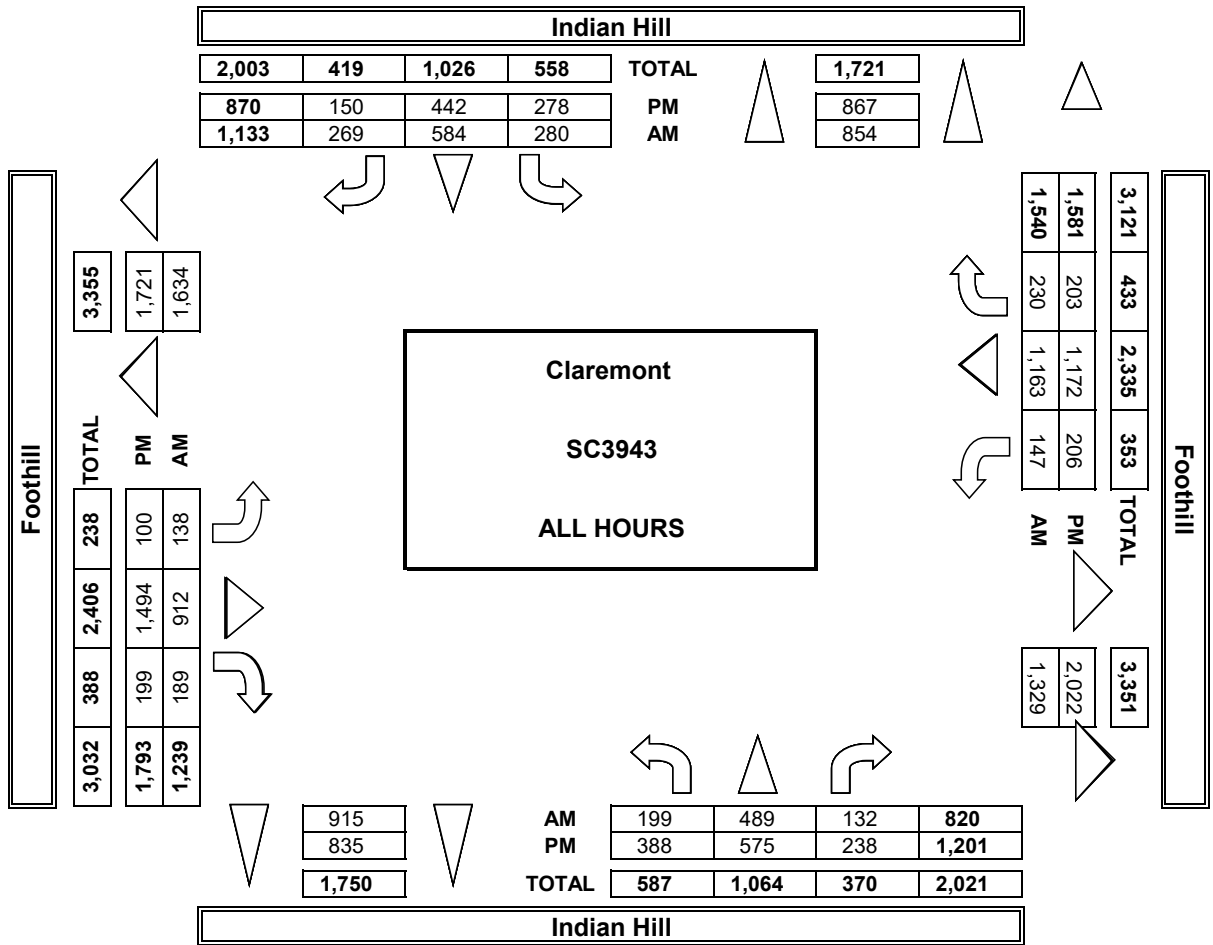
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Indian Hill			Indian Hill			Foothill			Foothill			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1.5	0.5	1	1	1	1	2	0	1	2	1	

AM	7:00 AM	10	42	8	10	42	10	10	64	11	14	101	24	346
	7:15 AM	7	75	16	36	80	55	21	45	18	11	113	53	530
	7:30 AM	25	44	15	24	69	31	9	93	23	20	158	18	529
	7:45 AM	37	69	20	30	91	34	19	143	24	16	221	27	731
	8:00 AM	36	107	22	63	96	36	25	152	23	26	196	41	823
	8:15 AM	34	89	19	55	108	56	40	154	30	22	129	46	782
	8:30 AM	23	26	13	39	52	30	8	136	31	25	117	9	509
	8:45 AM	27	37	19	23	46	17	6	125	29	13	128	12	482
	VOLUMES	199	489	132	280	584	269	138	912	189	147	1,163	230	4,732
	APPROACH %	24%	60%	16%	25%	52%	24%	11%	74%	15%	10%	76%	15%	
APP/DEPART	820	/	854	1,133	/	915	1,239	/	1,329	1,540	/	1,634	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	132	309	76	172	364	157	93	542	100	84	704	132	2,865	
APPROACH %	26%	60%	15%	25%	53%	23%	13%	74%	14%	9%	77%	14%		
PEAK HR FACTOR	0.783			0.791			0.820			0.871			0.870	
APP/DEPART	517	/	532	693	/	545	735	/	793	920	/	995	0	
PM	4:00 PM	63	76	38	46	53	20	16	181	19	28	124	15	679
	4:15 PM	53	66	29	31	52	16	11	196	29	22	142	30	677
	4:30 PM	50	61	24	33	53	21	6	209	27	20	145	21	670
	4:45 PM	42	67	29	27	62	19	18	202	28	27	140	22	683
	5:00 PM	49	79	34	44	47	15	10	182	28	28	173	36	725
	5:15 PM	41	79	30	34	63	21	15	163	27	28	184	26	711
	5:30 PM	45	78	32	31	57	23	11	176	18	22	141	31	665
	5:45 PM	45	69	22	32	55	15	13	185	23	31	123	22	635
	VOLUMES	388	575	238	278	442	150	100	1,494	199	206	1,172	203	5,445
	APPROACH %	32%	48%	20%	32%	51%	17%	6%	83%	11%	13%	74%	13%	
	APP/DEPART	1,201	/	867	870	/	835	1,793	/	2,022	1,581	/	1,721	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	182	286	117	138	225	76	49	756	110	103	642	105	2,789
APPROACH %	31%	49%	20%	31%	51%	17%	5%	83%	12%	12%	76%	12%		
PEAK HR FACTOR	0.903			0.930			0.922			0.893			0.962	
APP/DEPART	585	/	434	439	/	432	915	/	1,017	850	/	906	0	



ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	1	1	1	1	4	1	1	1	1	4
	7:15 AM	0	1	3	4	8	0	1	3	4	8
	7:30 AM	0	2	2	0	4	0	2	2	0	4
	7:45 AM	0	3	4	5	12	0	2	3	4	9
	8:00 AM	2	1	5	2	10	2	1	5	1	9
	8:15 AM	2	1	2	5	10	2	0	1	3	6
	8:30 AM	1	2	0	1	4	1	2	0	1	4
	8:45 AM	3	0	2	0	5	3	0	2	0	5
	TOTAL	9	11	19	18	57	9	9	17	14	49
PM	4:00 PM	3	1	2	5	11	2	1	2	5	10
	4:15 PM	5	3	4	5	17	4	2	4	5	15
	4:30 PM	2	1	2	2	7	2	0	2	1	5
	4:45 PM	4	0	4	5	13	4	0	4	4	12
	5:00 PM	4	5	1	5	15	3	5	1	4	13
	5:15 PM	4	2	3	3	12	1	2	2	2	7
	5:30 PM	3	0	2	11	16	3	0	2	11	16
	5:45 PM	0	1	1	2	4	0	1	1	1	3
	TOTAL	25	13	19	38	95	19	11	18	33	81

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Indian Hill
Foothill

PROJECT #:
LOCATION #:
CONTROL:

SC3943
1
SIGNAL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Indian Hill			Indian Hill			Foothill			Foothill			
LANES:	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL

MD	11:00 AM	33	39	22	12	46	16	15	146	26	37	136	28	556
	11:15 AM	43	54	21	17	50	9	11	150	23	28	142	22	570
	11:30 AM	39	44	24	27	58	16	18	120	32	31	136	22	567
	11:45 AM	50	60	37	23	62	21	10	159	32	31	154	26	665
	12:00 PM	34	75	37	27	58	14	16	124	38	47	154	25	649
	12:15 PM	45	61	27	34	63	20	17	146	33	29	138	11	624
	12:30 PM	44	58	35	38	44	10	13	160	27	31	160	18	638
	12:45 PM	44	58	38	38	38	15	13	167	36	21	167	13	648
	1:00 PM	52	54	27	41	51	15	20	160	29	26	149	31	655
	1:15 PM	39	57	35	30	59	21	14	153	27	26	146	18	625
	1:30 PM	49	64	30	23	38	13	14	157	29	29	135	18	599
	1:45 PM	42	52	29	24	38	16	19	136	29	22	155	28	590
	VOLUMES	514	676	362	334	605	186	180	1,778	361	358	1,772	260	7,386
	APPROACH %	33%	44%	23%	30%	54%	17%	8%	77%	16%	15%	74%	11%	
PM	APP/DEPART	1,552	/	1,091	1,125	/	1,307	2,319	/	2,491	2,390	/	2,497	0
	BEGIN PEAK HR	11:45 AM												
	VOLUMES	173	254	136	122	227	65	56	589	130	138	606	80	2,576
	APPROACH %	31%	45%	24%	29%	55%	16%	7%	76%	17%	17%	74%	10%	
	PEAK HR FACTOR		0.957			0.885			0.964			0.912		0.968
	APP/DEPART	563	/	381	414	/	485	775	/	857	824	/	853	0
	02:00 PM	41	64	29	36	33	17	7	142	22	27	169	23	610
	2:15 PM	38	38	27	31	44	14	18	124	25	30	174	22	585
	2:30 PM	46	66	40	25	49	15	9	146	21	31	141	19	608
	2:45 PM	50	53	39	20	46	9	15	136	32	32	127	20	579
	3:00 PM	49	67	35	29	48	7	12	141	35	30	134	12	599
	3:15 PM	52	58	31	24	41	22	14	136	22	25	118	23	566
	3:30 PM	37	66	25	22	43	17	9	143	19	28	129	24	562
	3:45 PM	47	56	24	27	54	13	5	156	29	25	133	29	598
	4:00 PM	40	56	36	33	53	30	13	160	29	28	117	16	611
	4:15 PM	40	54	29	23	46	19	19	135	26	30	133	13	567
	4:30 PM	38	56	42	31	59	20	11	150	23	31	136	17	614
	4:45 PM	39	55	24	14	36	28	14	166	24	24	160	11	595
	VOLUMES	517	689	381	315	552	211	146	1,735	307	341	1,671	229	7,094
	APPROACH %	33%	43%	24%	29%	51%	20%	7%	79%	14%	15%	75%	10%	
	APP/DEPART	1,587	/	1,040	1,078	/	1,182	2,188	/	2,447	2,241	/	2,425	0
	BEGIN PEAK HR	3:45 PM												
	VOLUMES	165	222	131	114	212	82	48	601	107	114	519	75	2,390
	APPROACH %	32%	43%	25%	28%	52%	20%	6%	79%	14%	16%	73%	11%	
	PEAK HR FACTOR		0.952			0.879			0.936			0.947		0.973
	APP/DEPART	518	/	339	408	/	426	756	/	851	708	/	774	0

Indian Hill

NORTH SIDE

Foothill

WEST SIDE

EAST SIDE

Foothill

SOUTH SIDE

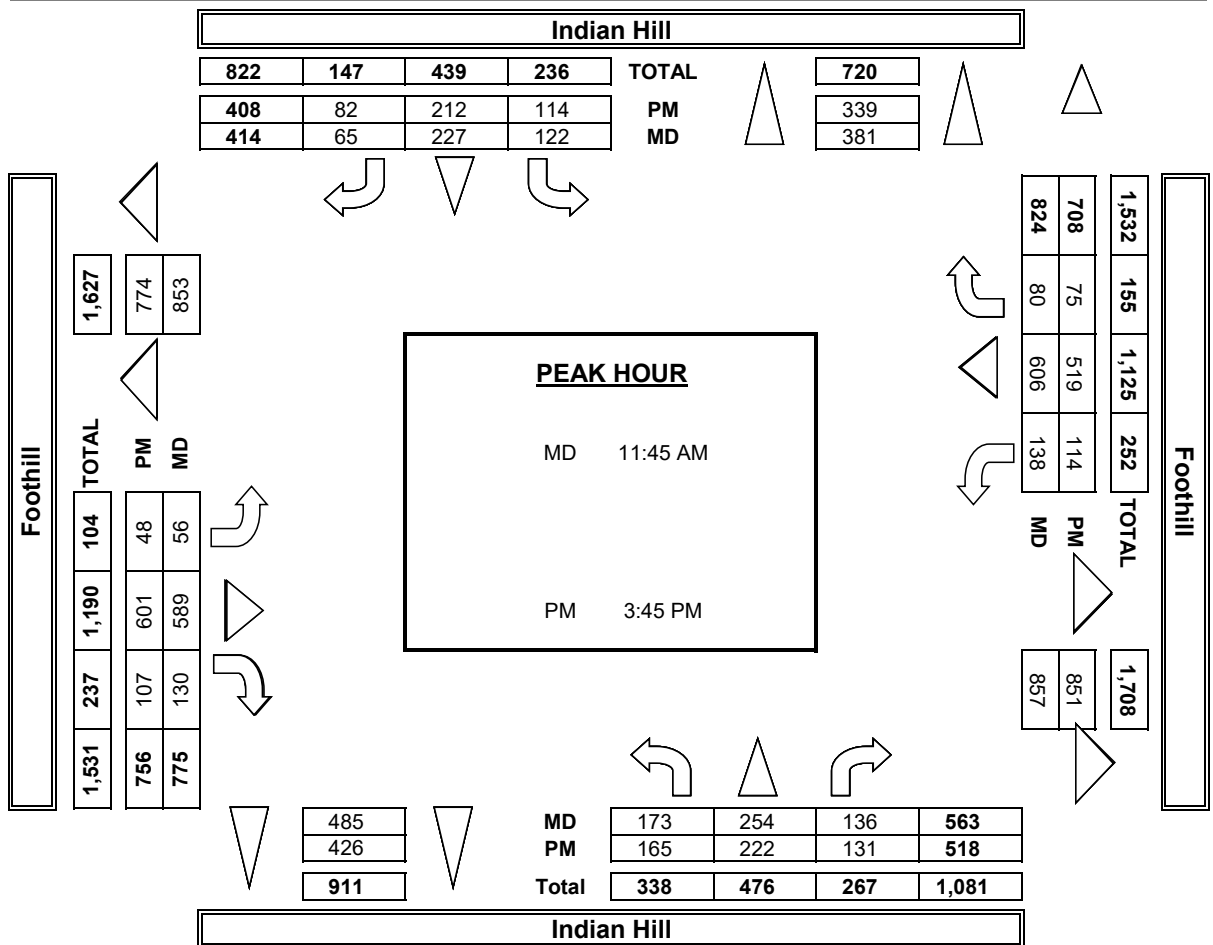
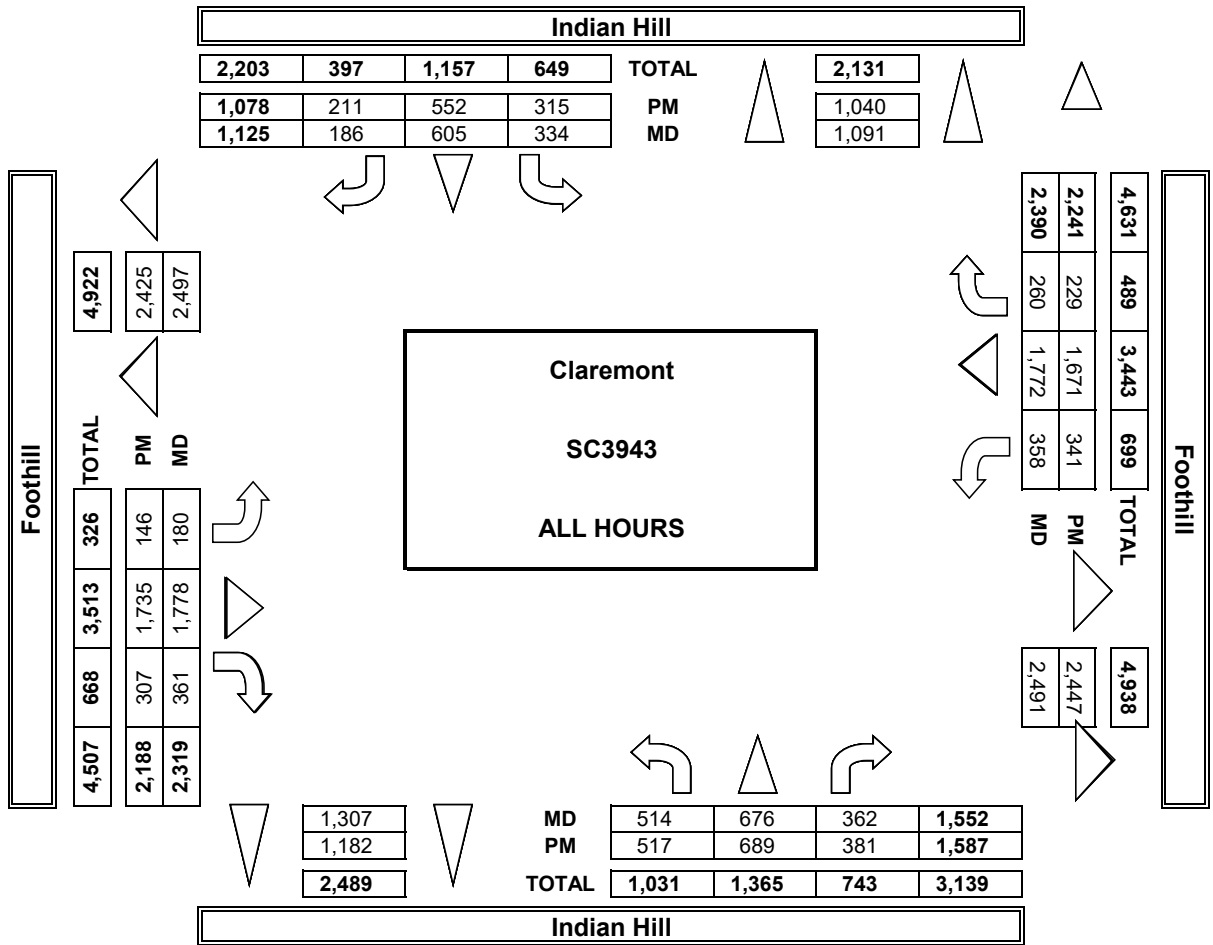
Indian Hill

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
	1:30 PM	
	1:45 PM	
	TOTAL	
PM	2:00 PM	
	2:15 PM	
	2:30 PM	
	2:45 PM	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	2	2	0	5
0	3	3	3	9
2	2	3	3	10
5	2	3	0	10
2	1	3	5	11
3	1	3	5	12
7	4	1	4	16
6	2	3	3	14
3	15	5	12	35
2	6	3	10	21
4	1	0	4	9
4	4	2	9	19
39	43	31	58	171
1	0	1	3	5
5	4	2	5	16
1	3	0	8	12
1	4	1	12	18
5	0	4	3	12
5	3	4	10	22
3	2	0	6	11
2	4	0	6	12
4	7	3	8	22
2	0	3	2	7
3	3	1	8	15
2	2	1	5	10
34	32	20	76	162

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	1	2	0	4
0	2	2	3	7
1	1	3	2	7
4	0	2	0	6
2	1	3	4	10
2	1	3	5	11
6	3	1	4	14
6	1	2	3	12
3	14	5	12	34
1	6	3	10	20
1	0	0	2	3
2	4	2	9	17
29	34	28	54	145
1	0	1	3	5
3	3	2	4	12
1	3	0	8	12
1	3	1	8	13
5	0	4	3	12
3	3	4	8	18
2	2	0	5	9
1	3	0	6	10
0	5	0	5	10
2	0	3	2	7
2	3	1	8	14
2	1	1	4	8
23	26	17	64	130

AimTD LLC
TURNING MOVEMENT COUNTS



**Foothill Blvd & College Ave
Claremont california
Thursday, January 25, 2024**

Time	Southbound College Ave						Westbound Foothill Blvd						Northbound College Ave						Eastbound Foothill Blvd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	0	0	0	0	0	0	11	142	0	0	153	0	0	0	6	1	6	1	1	69	6	0	77	236
7:15 AM	0	0	0	0	0	0	0	14	177	0	0	191	0	0	0	12	1	12	0	1	97	8	0	106	309
7:30 AM	0	0	0	0	0	0	0	19	225	2	2	246	0	0	0	12	3	12	0	5	114	7	2	126	384
7:45 AM	0	0	0	3	0	3	0	33	309	3	0	345	0	0	0	23	0	23	0	3	174	26	0	203	574
Hourly Total	0	0	0	3	0	3	0	77	853	5	2	935	0	0	0	53	5	53	1	10	454	47	2	512	1503
8:00 AM	0	0	0	3	0	3	0	43	299	2	0	344	0	0	0	28	0	28	3	2	199	16	0	220	595
8:15 AM	0	0	0	0	0	0	0	23	239	3	0	265	1	0	0	24	1	25	2	5	226	22	0	255	545
8:30 AM	0	0	0	2	0	2	0	24	178	2	0	204	0	0	0	14	0	14	0	6	172	13	0	191	411
8:45 AM	0	0	0	0	1	0	0	18	188	5	0	211	0	0	0	10	0	10	1	2	167	14	0	184	405
Hourly Total	0	0	0	5	1	5	0	108	904	12	0	1024	1	0	0	76	1	77	6	15	764	65	0	850	1956
4:00 PM	0	0	0	7	2	7	0	20	218	1	0	239	0	0	0	40	2	40	4	0	268	13	0	285	571
4:15 PM	0	0	0	7	1	7	0	14	204	4	0	222	0	0	0	36	4	36	0	0	243	12	0	255	520
4:30 PM	0	0	0	4	0	4	0	20	176	1	0	197	0	0	0	33	6	33	5	5	227	16	0	253	487
4:45 PM	0	0	0	9	1	9	0	18	194	1	0	213	0	0	0	34	8	34	0	2	234	14	0	250	506
Hourly Total	0	0	0	27	4	27	0	72	792	7	0	871	0	0	0	143	20	143	9	7	972	55	0	1043	2084
5:00 PM	0	0	0	8	2	8	0	17	239	0	0	256	0	0	0	42	15	42	4	1	293	12	0	310	616
5:15 PM	0	0	0	3	1	3	0	21	230	2	0	253	0	0	0	26	2	26	2	4	231	19	0	256	538
5:30 PM	0	0	0	7	0	7	1	14	201	2	0	218	0	0	0	20	2	20	6	2	240	12	0	260	505
5:45 PM	0	0	0	6	0	6	0	18	203	0	0	221	0	0	0	34	0	34	6	4	212	18	0	240	501
Hourly Total	0	0	0	24	3	24	1	70	873	4	0	948	0	0	0	122	19	122	18	11	976	61	0	1066	2160
4 Hours TOTAL	0	0	0	59	8	59	1	327	3422	28	2	3778	1	0	0	394	45	395	34	43	3166	228	2	3471	7703
Cars	0	0	0	59	8	59	1	325	3361	28	2	3715	1	0	0	386	44	387	34	42	3114	227	2	3417	7578
Heavy Vehicles	0	0	0	0	0	0	0	2	61	0	0	63	0	0	0	8	1	8	0	1	52	1	0	54	125
Heavy Vehicle %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.61%	1.78%	0.00%	0.00%	1.67%	0.00%	0.00%	0.00%	2.03%	2.22%	2.03%	0.00%	2.33%	1.64%	0.44%	0.00%	1.56%	1.62%

**Foothill Blvd & College Ave
Claremont california
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:45 AM	0	0	0	3	0	3	0	33	309	3	0	345	0	0	0	23	0	23	0	3	174	26	0	203	574
8:00 AM	0	0	0	3	0	3	0	43	299	2	0	344	0	0	0	28	0	28	3	2	199	16	0	220	595
8:15 AM	0	0	0	0	0	0	0	23	239	3	0	265	1	0	0	24	1	25	2	5	226	22	0	255	545
8:30 AM	0	0	0	2	0	2	0	24	178	2	0	204	0	0	0	14	0	14	0	6	172	13	0	191	411
Peak Hour Total	0	0	0	8	0	8	0	123	1025	10	0	1158	1	0	0	89	1	90	5	16	771	77	0	869	2125
PHF	0.000	0.000	0.000	0.667	0.000	0.667	0.000	0.715	0.829	0.833	0.000	0.839	0.250	0.000	0.000	0.795	0.250	0.804	0.417	0.667	0.853	0.740	0.000	0.852	0.893

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:45 PM	0	0	0	9	1	9	0	18	194	1	0	213	0	0	0	34	8	34	0	2	234	14	0	250	506
5:00 PM	0	0	0	8	2	8	0	17	239	0	0	256	0	0	0	42	15	42	4	1	293	12	0	310	616
5:15 PM	0	0	0	3	1	3	0	21	230	2	0	253	0	0	0	26	2	26	2	4	231	19	0	256	538
5:30 PM	0	0	0	7	0	7	1	14	201	2	0	218	0	0	0	20	2	20	6	2	240	12	0	260	505
Peak Hour Total	0	0	0	27	4	27	1	70	864	5	0	940	0	0	0	122	27	122	12	9	998	57	0	1076	2165
PHF	0.000	0.000	0.000	0.750	0.500	0.750	0.250	0.833	0.904	0.625	0.000	0.918	0.000	0.000	0.000	0.726	0.450	0.726	0.500	0.563	0.852	0.750	0.000	0.868	0.879

Total Vehicles On Leg 130

Vehicles Entering Intersection 59			Vehicles Exiting Intersection 71		
Southbound					
Cars	59	0	0	0	8
Heavy	0	0	0	0	0
Total	59	0	0	0	8



Total Vehicles on Leg 6986	Vehicles Entering Intersection 3471	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 3515		2	0	2
			34	0	34
			42	1	43
			3114	52	3166
			227	1	228



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3778	Total Vehicles on Leg 7339
28	0	28			
3361	61	3422			
325	2	327			
1	0	1			
2	0	2			
				Vehicles Exiting Intersection 3561	



4Hour Volumes

Northbound					
Cars	44	1	0	0	386
Heavy	1	0	0	0	8
Total	45	1	0	0	394
Northbound					
Vehicles Entering Intersection 395			Vehicles Exiting Intersection 556		
Total Vehicles On Leg			951		



**Foothill Blvd & College Ave
Claremont california
Saturday, January 27, 2024**

Time	Southbound College Ave						Westbound Foothill Blvd						Northbound College Ave						Eastbound Foothill Blvd						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	0	0	16	0	16	1	19	175	1	0	196	0	0	0	25	7	25	1	2	183	16	0	202	439
11:15 AM	0	0	0	6	1	6	0	15	189	0	0	204	0	0	0	29	2	29	4	9	192	14	0	219	458
11:30 AM	0	0	0	12	0	12	0	12	216	7	0	235	0	0	0	24	3	24	3	15	189	12	0	219	490
11:45 AM	0	0	0	11	1	11	0	24	180	3	0	207	0	0	0	24	3	24	3	7	220	12	0	242	484
Hourly Total	0	0	0	45	2	45	1	70	760	11	0	842	0	0	0	102	15	102	11	33	784	54	0	882	1871
12:00 PM	0	0	0	19	0	19	0	19	218	2	0	239	0	0	0	26	1	26	4	7	249	9	0	269	553
12:15 PM	0	0	0	8	2	8	0	15	181	5	0	201	0	0	0	34	4	34	0	4	220	11	0	235	478
12:30 PM	0	0	0	13	1	13	0	13	192	4	1	209	0	0	0	28	5	28	4	9	215	17	0	245	495
12:45 PM	0	0	0	14	1	14	0	19	193	5	0	217	0	0	0	33	8	33	8	7	201	7	0	223	487
Hourly Total	0	0	0	54	4	54	0	66	784	16	1	866	0	0	0	121	18	121	16	27	885	44	0	972	2013
1:00 PM	0	0	0	13	0	13	0	24	173	8	0	205	0	1	0	34	5	35	2	7	241	14	0	264	517
1:15 PM	0	0	0	11	0	11	0	20	171	8	0	199	0	0	0	33	6	33	6	7	219	20	1	252	495
1:30 PM	0	0	0	14	1	14	0	21	194	4	0	219	0	1	0	37	1	38	7	3	206	12	0	228	499
1:45 PM	0	0	0	6	1	6	0	22	204	3	0	229	0	0	0	26	0	26	5	5	240	13	0	263	524
Hourly Total	0	0	0	44	2	44	0	87	742	23	0	852	0	2	0	130	12	132	20	22	906	59	1	1007	2035
2:00 PM	0	0	0	13	1	13	0	16	205	5	0	226	0	0	0	19	1	19	0	6	227	14	0	247	505
2:15 PM	0	0	0	10	1	10	0	17	18	2	0	37	0	0	0	22	1	22	2	3	237	13	0	255	324
2:30 PM	0	0	0	13	2	13	0	15	210	7	0	232	0	0	0	22	1	22	3	4	221	5	0	233	500
2:45 PM	0	0	0	25	1	25	0	25	197	8	0	230	0	0	0	27	4	27	2	6	256	15	0	279	561
Hourly Total	0	0	0	61	5	61	0	73	630	22	0	725	0	0	0	90	7	90	7	19	941	47	0	1014	1890
4 Hours TOTAL	0	0	0	204	13	204	1	296	2916	72	1	3285	0	2	0	443	52	445	54	101	3516	204	1	3875	7809
Cars	0	0	0	203	13	203	1	295	2897	72	1	3265	0	2	0	443	51	445	54	101	3489	204	1	3848	7761
Heavy Vehicles	0	0	0	1	0	1	0	1	19	0	0	20	0	0	0	0	1	0	0	0	27	0	0	27	48
Heavy Vehicle %	0.00%	0.00%	0.00%	0.49%	0.00%	0.49%	0.00%	0.34%	0.65%	0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	1.92%	0.00%	0.00%	0.00%	0.77%	0.00%	0.00%	0.70%	0.61%

**Foothill Blvd & College Ave
Claremont california
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	0	0	16	0	16	1	19	175	1	0	196	0	0	0	25	7	25	1	2	183	16	0	202	439
11:15 AM	0	0	0	6	1	6	0	15	189	0	0	204	0	0	0	29	2	29	4	9	192	14	0	219	458
11:30 AM	0	0	0	12	0	12	0	12	216	7	0	235	0	0	0	24	3	24	3	15	189	12	0	219	490
11:45 AM	0	0	0	11	1	11	0	24	180	3	0	207	0	0	0	24	3	24	3	7	220	12	0	242	484
Peak Hour Total	0	0	0	45	2	45	1	70	760	11	0	842	0	0	0	102	15	102	11	33	784	54	0	882	1871
PHF	0.000	0.000	0.000	0.703	0.500	0.703	0.250	0.729	0.880	0.393	0.000	0.896	0.000	0.000	0.000	0.879	0.536	0.879	0.688	0.550	0.891	0.844	0.000	0.911	0.955

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
1:00 PM	0	0	0	13	0	13	0	24	173	8	0	205	0	1	0	34	5	35	2	7	241	14	0	264	517
1:15 PM	0	0	0	11	0	11	0	20	171	8	0	199	0	0	0	33	6	33	6	7	219	20	1	252	495
1:30 PM	0	0	0	14	1	14	0	21	194	4	0	219	0	1	0	37	1	38	7	3	206	12	0	228	499
1:45 PM	0	0	0	6	1	6	0	22	204	3	0	229	0	0	0	26	0	26	5	5	240	13	0	263	524
Peak Hour Total	0	0	0	44	2	44	0	87	742	23	0	852	0	2	0	130	12	132	20	22	906	59	1	1007	2035
PHF	0.000	0.000	0.000	0.786	0.500	0.786	0.000	0.906	0.909	0.719	0.000	0.930	0.000	0.500	0.000	0.878	0.500	0.868	0.714	0.786	0.940	0.738	0.250	0.954	0.971

Total Vehicles On Leg 377

Vehicles Entering Intersection 204			Vehicles Exiting Intersection 173		
Southbound					
Cars	203	0	0	0	13
Heavy	1	0	0	0	0
Total	204	0	0	0	13



Total Vehicles on Leg 7051	Vehicles Entering Intersection 3875	Eastbound	Cars	Heavy	Total
			1	0	1
			54	0	54
	Vehicles Exiting Intersection 3176		101	0	101
			3489	27	3516
			204	0	204



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3285	Total Vehicles on Leg 7245
72	0	72			
2897	19	2916			
295	1	296		Vehicles Exiting Intersection 3960	
1	0	1			
1	0	1			



4 Hour Volumes

Cars	51	0	2	0	443
Heavy	1	0	0	0	0
Total	52	0	2	0	443
Northbound					
Vehicles Entering Intersection 445			Vehicles Exiting Intersection 500		
Total Vehicles On Leg			945		



Dartmouth Ave and Foothill Blvd-14-0709

Claremonte California

Thursday, December 14, 2023

Time	Southbound Dartmouth Ave						Westbound Foothill Blvd						Northbound Dartmouth Ave						Eastbound Historic Rte 66						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	2	0	0	1	2	0	5	164	0	1	169	0	0	1	1	2	2	0	0	85	1	0	86	259
7:15 AM	0	0	0	0	3	0	0	3	211	2	1	216	0	2	0	4	1	6	1	0	137	8	0	146	368
7:30 AM	0	0	0	0	0	0	1	10	273	2	1	286	0	1	1	5	1	7	1	0	144	11	0	156	449
7:45 AM	0	2	2	0	3	4	1	17	354	2	1	374	0	5	0	4	2	9	0	0	186	15	1	201	588
Hourly Total	0	4	2	0	7	6	2	35	1002	6	4	1045	0	8	2	14	6	24	2	0	552	35	1	589	1664
8:00 AM	0	2	2	0	1	4	4	20	306	3	0	333	0	0	1	4	3	5	1	1	219	24	1	245	587
8:15 AM	0	7	3	0	1	10	3	14	220	4	0	241	1	0	1	3	0	5	0	1	242	16	1	259	515
8:30 AM	0	5	6	0	0	11	4	16	195	5	0	220	0	2	2	4	3	8	0	2	142	12	1	156	395
8:45 AM	0	5	4	0	0	9	2	17	193	3	1	215	0	2	2	6	0	10	2	0	169	14	1	185	419
Hourly Total	0	19	15	0	2	34	13	67	914	15	1	1009	1	4	6	17	6	28	3	4	772	66	4	845	1916
4:00 PM	0	6	0	0	1	6	0	8	205	2	0	215	0	13	1	13	5	27	3	1	308	7	1	319	567
4:15 PM	0	6	2	0	5	8	1	7	213	2	1	223	0	12	1	10	1	23	2	1	297	0	1	300	554
4:30 PM	0	6	1	0	3	7	0	7	231	1	0	239	0	16	4	15	4	35	2	0	321	4	2	327	608
4:45 PM	0	4	1	0	0	5	1	9	215	2	1	227	0	7	3	19	1	29	1	0	311	1	1	313	574
Hourly Total	0	22	4	0	9	26	2	31	864	7	2	904	0	48	9	57	11	114	8	2	1237	12	5	1259	2303
5:00 PM	0	10	3	0	2	13	1	6	218	4	4	229	0	32	1	34	5	67	3	1	323	5	4	332	641
5:15 PM	0	5	3	0	2	8	0	3	227	1	1	231	0	14	3	13	3	30	2	1	331	4	1	338	607
5:30 PM	0	8	1	0	6	9	1	6	238	5	2	250	0	16	3	17	1	36	0	1	332	4	0	337	632
5:45 PM	0	6	2	0	3	8	1	4	215	1	3	221	0	7	3	6	2	16	2	0	311	5	1	318	563
Hourly Total	0	29	9	0	13	38	3	19	898	11	10	931	0	69	10	70	11	149	7	3	1297	18	6	1325	2443
4 Hours TOTAL Cars	0	74	30	0	31	104	20	152	3678	39	17	3889	1	129	27	158	34	315	20	9	3858	131	16	4018	8326
Heavy Vehicles	0	68	26	0	27	94	20	152	3623	39	16	3634	1	128	16	151	32	296	20	9	3807	131	13	3967	8191
Heavy Vehicle %	0	6	4	0	4	10	0	0	55	0	1	55	0	1	11	7	2	19	0	0	51	0	3	51	135
Heavy Vehicle %	0.00%	8.11%	13.33%	0.00%	12.90%	9.62%	0.00%	0.00%	1.50%	0.00%	5.88%	1.41%	0.00%	0.78%	40.74%	4.43%	5.88%	6.03%	0.00%	0.00%	1.32%	0.00%	18.75%	1.27%	1.62%

Dartmouth Ave and Foothill Blvd-14-0709

Claremonte California

Thursday, December 14, 2023

AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	0	0	0	0	0	1	10	273	2	1	286	0	1	1	5	1	7	1	0	144	11	0	156	449
7:45 AM	0	2	2	0	3	4	1	17	354	2	1	374	0	5	0	4	2	9	0	0	186	15	1	201	588
8:00 AM	0	2	2	0	1	4	4	20	306	3	0	333	0	0	1	4	3	5	1	1	219	24	1	245	587
8:15 AM	0	7	3	0	1	10	3	14	220	4	0	241	1	0	1	3	0	5	0	1	242	16	1	259	515
Peak Hour Total PHF	0	11	7	0	5	18	9	61	1153	11	2	1234	1	6	3	16	6	26	2	2	791	66	3	861	2139
	0.000	0.393	0.583	0.000	0.417	0.450	0.563	0.763	0.814	0.688	0.500	0.825	0.250	0.300	0.750	0.800	0.500	0.722	0.500	0.500	0.817	0.688	0.750	0.831	0.909

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:45 PM	0	4	1	0	0	5	1	9	215	2	1	227	0	7	3	19	1	29	1	0	311	1	1	313	574
5:00 PM	0	10	3	0	2	13	1	6	218	4	4	229	0	32	1	34	5	67	3	1	323	5	4	332	641
5:15 PM	0	5	3	0	2	8	0	3	227	1	1	231	0	14	3	13	3	30	2	1	331	4	1	338	607
5:30 PM	0	8	1	0	6	9	1	6	238	5	2	250	0	16	3	17	1	36	0	1	332	4	0	337	632
Peak Hour Total PHF	0	27	8	0	10	35	3	24	898	12	8	937	0	69	10	83	10	162	6	3	1297	14	6	1320	2454
	0.000	0.675	0.667	0.000	0.417	0.673	0.750	0.667	0.943	0.600	0.500	0.937	0.000	0.539	0.833	0.610	0.500	0.604	0.500	0.750	0.977	0.700	0.375	0.976	0.957

Total Vehicles On Leg

179

Vehicles Entering Intersection 104			Vehicles Exiting Intersection 75		
Southbound					
Cars	0	26	68	0	27
Heavy	0	4	6	0	4
Total	0	30	74	0	31



Total Vehicles on Leg 7845	Vehicles Entering Intersection 4018	Eastbound	Cars	Heavy	Total
			13	3	16
			20	0	20
	Vehicles Exiting Intersection 3827		9	0	9
			3807	51	3858
			131	0	131



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3889	Total Vehicles on Leg 7999
39	0	39			
3623	55	3678			
152	0	152			
20	0	20		Vehicles Exiting Intersection 4110	
16	1	17			



4 Hour Volumes

Cars	32	1	128	16	151
Heavy	2	0	1	11	7
Total	34	1	129	27	158
Northbound					
Vehicles Entering Intersection 315			Vehicles Exiting Intersection 314		
Total Vehicles On Leg			629		



Dartmouth Ave and Foothill Blvd-14-0709

Claremonte California

Saturday, December 16, 2023

Time	Southbound Dartmouth Ave						Westbound Foothill Blvd						Northbound Dartmouth Ave						Eastbound Historic Rte 66						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	6	2	0	1	8	0	9	231	0	0	240	0	9	0	9	6	18	0	0	179	6	1	185	451
11:15 AM	0	3	2	0	4	5	2	8	186	4	0	200	0	12	3	4	4	19	1	0	202	7	1	210	434
11:30 AM	0	8	0	0	1	8	1	9	204	3	0	217	0	2	1	4	4	7	3	0	232	7	0	242	474
11:45 AM	0	9	4	0	0	13	3	3	210	3	0	219	0	7	1	7	1	15	4	1	250	4	0	259	506
Hourly Total	0	26	8	0	6	34	6	29	831	10	0	876	0	30	5	24	15	59	8	1	863	24	2	896	1865
12:00 PM	0	4	1	0	0	5	0	2	204	4	0	210	0	4	4	5	0	13	1	1	223	2	0	227	455
12:15 PM	0	0	1	0	4	1	1	5	231	1	3	238	0	7	2	5	0	14	2	0	207	7	0	216	469
12:30 PM	0	3	1	0	1	4	0	12	217	1	1	230	0	3	0	6	2	9	2	0	211	3	2	216	459
12:45 PM	0	4	1	0	0	5	0	5	205	0	0	210	0	1	1	4	0	6	4	1	236	6	0	247	468
Hourly Total	0	11	4	0	5	15	1	24	857	6	4	888	0	15	7	20	2	42	9	2	877	18	2	906	1851
1:00 PM	0	2	1	0	0	3	0	4	231	2	0	237	0	4	1	6	0	11	3	0	230	3	0	236	487
1:15 PM	0	1	1	0	0	2	1	8	242	7	0	258	0	3	0	6	0	9	3	0	205	10	0	218	487
1:30 PM	0	0	1	0	0	1	0	15	186	2	0	203	0	5	0	10	0	15	3	2	220	6	0	231	450
1:45 PM	0	3	0	0	0	3	0	6	213	0	0	219	0	1	1	2	1	4	3	1	220	4	0	228	454
Hourly Total	0	6	3	0	0	9	1	33	872	11	0	917	0	13	2	24	1	39	12	3	875	23	0	913	1878
2:00 PM	0	7	2	0	1	9	0	4	208	4	0	216	0	5	1	3	0	9	1	2	209	6	0	218	452
2:15 PM	0	6	0	1	0	7	0	6	193	4	0	203	0	6	1	4	1	11	1	3	246	2	0	252	473
2:30 PM	0	2	1	0	3	3	1	5	199	4	0	209	0	3	2	4	0	9	0	1	207	4	0	212	433
2:45 PM	0	3	1	0	5	4	0	6	175	1	0	182	0	2	1	4	1	7	1	0	210	1	0	212	405
Hourly Total	0	18	4	1	9	23	1	21	775	13	0	810	0	16	5	15	2	36	3	6	872	13	0	894	1763
3:00 PM	0	5	0	0	0	5	0	3	178	1	2	182	0	4	0	4	0	8	0	1	205	3	1	209	404
3:15 PM	0	2	0	0	1	2	0	3	162	3	1	168	0	3	2	7	0	12	2	0	208	3	0	213	395
3:30 PM	0	7	1	1	0	9	0	7	164	3	0	174	0	0	0	2	1	2	0	0	239	1	1	240	425
3:45 PM	0	2	0	0	0	2	0	7	204	1	0	212	0	0	1	3	1	4	2	1	204	5	0	212	430
Hourly Total	0	16	1	1	1	18	0	20	708	8	3	736	0	7	3	16	2	26	4	2	856	12	2	874	1654
4:00 PM	0	1	0	0	0	1	1	3	205	1	1	210	0	1	0	4	1	5	0	0	216	4	1	220	436
4:15 PM	0	4	0	0	3	4	1	5	182	1	2	189	0	9	1	14	1	24	3	0	193	2	0	198	415
4:30 PM	0	6	0	0	0	6	1	1	190	2	3	194	0	4	1	5	2	10	6	0	198	5	0	209	419
4:45 PM	0	6	1	0	1	7	0	5	194	5	1	204	0	12	0	11	12	23	12	2	218	4	0	236	470
Hourly Total	0	17	1	0	4	18	3	14	771	9	7	797	0	26	2	34	16	62	21	2	825	15	1	863	1740
6 Hours TOTAL	0	94	21	2	25	117	12	141	4814	57	14	5024	0	107	24	133	38	264	57	16	5168	105	7	5346	10751
Cars	0	89	15	2	21	106	12	141	4784	57	12	4994	0	107	13	133	37	253	57	16	5136	103	4	5312	10665
Heavy Vehicles	0	5	6	0	4	11	0	0	30	0	2	30	0	0	11	0	1	11	0	0	32	2	3	34	86
Heavy Vehicle %	0.00%	5.32%	28.57%	0.00%	16.00%	9.40%	0.00%	0.00%	0.62%	0.00%	14.29%	0.60%	0.00%	0.00%	45.83%	0.00%	2.63%	4.17%	0.00%	0.00%	0.62%	1.90%	42.86%	0.64%	0.80%

Dartmouth Ave and Foothill Blvd-14-0709

Claremonte California

Saturday, December 16, 2023

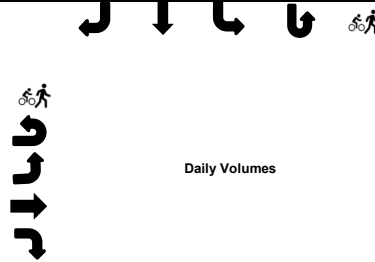
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	6	2	0	1	8	0	9	231	0	0	240	0	9	0	9	6	18	0	0	179	6	1	185	451
11:15 AM	0	3	2	0	4	5	2	8	186	4	0	200	0	12	3	4	4	19	1	0	202	7	1	210	434
11:30 AM	0	8	0	0	1	8	1	9	204	3	0	217	0	2	1	4	4	7	3	0	232	7	0	242	474
11:45 AM	0	9	4	0	0	13	3	3	210	3	0	219	0	7	1	7	1	15	4	1	250	4	0	259	506
Peak Hour Total	0	26	8	0	6	34	6	29	831	10	0	876	0	30	5	24	15	59	8	1	863	24	2	896	1865
PHF	0.000	0.722	0.500	0.000	0.375	0.654	0.500	0.806	0.899	0.625	0.000	0.913	0.000	0.625	0.417	0.667	0.625	0.776	0.500	0.250	0.863	0.857	0.500	0.865	0.921

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:30 PM	0	3	1	0	1	4	0	12	217	1	1	230	0	3	0	6	2	9	2	0	211	3	2	216	459
12:45 PM	0	4	1	0	0	5	0	5	205	0	0	210	0	1	1	4	0	6	4	1	236	6	0	247	468
1:00 PM	0	2	1	0	0	3	0	4	231	2	0	237	0	4	1	6	0	11	3	0	230	3	0	236	487
1:15 PM	0	1	1	0	0	2	1	8	242	7	0	258	0	3	0	6	0	9	3	0	205	10	0	218	487
Peak Hour Total	0	10	4	0	1	14	1	29	895	10	1	935	0	11	2	22	2	35	12	1	882	22	2	917	1901
PHF	0.000	0.625	1.000	0.000	0.250	0.700	0.250	0.604	0.925	0.357	0.250	0.906	0.000	0.688	0.500	0.917	0.250	0.795	0.750	0.250	0.934	0.550	0.250	0.928	0.976

Total Vehicles On Leg			214		
Vehicles Entering Intersection 117			Vehicles Exiting Intersection 97		
Southbound					
Cars	2	15	89	0	21
Heavy	0	6	5	0	4
Total	2	21	94	0	25



Total Vehicles on Leg 10326	Vehicles Entering Intersection 5346	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 4980		4	3	7
			57	0	57
			16	0	16
			5136	32	5168
			103	2	105

	Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 5024	Total Vehicles on Leg 10431
	57	0	57			
	4784	30	4814			
	141	0	141			
	12	0	12			
	12	2	14			

Cars	37	0	107	13	133
Heavy	1	0	0	11	0
Total	38	0	107	24	133
Northbound					
Vehicles Entering Intersection 264			Vehicles Exiting Intersection 267		
Total Vehicles On Leg			531		

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Mills Foothil	PROJECT #: LOCATION #: CONTROL:	SC3943 5 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

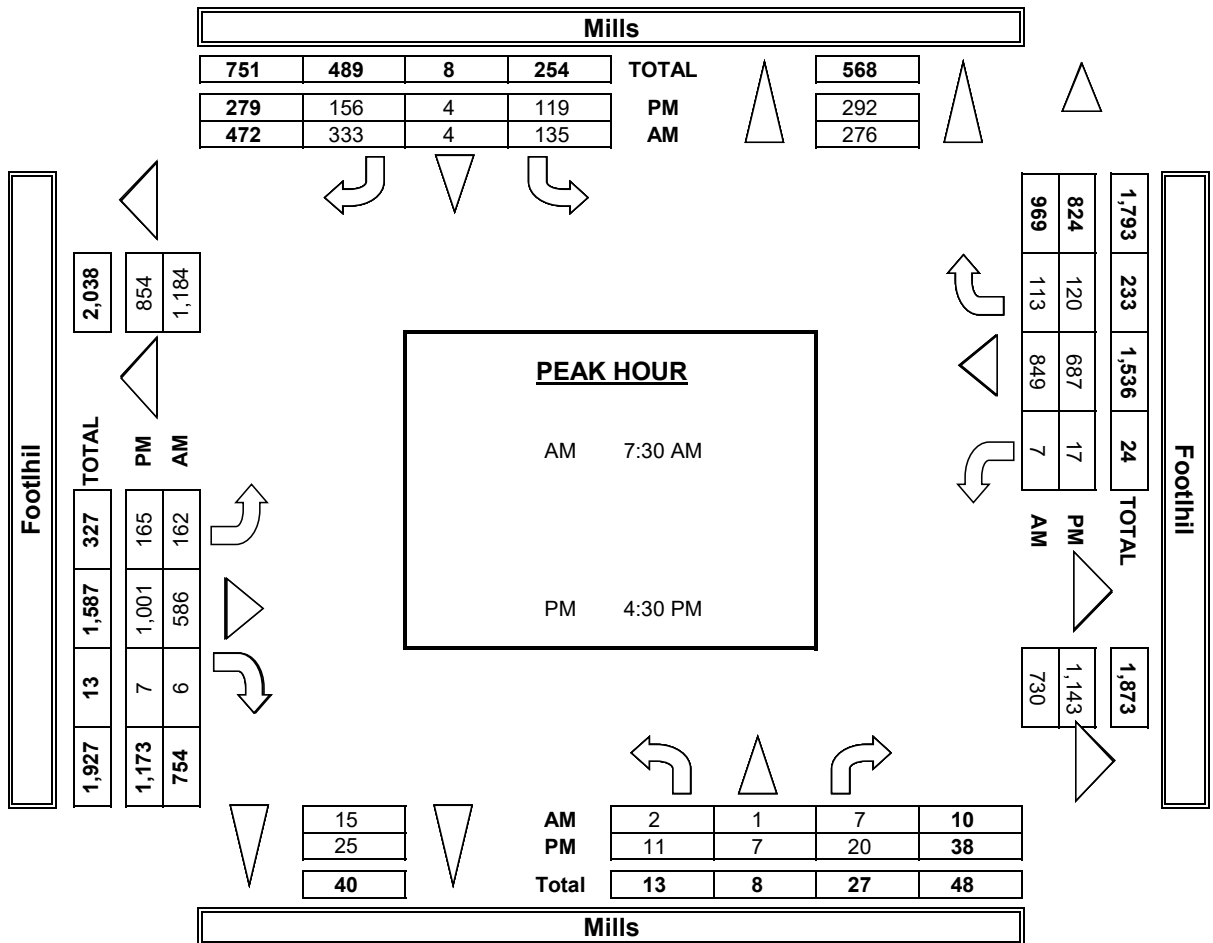
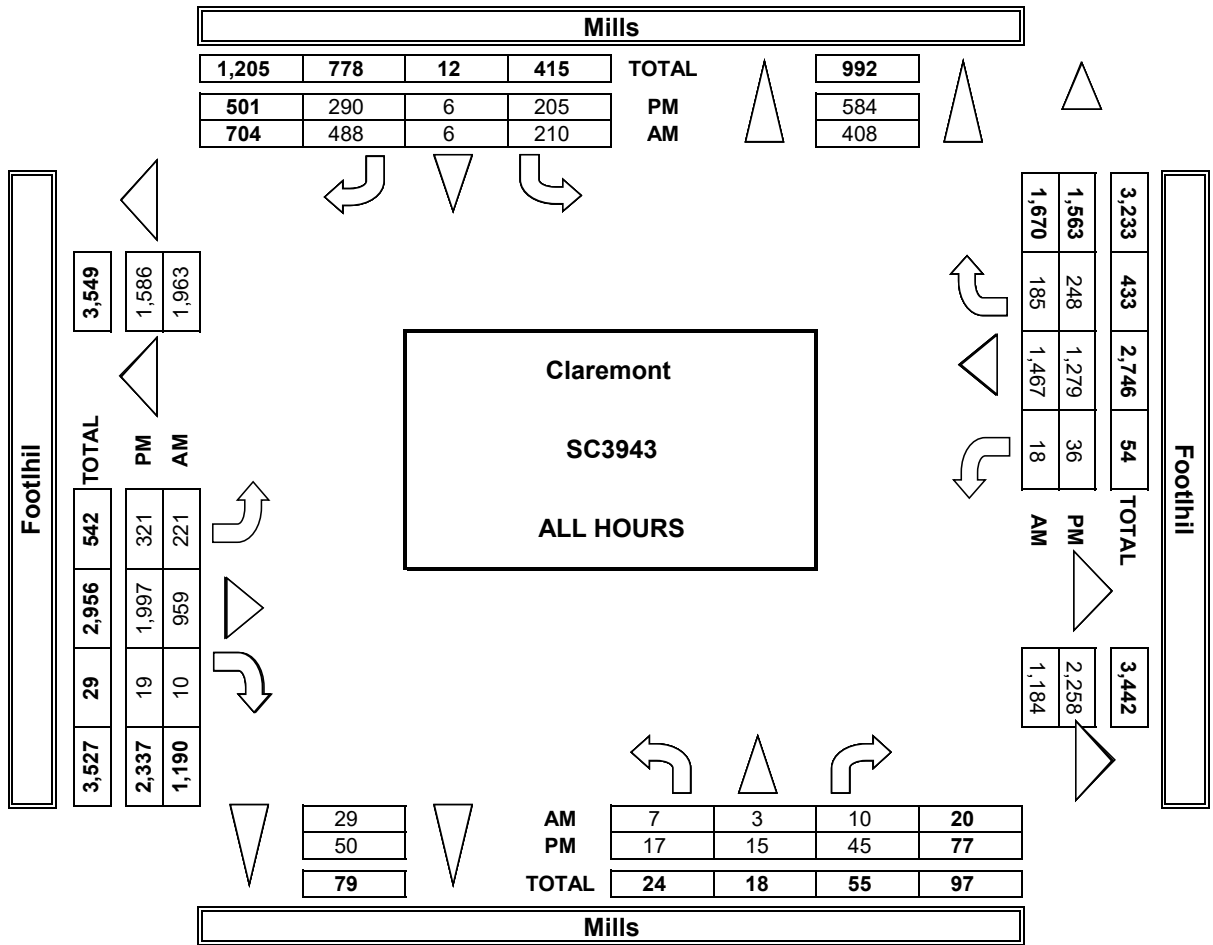
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mills			Mills			Foothil			Foothil			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0.5	0.5	1	1	1	1	1	2	0	1	2	1	

AM	7:00 AM	0	1	2	12	2	25	7	53	0	1	135	18	256
	7:15 AM	1	0	0	16	0	29	10	91	0	2	169	15	333
	7:30 AM	0	0	0	23	1	60	29	109	1	2	184	30	439
	7:45 AM	0	0	4	36	0	124	53	133	2	2	264	47	665
	8:00 AM	1	1	3	53	3	103	44	165	1	3	220	23	620
	8:15 AM	1	0	0	23	0	46	36	179	2	0	181	13	481
	8:30 AM	1	0	1	31	0	51	13	125	2	7	150	17	398
	8:45 AM	3	1	0	16	0	50	29	104	2	1	164	22	392
	VOLUMES	7	3	10	210	6	488	221	959	10	18	1,467	185	3,584
	APPROACH %	35%	15%	50%	30%	1%	69%	19%	81%	1%	1%	88%	11%	
APP/DEPART	20	/	408	704	/	29	1,190	/	1,184	1,670	/	1,963	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	2	1	7	135	4	333	162	586	6	7	849	113	2,205	
APPROACH %	20%	10%	70%	29%	1%	71%	21%	78%	1%	1%	88%	12%		
PEAK HR FACTOR	0.500			0.738			0.869			0.774			0.829	
APP/DEPART	10	/	276	472	/	15	754	/	730	969	/	1,184	0	
PM	4:00 PM	0	1	3	18	0	31	35	275	5	3	146	29	546
	4:15 PM	1	3	8	32	2	18	46	262	2	4	141	27	546
	4:30 PM	2	2	10	33	1	25	38	247	0	6	162	29	555
	4:45 PM	3	1	2	21	1	43	36	233	3	5	151	27	526
	5:00 PM	4	3	3	32	1	40	53	276	1	3	180	34	630
	5:15 PM	2	1	5	33	1	48	38	245	3	3	194	30	603
	5:30 PM	2	2	7	24	0	41	44	239	2	4	150	38	553
	5:45 PM	3	2	7	12	0	44	31	220	3	8	155	34	519
	VOLUMES	17	15	45	205	6	290	321	1,997	19	36	1,279	248	4,478
	APPROACH %	22%	19%	58%	41%	1%	58%	14%	85%	1%	2%	82%	16%	
APP/DEPART	77	/	584	501	/	50	2,337	/	2,258	1,563	/	1,586	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	11	7	20	119	4	156	165	1,001	7	17	687	120	2,314	
APPROACH %	29%	18%	53%	43%	1%	56%	14%	85%	1%	2%	83%	15%		
PEAK HR FACTOR	0.679			0.851			0.889			0.907			0.918	
APP/DEPART	38	/	292	279	/	25	1,173	/	1,143	824	/	854	0	



		ALL PED AND BIKE					PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	2	2	0	0	0	2	2
	7:15 AM	2	3	0	3	8	2	3	0	3	8
	7:30 AM	0	1	0	1	2	0	1	0	1	2
	7:45 AM	2	0	2	1	5	2	0	2	1	5
	8:00 AM	0	2	3	1	6	0	1	2	1	4
	8:15 AM	0	1	1	1	3	0	1	1	1	3
	8:30 AM	0	1	1	5	7	0	1	0	5	6
	8:45 AM	1	2	2	0	5	1	2	2	0	5
TOTAL		5	10	9	14	38	5	9	7	14	35
PM	4:00 PM	0	0	0	3	3	0	0	0	3	3
	4:15 PM	1	5	5	0	11	1	5	5	0	11
	4:30 PM	1	3	9	3	16	1	3	5	3	12
	4:45 PM	0	5	4	6	15	0	5	4	5	14
	5:00 PM	1	4	0	2	7	1	3	0	1	5
	5:15 PM	0	1	2	3	6	0	1	1	1	3
	5:30 PM	0	0	1	2	3	0	0	0	2	2
	5:45 PM	2	1	1	1	5	1	0	0	1	2
TOTAL		5	19	22	20	66	4	17	15	16	52

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

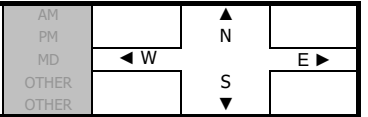
LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Mills
Foothill

PROJECT #:
LOCATION #:
CONTROL:

SC3943
5
SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mills			Mills			Foothill			Foothill			
LANES:	NL 0.5	NT 0.5	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL

MD	11:00 AM	3	0	4	17	0	38	30	148	2	4	163	25	434
	11:15 AM	4	0	4	30	1	47	32	178	1	6	162	29	494
	11:30 AM	3	0	1	17	1	32	21	159	3	3	159	23	422
	11:45 AM	1	0	1	34	0	55	37	198	2	3	182	24	537
	12:00 PM	6	2	5	21	0	33	40	180	8	5	167	20	487
	12:15 PM	2	3	6	28	0	43	42	186	7	4	169	34	524
	12:30 PM	0	2	3	26	2	36	34	206	1	3	171	27	511
	12:45 PM	1	0	6	28	1	46	41	207	1	1	164	29	525
	1:00 PM	2	1	5	23	2	34	41	221	8	8	185	28	558
	1:15 PM	1	1	7	18	0	35	33	199	0	3	183	26	506
	1:30 PM	1	3	3	27	1	24	43	193	0	9	161	19	484
	1:45 PM	4	1	3	33	3	38	32	166	3	3	179	19	484
	VOLUMES	28	13	48	302	11	461	426	2,241	36	52	2,045	303	5,966
	APPROACH %	31%	15%	54%	39%	1%	60%	16%	83%	1%	2%	85%	13%	
	APP/DEPART	89	/	741	774	/	75	2,703	/	2,615	2,400	/	2,535	0
PM	BEGIN PEAK HR	12:15 PM												
	VOLUMES	5	6	20	105	5	159	158	820	17	16	689	118	2,118
	APPROACH %	16%	19%	65%	39%	2%	59%	16%	82%	2%	2%	84%	14%	
	PEAK HR FACTOR	0.705			0.897			0.921			0.931			0.949
	APP/DEPART	31	/	282	269	/	32	995	/	951	823	/	853	0
	02:00 PM	3	0	2	13	0	31	41	184	3	4	174	28	483
	2:15 PM	2	1	2	26	0	33	28	174	4	4	217	29	520
	2:30 PM	4	0	9	25	0	41	37	200	3	6	166	21	512
	2:45 PM	0	2	2	18	1	35	32	199	1	2	157	28	477
	3:00 PM	1	0	2	21	0	38	36	200	2	3	146	30	479
	3:15 PM	1	3	4	24	0	36	48	168	4	5	139	34	466
	3:30 PM	1	1	8	28	1	28	30	173	2	5	166	18	461
	3:45 PM	4	0	1	19	2	44	27	192	1	2	153	30	475
	4:00 PM	2	2	5	15	1	38	42	198	4	3	157	28	495
	4:15 PM	3	0	2	25	2	36	32	195	2	4	142	25	468
	4:30 PM	1	1	4	30	1	39	21	201	3	1	144	18	464
	4:45 PM	4	1	2	15	3	25	27	175	1	4	175	21	453
	VOLUMES	26	11	43	259	11	424	401	2,259	30	43	1,936	310	5,753
	APPROACH %	33%	14%	54%	37%	2%	61%	15%	84%	1%	2%	85%	14%	
	APP/DEPART	80	/	722	694	/	68	2,690	/	2,577	2,289	/	2,386	0
	BEGIN PEAK HR	2:00 PM												
	VOLUMES	9	3	15	82	1	140	138	757	11	16	714	106	1,992
	APPROACH %	33%	11%	56%	37%	0%	63%	15%	84%	1%	2%	85%	13%	
	PEAK HR FACTOR	0.519			0.845			0.944			0.836			0.958
	APP/DEPART	27	/	247	223	/	20	906	/	862	836	/	863	0

Mills

NORTH SIDE

Foothill

WEST SIDE

EAST SIDE

Foothill

SOUTH SIDE

Mills

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
	1:30 PM	
	1:45 PM	
	TOTAL	
	2:00 PM	
	2:15 PM	
PM	2:30 PM	
	2:45 PM	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	6	3	2	11
0	0	9	2	11
2	3	2	2	9
0	4	1	4	9
4	1	6	7	18
5	0	3	1	9
4	2	2	3	11
1	3	6	6	16
0	1	1	2	4
1	3	2	1	7
1	4	3	1	9
1	2	5	2	10
19	29	43	33	124
4	0	4	4	12
0	1	1	1	3
2	1	2	0	5
0	2	6	0	8
2	2	2	4	10
1	0	5	0	6
1	4	3	5	13
1	6	5	3	15
6	1	5	2	14
0	3	5	0	8
1	1	4	2	8
1	2	5	3	11
19	23	47	24	113

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	3	1	2	6
0	0	6	0	6
1	0	0	1	2
0	4	1	1	6
3	0	2	5	10
0	0	1	1	2
3	1	0	1	5
1	0	4	2	7
0	0	1	0	1
1	2	2	0	5
0	4	3	1	8
0	2	4	1	7
9	16	25	15	65
4	0	4	4	12
0	1	0	0	1
0	0	0	0	0
0	0	3	0	3
2	2	2	3	9
1	0	3	0	4
1	4	3	4	12
1	4	3	2	10
4	1	4	2	11
0	3	4	0	7
0	1	4	0	5
0	1	4	0	5
13	17	34	15	79

Claremont SC3943

ALL HOURS

PEAK HOUR

MD 12:15 PM

PM 2:00 PM

Mills

1,468	885	22	561	TOTAL	1,463
694	424	11	259	PM	722
774	461	11	302	MD	741

Foothill

4,921	2,386	2,535	TOTAL	827	4,500	66	5,393
PM	401	426	PM	2,690	30	2,703	
MD	426	2,241	MD	2,703	36	2,739	

Mills

75	68	143	MD	28	13	48	89
PM	26	11	PM	26	11	43	80
TOTAL	54	24	TOTAL	54	24	91	169

Foothill

4,689	613	3,981	95	TOTAL	5,192
2,289	310	1,936	43	PM	2,577
2,400	303	2,045	52	MD	2,615

Mills

492	299	6	187	TOTAL	529
223	140	1	82	PM	247
269	159	5	105	MD	282

Foothill

1,716	863	853	TOTAL	296	1,577	28	1,901
PM	138	757	PM	138	757	11	906
MD	158	820	MD	158	820	17	995

Mills

32	20	52	MD	5	6	20	31
PM	9	3	PM	9	3	15	27
Total	14	9	Total	14	9	35	58

Foothill

1,659	224	1,403	32	TOTAL	1,813
836	106	714	16	PM	862
823	118	689	16	MD	951

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 4, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Claremont Foothill	PROJECT #: LOCATION #: CONTROL:	SC3668 1 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			Foothill			Foothill			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	2	2	0	1	2	0	1	2	1	1	2	1	

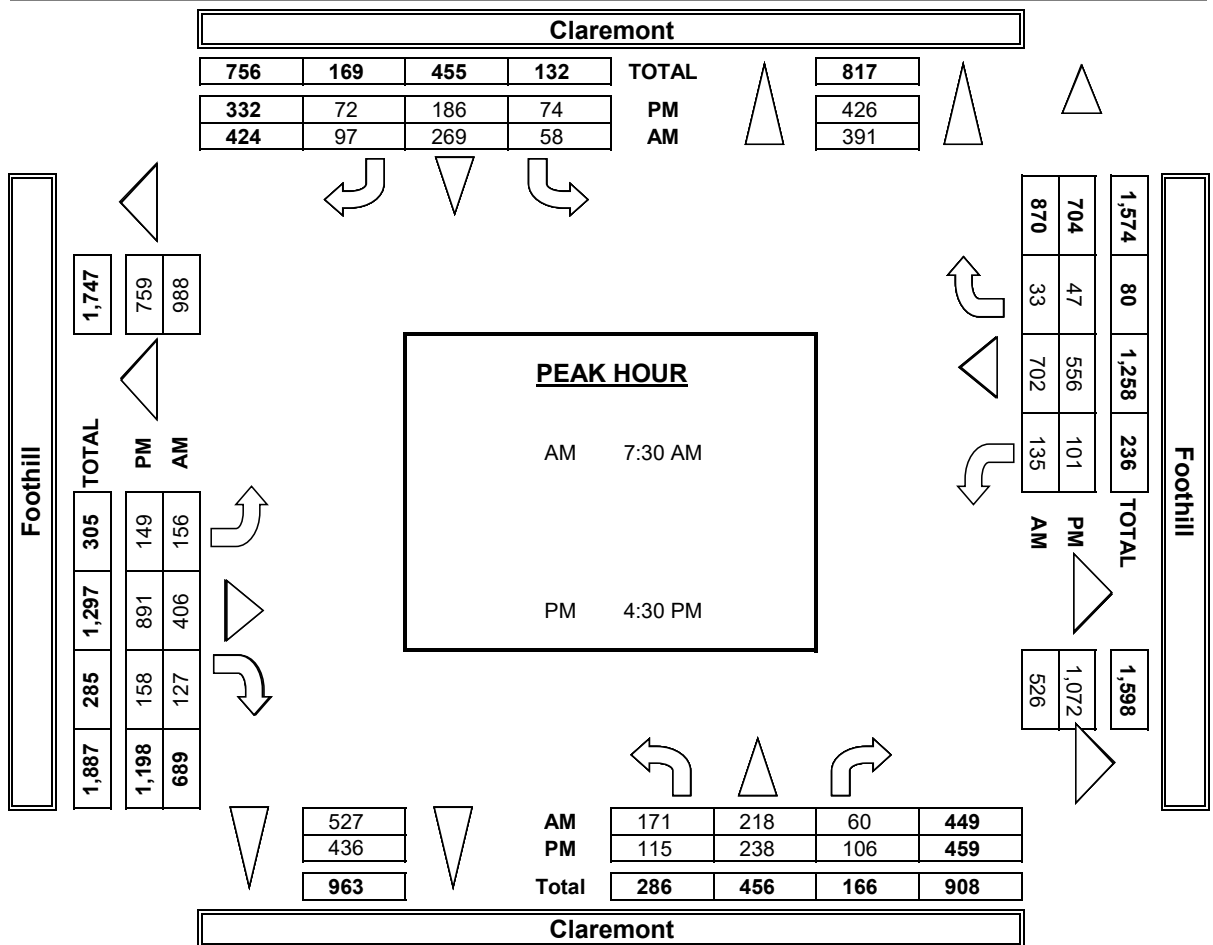
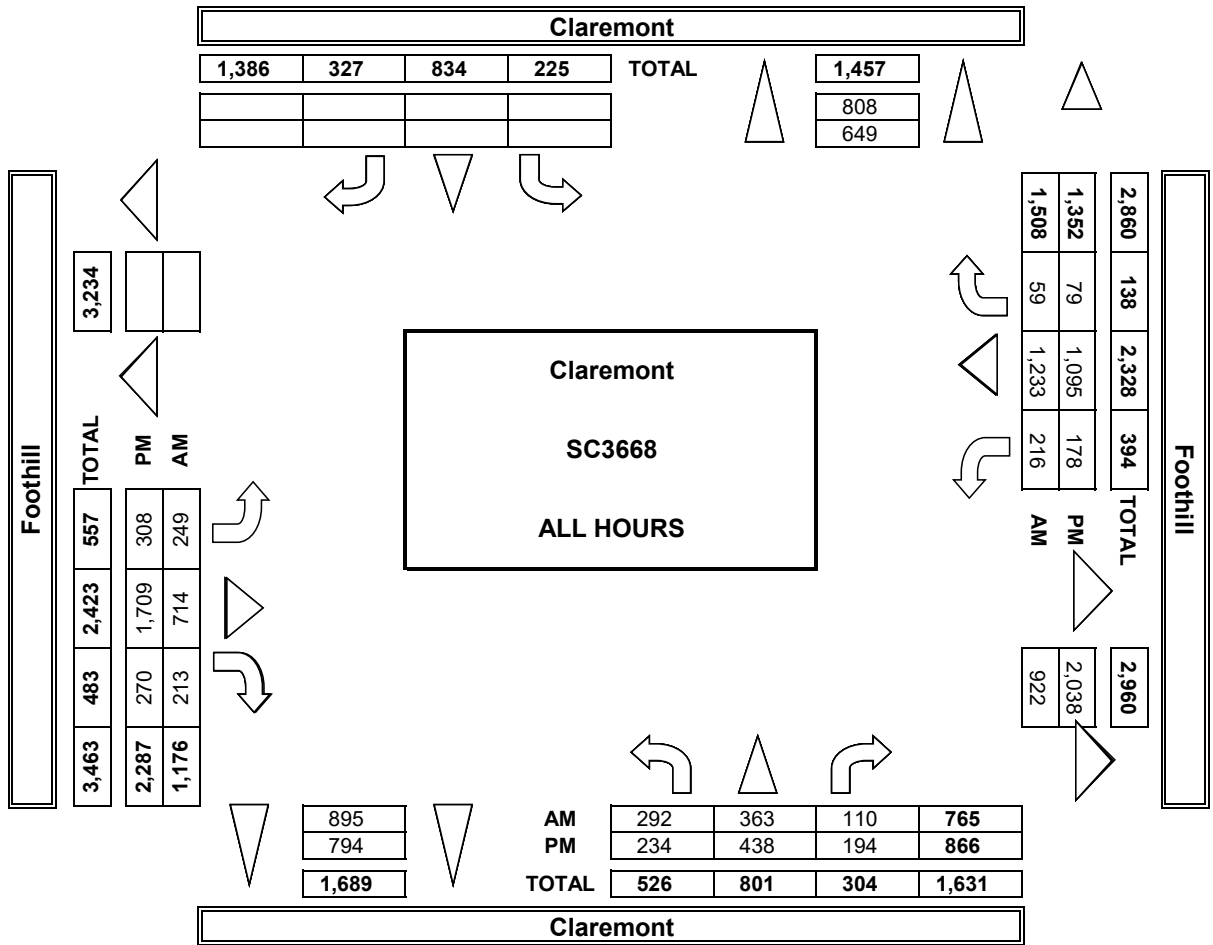
AM	7:00 AM	36	30	2	11	56	11	12	48	17	18	109	2	352
	7:15 AM	30	26	14	7	40	16	24	70	29	26	161	8	451
	7:30 AM	40	50	17	17	62	26	14	74	20	31	188	7	546
	7:45 AM	45	64	17	12	66	36	47	98	30	41	196	9	661
	8:00 AM	50	54	15	16	88	16	47	108	43	33	172	10	652
	8:15 AM	36	50	11	13	53	19	48	126	34	30	146	7	573
	8:30 AM	20	49	18	14	56	15	32	106	19	15	137	6	487
	8:45 AM	35	40	16	3	53	27	25	84	21	22	124	10	460
	VOLUMES	292	363	110	93	474	166	249	714	213	216	1,233	59	4,182
	APPROACH %	38%	47%	14%	13%	65%	23%	21%	61%	18%	14%	82%	4%	
APP/DEPART	765	/	649	733	/	895	1,176	/	922	1,508	/	1,716	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	171	218	60	58	269	97	156	406	127	135	702	33	2,432	
APPROACH %	38%	49%	13%	14%	63%	23%	23%	59%	18%	16%	81%	4%		
PEAK HR FACTOR	0.891			0.883			0.828			0.884			0.920	
APP/DEPART	449	/	391	424	/	527	689	/	526	870	/	988	0	
PM	4:00 PM	32	48	22	20	34	24	49	206	31	20	134	5	625
	4:15 PM	36	58	24	16	47	16	40	209	25	28	133	9	641
	4:30 PM	22	61	33	16	54	19	28	206	37	34	129	14	653
	4:45 PM	27	57	25	23	43	18	32	207	35	21	132	9	629
	5:00 PM	39	66	31	17	42	14	46	244	48	12	160	11	730
	5:15 PM	27	54	17	18	47	21	43	234	38	34	135	13	681
	5:30 PM	22	52	23	14	41	31	32	215	22	11	136	6	605
	5:45 PM	29	42	19	8	52	18	38	188	34	18	136	12	594
	VOLUMES	234	438	194	132	360	161	308	1,709	270	178	1,095	79	5,158
	APPROACH %	27%	51%	22%	20%	55%	25%	13%	75%	12%	13%	81%	6%	
APP/DEPART	866	/	808	653	/	794	2,287	/	2,038	1,352	/	1,518	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	115	238	106	74	186	72	149	891	158	101	556	47	2,693	
APPROACH %	25%	52%	23%	22%	56%	22%	12%	74%	13%	14%	79%	7%		
PEAK HR FACTOR	0.844			0.933			0.886			0.962			0.922	
APP/DEPART	459	/	426	332	/	436	1,198	/	1,072	704	/	759	0	

	Claremont	
	NORTH SIDE	
Foothill	WEST SIDE	EAST SIDE
		Foothill
	SOUTH SIDE	
	Claremont	

		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	2	2
	7:15 AM	0	0	0	0	0
	7:30 AM	3	1	0	0	4
	7:45 AM	1	2	1	0	4
	8:00 AM	1	1	2	0	4
	8:15 AM	0	1	0	0	1
	8:30 AM	1	0	0	0	1
	8:45 AM	1	0	3	0	4
TOTAL		7	5	6	2	20
PM	4:00 PM	0	1	0	0	1
	4:15 PM	0	1	2	3	6
	4:30 PM	1	0	0	1	2
	4:45 PM	2	3	2	7	14
	5:00 PM	0	2	0	1	3
	5:15 PM	0	3	1	5	9
	5:30 PM	0	0	0	3	3
	5:45 PM	1	3	1	3	8
TOTAL		4	13	6	23	46

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	2	2
0	0	0	0	0
0	1	0	0	1
0	2	0	0	2
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	4	0	2	6
0	0	0	0	0
0	1	1	2	4
0	0	0	0	0
1	1	1	7	10
0	2	0	0	2
0	0	0	4	4
0	0	0	3	3
1	3	1	2	7
2	7	3	18	30

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

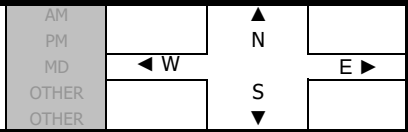
DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Claremont
Foothill

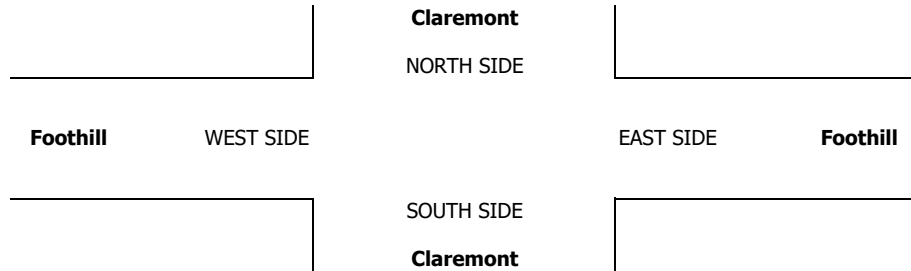
PROJECT #: SC3668
LOCATION #: 1
CONTROL: SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			Foothill			Foothill			
LANES:	NL 2	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL

MD	11:00 AM	31	47	18	15	54	20	28	149	27	18	132	10	549
	11:15 AM	20	44	22	15	40	26	32	157	33	21	152	9	571
	11:30 AM	20	57	23	19	39	20	32	148	21	25	124	8	536
	11:45 AM	26	37	19	12	38	11	35	154	25	26	166	8	557
	12:00 PM	39	51	15	16	43	27	42	170	37	16	145	14	615
	12:15 PM	25	52	20	20	48	14	31	140	25	23	130	10	538
	12:30 PM	26	34	12	14	36	19	20	148	30	19	156	12	526
	12:45 PM	26	38	12	14	48	20	33	156	23	19	161	14	564
	1:00 PM	29	47	26	8	44	17	39	144	30	25	160	10	579
	1:15 PM	18	53	28	13	43	25	25	134	24	20	147	14	544
VOLUMES		260	460	195	146	433	199	317	1,500	275	212	1,473	109	5,579
APPROACH %		28%	50%	21%	19%	56%	26%	15%	72%	13%	12%	82%	6%	
APP/DEPART		915	/	855	778	/	889	2,092	/	1,866	1,794	/	1,969	0
BEGIN PEAK HR		11:15 AM												
VOLUMES		105	189	79	62	160	84	141	629	116	88	587	39	2,279
APPROACH %		28%	51%	21%	20%	52%	27%	16%	71%	13%	12%	82%	5%	
PEAK HR FACTOR		0.888			0.890			0.890			0.893			0.926
APP/DEPART		373	/	355	306	/	353	886	/	778	714	/	793	0
PM	03:00 PM	30	38	17	12	39	19	21	148	31	18	130	12	515
	3:15 PM	21	39	17	11	37	17	40	153	23	18	153	5	534
	3:30 PM	19	55	17	12	39	10	24	152	20	25	134	16	523
	3:45 PM	20	44	21	11	41	26	27	166	25	25	146	18	570
	4:00 PM	21	30	22	18	38	17	29	171	31	27	140	8	552
	4:15 PM	28	39	19	13	37	18	24	134	30	19	138	8	507
	4:30 PM	18	36	15	8	33	13	26	135	21	16	132	8	461
	4:45 PM	30	31	22	8	29	13	23	127	39	15	128	12	477
	VOLUMES	187	312	150	93	295	133	214	1,186	220	163	1,101	87	4,141
	APPROACH %	29%	48%	23%	18%	57%	26%	13%	73%	14%	12%	81%	6%	
APP/DEPART		649	/	601	521	/	663	1,620	/	1,433	1,351	/	1,444	0
BEGIN PEAK HR		3:15 PM												
VOLUMES		81	168	77	52	155	70	120	642	99	95	573	47	2,179
APPROACH %		25%	52%	24%	19%	56%	25%	14%	75%	11%	13%	80%	7%	
PEAK HR FACTOR		0.896			0.888			0.932			0.946			0.956
APP/DEPART		326	/	335	277	/	341	861	/	772	715	/	731	0

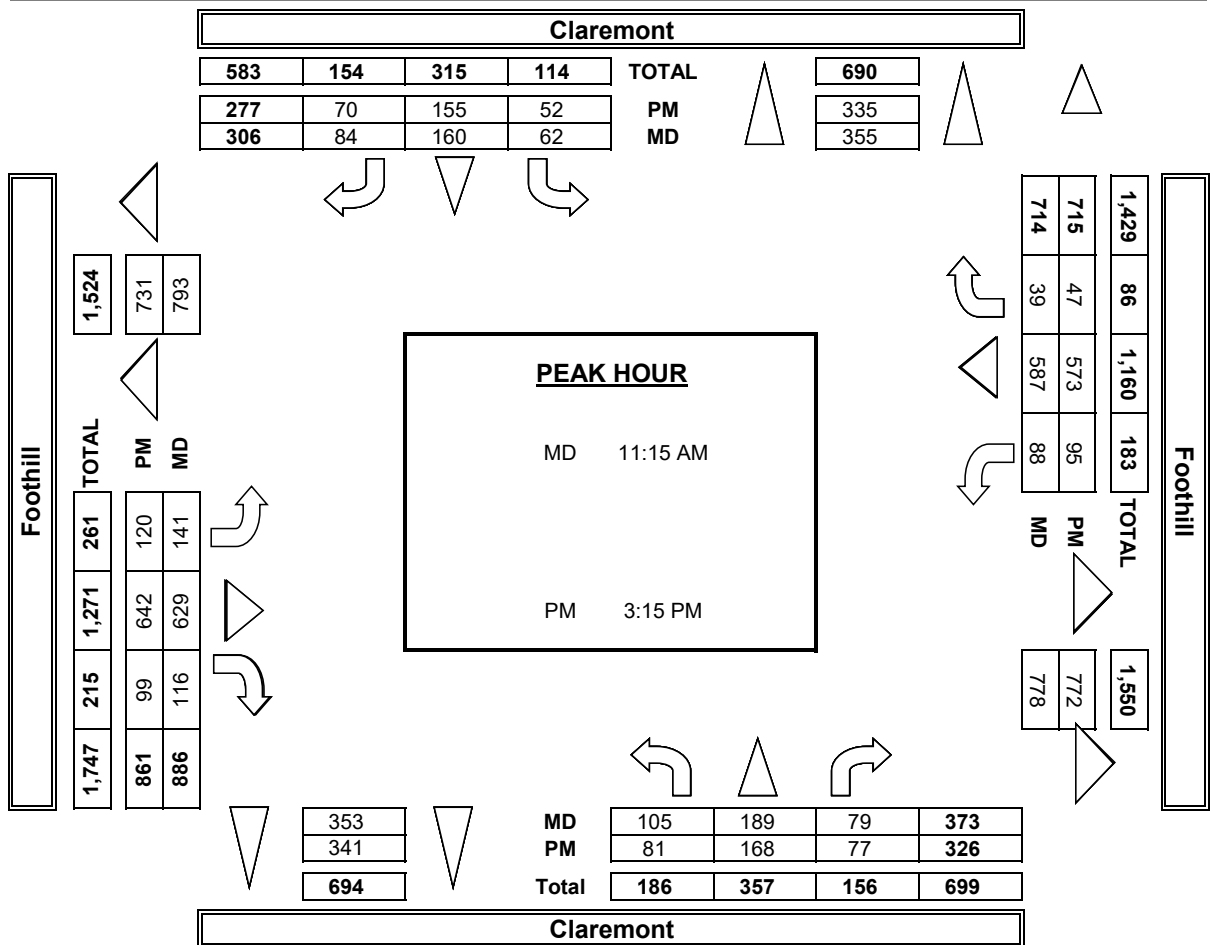
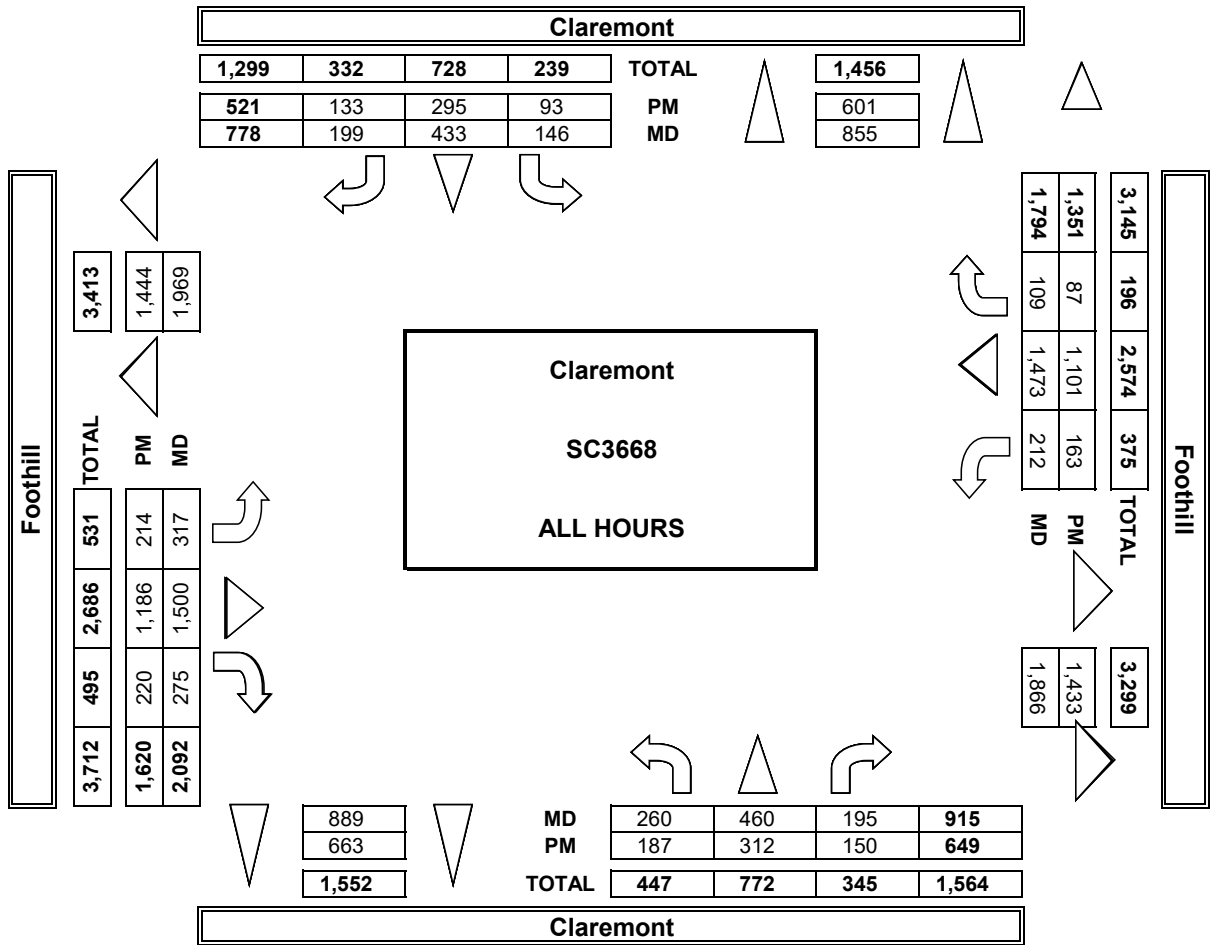


MD	11:00 AM	31	47	18	15	54	20	28	149	27	18	132	10	549
	11:15 AM	20	44	22	15	40	26	32	157	33	21	152	9	571
	11:30 AM	20	57	23	19	39	20	32	148	21	25	124	8	536
	11:45 AM	26	37	19	12	38	11	35	154	25	26	166	8	557
	12:00 PM	39	51	15	16	43	27	42	170	37	16	145	14	615
	12:15 PM	25	52	20	20	48	14	31	140	25	23	130	10	538
	12:30 PM	26	34	12	14	36	19	20	148	30	19	156	12	526
	12:45 PM	26	38	12	14	48	20	33	156	23	19	161	14	564
	1:00 PM	29	47	26	8	44	17	39	144	30	25	160	10	579
	1:15 PM	18	53	28	13	43	25	25	134	24	20	147	14	544
PM	03:00 PM	30	38	17	12	39	19	21	148	31	18	130	12	515
	3:15 PM	21	39	17	11	37	17	40	153	23	18	153	5	534
	3:30 PM	19	55	17	12	39	10	24	152	20	25	134	16	523
	3:45 PM	20	44	21	11	41	26	27	166	25	25	146	18	570
	4:00 PM	21	30	22	18	38	17	29	171	31	27	140	8	552
	4:15 PM	28	39	19	13	37	18	24	134	30	19	138	8	507
	4:30 PM	18	36	15	8	33	13	26	135	21	16	132	8	461
	4:45 PM	30	31	22	8	29	13	23	127	39	15	128	12	477
	VOLUMES	187	312	150	93	295	133	214	1,186	220	163	1,101	87	4,141
	APPROACH %	29%	48%	23%	18%	57%	26%	13%	73%	14%	12%	81%	6%	
APP/DEPART		649	/	601	521	/	663	1,620	/	1,433	1,351	/	1,444	0
BEGIN PEAK HR		3:15 PM												
VOLUMES		81	168	77	52	155	70	120	642	99	95	573	47	2,179
APPROACH %		25%	52%	24%	19%	56%	25%	14%	75%	11%	13%	80%	7%	
PEAK HR FACTOR		0.896			0.888			0.932			0.946			0.956
APP/DEPART		326	/	335	277	/	341	861	/	772	715	/	731	0

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	0	0	3
0	2	0	1	3
0	3	0	0	3
1	1	0	1	3
1	0	0	0	1
0	0	0	0	0
2	0	0	0	2
0	3	0	2	5
3	2	4	1	10
0	1	0	0	1
10	12	4	5	31
0	1	0	2	3
0	0	0	3	3
0	0	0	2	2
0	1	1	1	3
1	1	0	2	4
4	0	0	7	11
0	1	0	0	1
0	0	0	1	1
5	4	1	18	28

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	1	3
0	2	0	1	3
0	0	0	0	0
1	5	0	3	9
0	0	0	0	0
0	0	0	2	2
0	0	0	2	2
0	1	1	1	3
0	0	0	2	2
1	0	0	7	8
0	1	0	0	1
0	0	0	1	1
1	2	1	15	19

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 4, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Upland Monte Vista Foothill	PROJECT #: LOCATION #: CONTROL:	SC3668 9 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

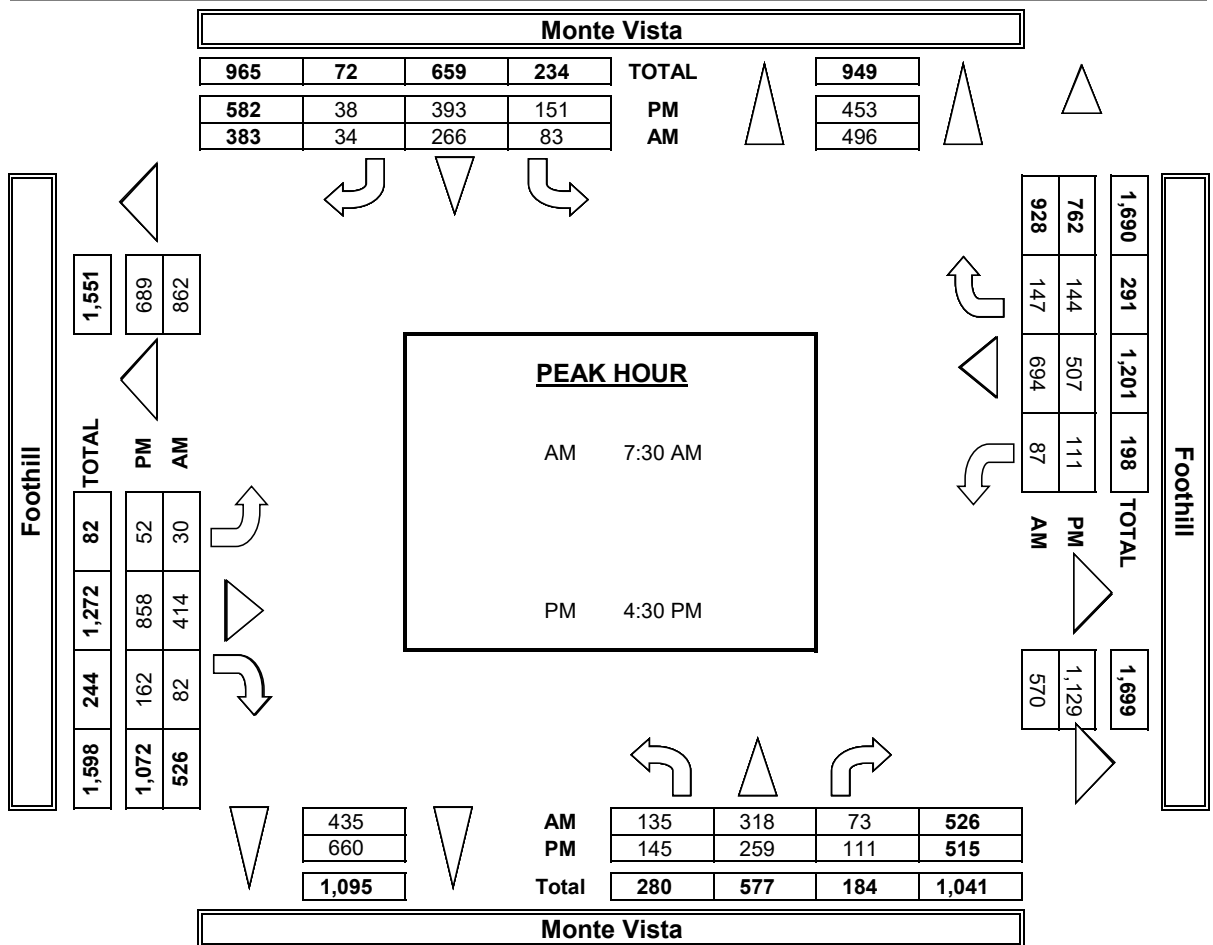
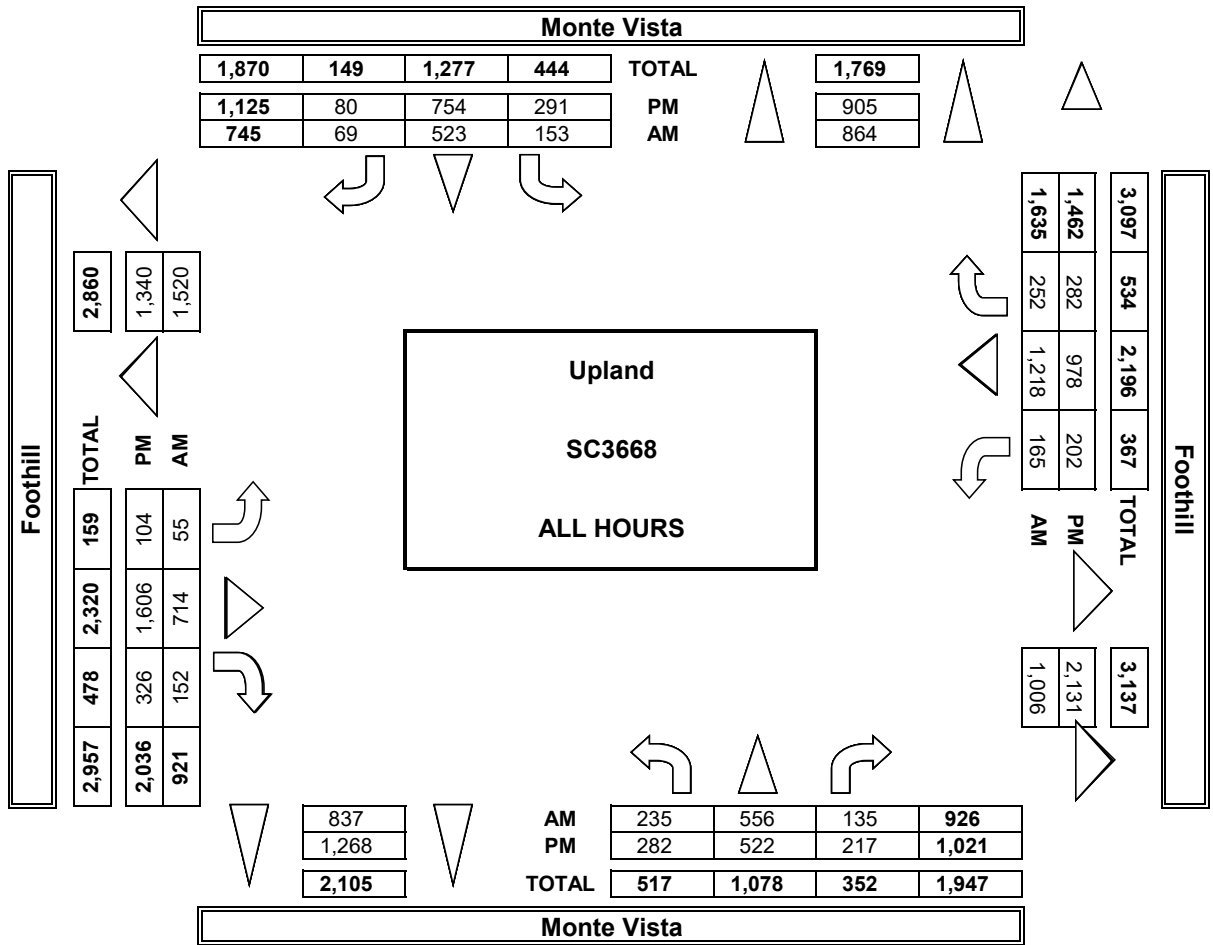
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Monte Vista			Monte Vista			Foothill			Foothill			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	2	2	1	2	3	0	1	2	1	2	2	1	

AM	7:00 AM	29	45	8	15	60	3	3	52	12	13	98	28	366
	7:15 AM	27	47	10	12	70	7	4	65	21	21	169	23	476
	7:30 AM	34	96	17	15	75	8	5	83	18	20	173	32	576
	7:45 AM	42	95	20	20	59	10	7	105	15	24	211	43	651
	8:00 AM	36	71	21	25	83	4	7	106	22	24	163	33	595
	8:15 AM	23	56	15	23	49	12	11	120	27	19	147	39	541
	8:30 AM	20	71	25	20	63	12	12	104	22	23	125	26	523
	8:45 AM	24	75	19	23	64	13	6	79	15	21	132	28	499
	VOLUMES	235	556	135	153	523	69	55	714	152	165	1,218	252	4,227
	APPROACH %	25%	60%	15%	21%	70%	9%	6%	78%	17%	10%	74%	15%	
PM	APP/DEPART	926	/	864	745	/	837	921	/	1,006	1,635	/	1,520	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	135	318	73	83	266	34	30	414	82	87	694	147	2,363
	APPROACH %	26%	60%	14%	22%	69%	9%	6%	79%	16%	9%	75%	16%	
	PEAK HR FACTOR	0.838			0.855			0.832			0.835			0.907
	APP/DEPART	526	/	496	383	/	435	526	/	570	928	/	862	0
	4:00 PM	45	76	36	31	75	13	19	193	40	21	121	32	702
	4:15 PM	26	61	24	36	84	14	12	197	37	26	124	32	673
	4:30 PM	28	74	31	30	94	17	14	202	38	26	126	42	722
	4:45 PM	31	71	30	36	95	7	17	194	39	26	122	26	694
	5:00 PM	49	57	33	52	106	9	10	249	36	41	131	39	812
	5:15 PM	37	57	17	33	98	5	11	213	49	18	128	37	703
	5:30 PM	27	78	17	36	96	8	12	192	42	18	114	33	673
	5:45 PM	39	48	29	37	106	7	9	166	45	26	112	41	665
	VOLUMES	282	522	217	291	754	80	104	1,606	326	202	978	282	5,644
	APPROACH %	28%	51%	21%	26%	67%	7%	5%	79%	16%	14%	67%	19%	
	APP/DEPART	1,021	/	905	1,125	/	1,268	2,036	/	2,131	1,462	/	1,340	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	145	259	111	151	393	38	52	858	162	111	507	144	2,931
	APPROACH %	28%	50%	22%	26%	68%	7%	5%	80%	15%	15%	67%	19%	
	PEAK HR FACTOR	0.926			0.871			0.908			0.903			0.902
	APP/DEPART	515	/	453	582	/	660	1,072	/	1,129	762	/	689	0

	Monte Vista	
	NORTH SIDE	
Foothill	WEST SIDE	EAST SIDE
		Foothill
	SOUTH SIDE	
	Monte Vista	

ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	1	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0
	7:30 AM	2	0	0	0	2	0	0	0	0	0
	7:45 AM	1	0	0	0	1	0	0	0	0	0
	8:00 AM	1	0	0	0	1	0	0	0	0	0
	8:15 AM	0	2	0	1	3	0	2	0	1	3
	8:30 AM	1	1	0	1	3	0	0	0	0	0
	8:45 AM	1	0	0	0	1	0	0	0	0	0
PM	TOTAL	6	4	0	2	12	0	2	0	1	3
	4:00 PM	0	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	3	0	0	4	0	2	0	0	2
	5:00 PM	0	1	0	0	1	0	1	0	0	1
	5:15 PM	2	1	0	0	3	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0
	5:45 PM	2	2	1	0	5	1	1	1	0	3
	TOTAL	6	7	1	0	14	1	4	1	0	6

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Upland
Monte Vista
Foothill

PROJECT #:
LOCATION #:
CONTROL:

SC3668
9
SIGNAL

NOTES:										AM PM MD OTHER OTHER	◀ W S ▶ E	▲ N ▼	
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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Monte Vista			Monte Vista			Foothill			Foothill			
LANES:	NL 2	NT 2	NR 1	SL 2	ST 3	SR 0	EL 1	ET 2	ER 1	WL 2	WT 2	WR 1	TOTAL

MD	11:00 AM	29	50	25	23	72	16	5	141	44	18	118	24	565
	11:15 AM	35	65	19	33	75	16	16	139	32	22	115	24	591
	11:30 AM	24	59	13	25	71	8	7	161	30	16	130	33	577
	11:45 AM	41	76	23	34	77	11	8	149	30	27	130	37	643
	12:00 PM	33	66	27	18	55	12	5	169	38	25	139	31	618
	12:15 PM	29	59	10	27	86	10	9	146	27	32	116	27	578
	12:30 PM	38	52	15	41	70	14	11	128	43	24	149	39	624
	12:45 PM	29	56	18	16	77	8	10	138	31	14	156	39	592
	1:00 PM	36	55	19	35	63	8	11	134	26	22	139	37	585
	1:15 PM	35	67	24	28	75	12	10	133	33	25	119	34	595
VOLUMES		329	605	193	280	721	115	92	1,438	334	225	1,311	325	5,968
APPROACH %		29%	54%	17%	25%	65%	10%	5%	77%	18%	12%	70%	17%	
APP/DEPART		1,127	/	1,012	1,116	/	1,275	1,864	/	1,920	1,861	/	1,761	0
BEGIN PEAK HR		11:45 AM												
VOLUMES		141	253	75	120	288	47	33	592	138	108	534	134	2,463
APPROACH %		30%	54%	16%	26%	63%	10%	4%	78%	18%	14%	69%	17%	
PEAK HR FACTOR		0.838			0.910			0.900			0.915			0.958
APP/DEPART		469	/	415	455	/	532	763	/	792	776	/	724	0
PM	03:00 PM	23	56	22	30	67	7	8	126	29	25	123	28	544
	3:15 PM	22	62	15	19	64	4	11	163	26	31	151	22	590
	3:30 PM	33	38	18	22	70	8	9	116	23	17	139	31	524
	3:45 PM	30	54	19	18	73	6	12	169	24	29	148	28	610
	4:00 PM	29	48	24	23	53	15	12	173	34	13	126	31	581
	4:15 PM	25	56	17	18	71	12	6	125	33	15	106	23	507
	4:30 PM	26	53	16	21	66	17	6	137	27	12	108	11	500
	4:45 PM	29	72	17	15	42	6	8	136	19	26	117	27	514
	VOLUMES	217	439	148	166	506	75	72	1,145	215	170	1,018	207	4,378
	APPROACH %	27%	55%	18%	22%	68%	10%	5%	80%	15%	12%	73%	15%	
APP/DEPART		804	/	710	747	/	881	1,432	/	1,473	1,395	/	1,314	0
BEGIN PEAK HR		3:15 PM												
VOLUMES		114	202	76	82	260	33	44	621	107	90	564	112	2,305
APPROACH %		29%	52%	19%	22%	69%	9%	6%	80%	14%	12%	74%	15%	
PEAK HR FACTOR		0.951			0.938			0.881			0.934			0.945
APP/DEPART		392	/	352	375	/	455	772	/	785	766	/	713	0

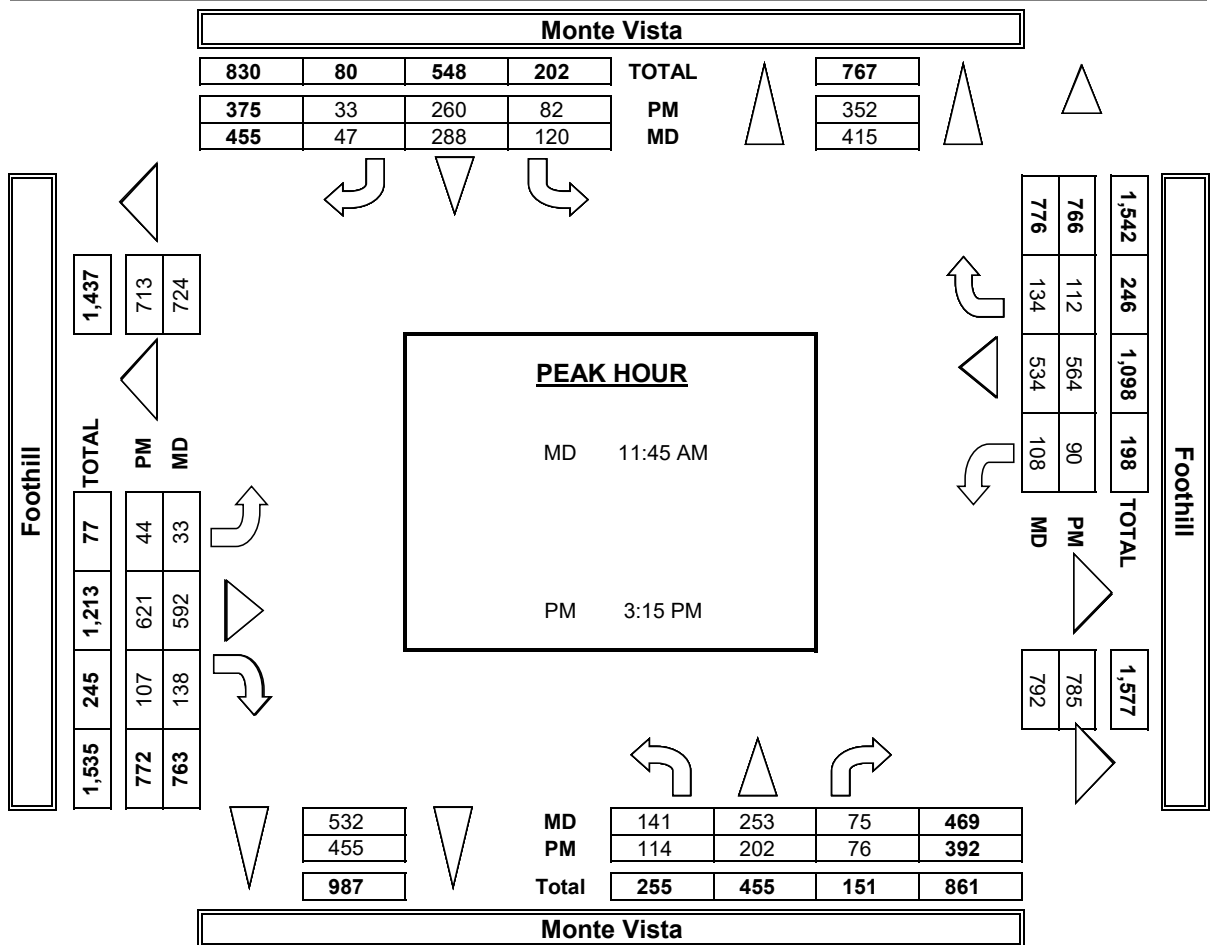
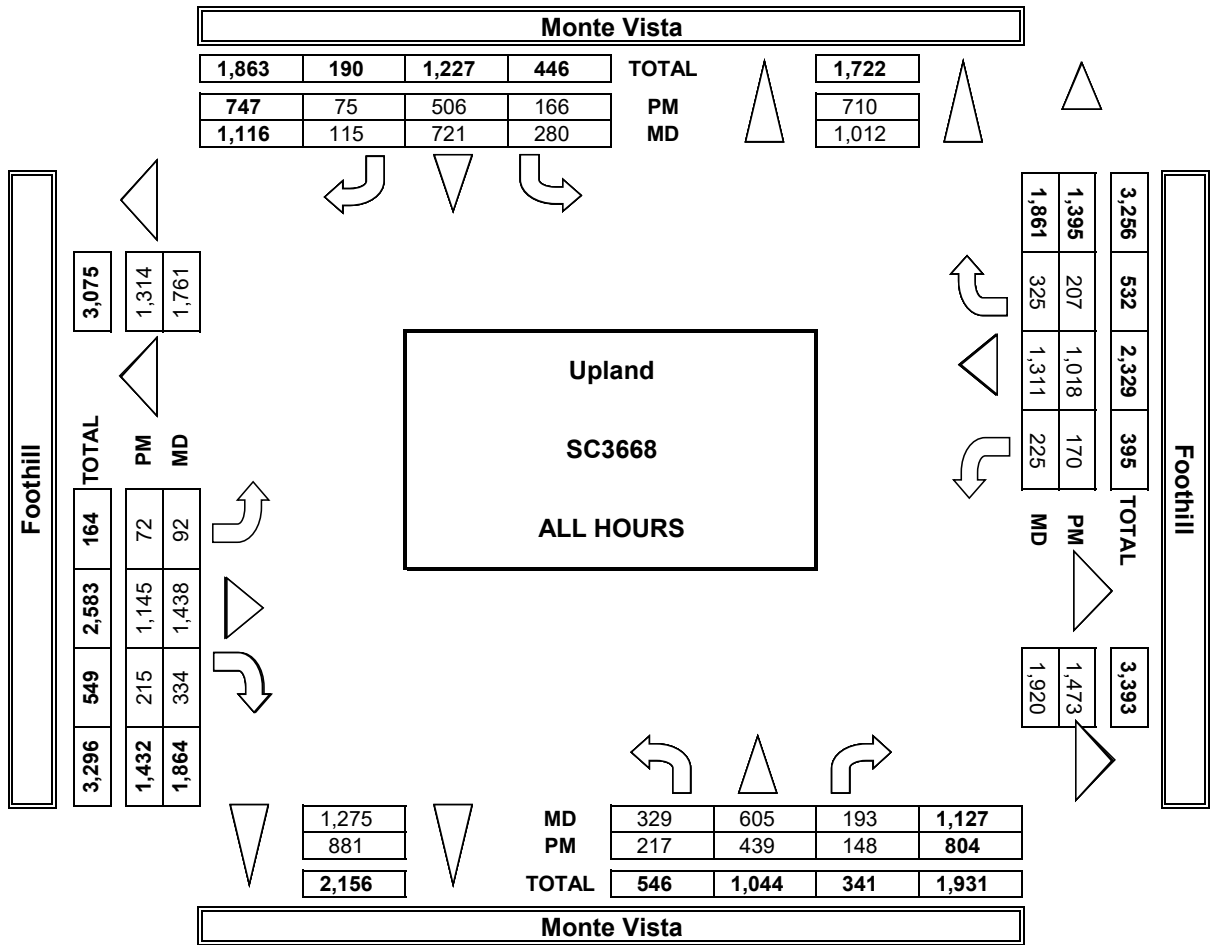


MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
PM	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
2	1	0	1	4
0	0	0	0	0
2	1	0	0	3
1	0	1	1	3
1	0	1	1	3
0	1	0	0	1
0	2	0	0	2
0	2	0	0	2
3	7	0	0	10
0	0	0	0	0
9	14	2	3	28
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
3	2	0	0	5
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
5	3	0	1	9

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	4	0	0	4
0	0	0	0	0
0	6	0	1	7
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
2	1	0	0	3

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

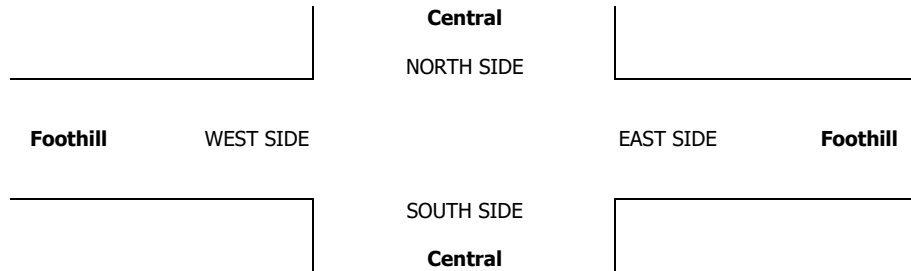
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Central Foothill	PROJECT #: LOCATION #: CONTROL:	SC3943 21 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
OTHER		▼		

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Central			Central			Foothill			Foothill			
LANES:	NL 1,3	NT 0,3	NR 1,3	SL 0	ST 1	SR 0	EL 1	ET 2	ER 1	WL 2	WT 2	WR 0	TOTAL

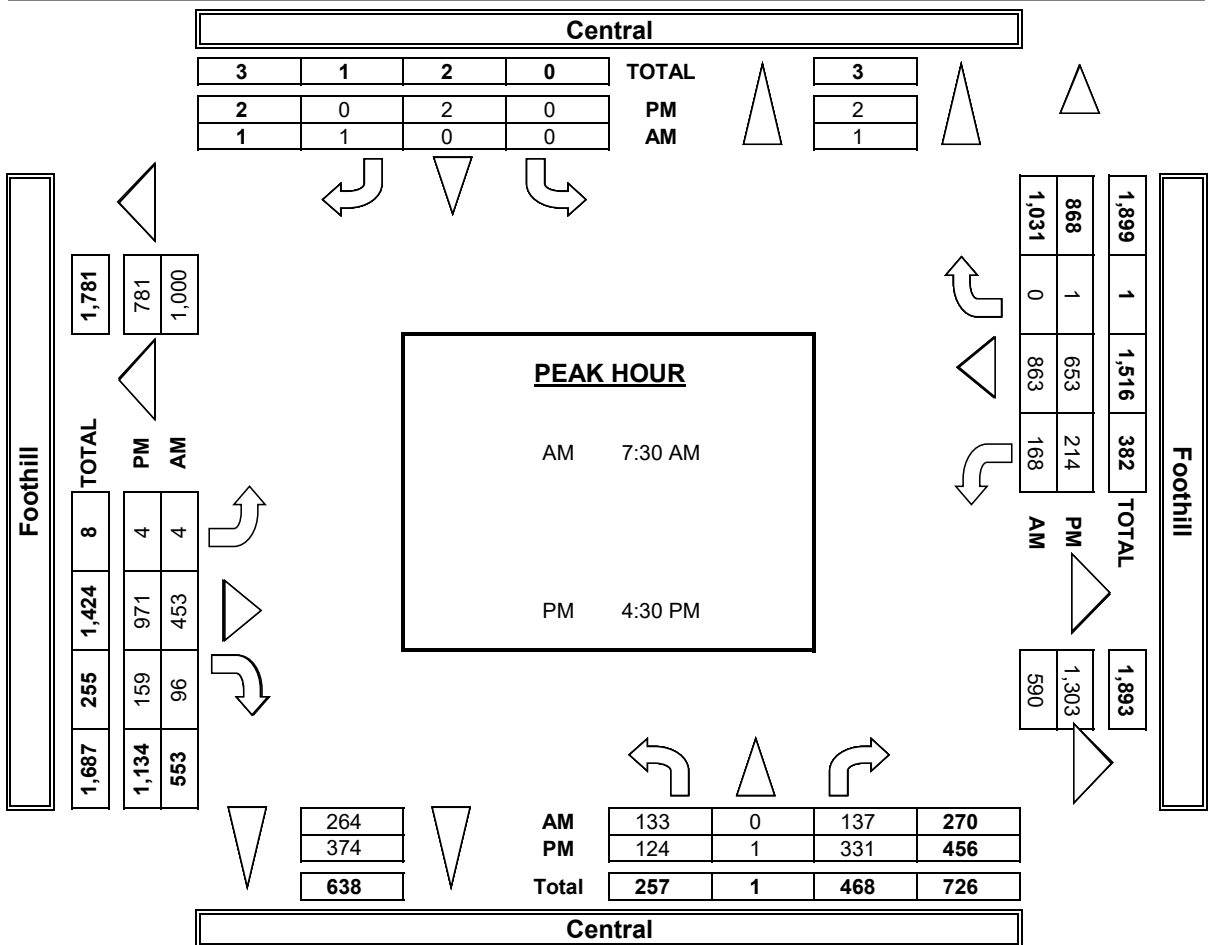
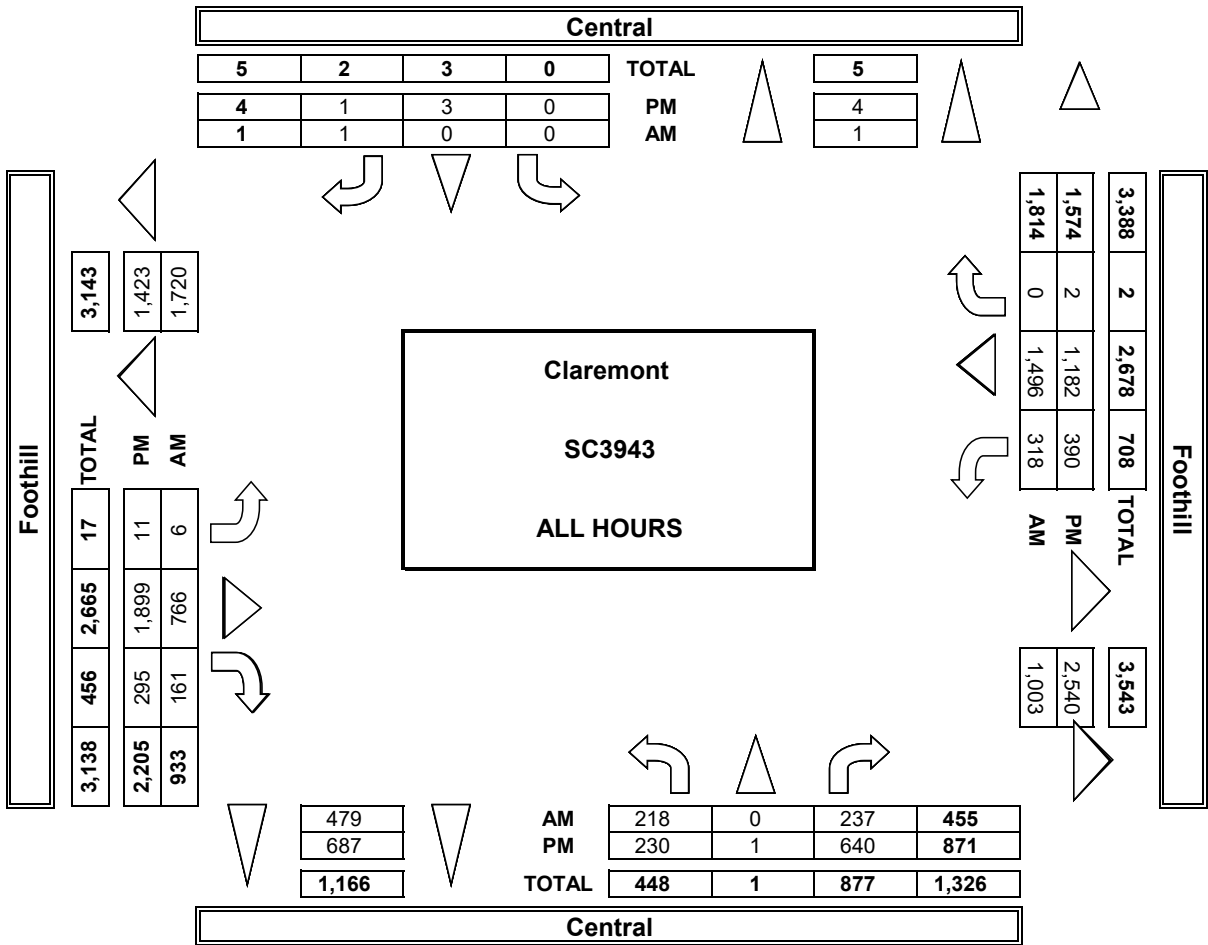
AM	7:00 AM	23	0	18	0	0	0	0	40	10	40	154	0	285
	7:15 AM	20	0	15	0	0	0	1	64	16	31	170	0	317
	7:30 AM	37	0	37	0	0	0	1	87	17	43	217	0	439
	7:45 AM	29	0	39	0	0	1	2	127	32	39	275	0	544
	8:00 AM	36	0	29	0	0	0	0	113	23	48	196	0	445
	8:15 AM	31	0	32	0	0	0	1	126	24	38	175	0	427
	8:30 AM	18	0	32	0	0	0	0	106	20	42	148	0	366
	8:45 AM	24	0	35	0	0	0	1	103	19	37	161	0	380
	VOLUMES	218	0	237	0	0	1	6	766	161	318	1,496	0	3,203
	APPROACH %	48%	0%	52%	0%	0%	100%	1%	82%	17%	18%	82%	0%	
APP/DEPART	455	/	1	1	/	479	933	/	1,003	1,814	/	1,720	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	133	0	137	0	0	1	4	453	96	168	863	0	1,855	
APPROACH %	49%	0%	51%	0%	0%	100%	1%	82%	17%	16%	84%	0%		
PEAK HR FACTOR		0.912			0.250			0.859			0.821		0.852	
APP/DEPART	270	/	1	1	/	264	553	/	590	1,031	/	1,000	0	
PM	4:00 PM	28	0	87	0	0	0	0	243	31	48	104	0	541
	4:15 PM	19	0	64	0	0	1	3	259	35	42	127	1	551
	4:30 PM	29	0	59	0	0	0	1	247	36	44	146	0	562
	4:45 PM	30	0	81	0	0	0	2	245	35	57	173	0	623
	5:00 PM	36	0	102	0	0	0	0	249	42	49	156	0	634
	5:15 PM	29	1	89	0	2	0	1	230	46	64	178	1	641
	5:30 PM	36	0	93	0	1	0	2	211	28	43	147	0	561
	5:45 PM	23	0	65	0	0	0	2	215	42	43	151	0	541
	VOLUMES	230	1	640	0	3	1	11	1,899	295	390	1,182	2	4,654
	APPROACH %	26%	0%	73%	0%	75%	25%	0%	86%	13%	25%	75%	0%	
APP/DEPART	871	/	4	4	/	687	2,205	/	2,540	1,574	/	1,423	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	124	1	331	0	2	0	4	971	159	214	653	1	2,460	
APPROACH %	27%	0%	73%	0%	100%	0%	0%	86%	14%	25%	75%	0%		
PEAK HR FACTOR		0.826			0.250			0.974			0.893		0.959	
APP/DEPART	456	/	2	2	/	374	1,134	/	1,303	868	/	781	0	



		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	1	1
	7:15 AM	0	0	0	0	0
	7:30 AM	1	0	0	0	1
	7:45 AM	0	0	0	0	0
	8:00 AM	0	1	0	0	1
	8:15 AM	0	0	0	0	0
	8:30 AM	0	2	0	0	2
	8:45 AM	0	0	0	0	0
TOTAL		1	3	0	1	5
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	1	0	0	1
	5:00 PM	1	0	0	0	1
	5:15 PM	0	1	0	0	1
	5:30 PM	0	2	0	0	2
	5:45 PM	0	0	0	0	0
TOTAL		1	4	0	0	5

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	3	0	1	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Central
Foothill

PROJECT #:
LOCATION #:
CONTROL:

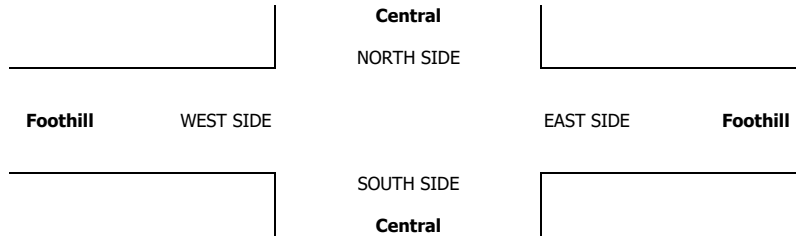
SC3943
21
SIGNAL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Central			Central			Foothill			Foothill			
LANES:	NL 1.3	NT 0.3	NR 1.3	SL 0	ST 1	SR 0	EL 1	ET 2	ER 1	WL 2	WT 2	WR 0	TOTAL

MD	11:00 AM	23	0	66	1	0	0	2	142	34	47	152	0	467
	11:15 AM	38	0	63	0	0	0	1	162	42	65	150	0	521
	11:30 AM	22	0	47	0	0	0	5	176	40	47	158	0	495
	11:45 AM	50	0	61	0	0	0	7	163	44	61	170	0	556
	12:00 PM	43	0	71	0	0	0	3	173	34	65	133	0	522
	12:15 PM	26	0	61	0	0	0	1	169	33	56	153	0	499
	12:30 PM	49	0	67	0	0	0	5	190	39	61	179	0	590
	12:45 PM	32	0	82	0	1	0	0	172	42	63	155	1	548
	1:00 PM	35	0	63	1	0	0	5	181	34	63	163	0	545
	1:15 PM	37	0	75	0	0	0	4	173	37	68	170	0	564
PM	1:30 PM	39	0	75	0	0	0	2	191	37	65	171	0	580
	1:45 PM	30	0	82	0	0	0	3	182	35	57	187	0	576
	VOLUMES	424	0	813	2	1	0	38	2,074	451	718	1,941	1	6,463
	APPROACH %	34%	0%	66%	67%	33%	0%	1%	81%	18%	27%	73%	0%	
	APP/DEPART	1,237	/	1	3	/	1,167	2,563	/	2,892	2,660	/	2,403	0
	BEGIN PEAK HR	1:00 PM												
	VOLUMES	141	0	295	1	0	0	14	727	143	253	691	0	2,265
	APPROACH %	32%	0%	68%	100%	0%	0%	2%	82%	16%	27%	73%	0%	
	PEAK HR FACTOR	0.956												
	APP/DEPART	436	/	0	1	/	395	884	/	1,024	944	/	846	0
PM	2:00 PM	34	0	67	0	0	0	2	170	38	66	169	0	546
	2:15 PM	38	0	80	0	0	2	6	166	37	51	186	0	566
	2:30 PM	31	0	77	0	0	0	1	191	43	68	165	0	576
	2:45 PM	35	0	59	0	0	0	4	196	35	58	134	0	521
	3:00 PM	22	0	76	0	0	1	6	163	31	52	139	0	490
	3:15 PM	31	0	66	0	0	0	5	172	28	42	129	0	473
	3:30 PM	32	0	66	0	0	0	5	176	28	49	131	0	487
	3:45 PM	27	0	99	0	1	0	1	166	24	66	149	2	535
	4:00 PM	32	0	61	0	0	0	6	184	20	54	125	0	482
	4:15 PM	27	0	77	0	0	0	3	208	31	51	132	0	529
PM	4:30 PM	19	0	66	1	0	2	6	201	27	35	130	0	487
	4:45 PM	22	0	68	0	0	0	5	186	30	48	136	0	495
	VOLUMES	350	0	862	1	1	5	50	2,179	372	640	1,725	2	6,187
	APPROACH %	29%	0%	71%	14%	14%	71%	2%	84%	14%	27%	73%	0%	
	APP/DEPART	1,212	/	2	7	/	1,007	2,601	/	3,049	2,367	/	2,129	0
	BEGIN PEAK HR	2:00 PM												
	VOLUMES	138	0	283	0	0	2	13	723	153	243	654	0	2,209
	APPROACH %	33%	0%	67%	0%	0%	100%	1%	81%	17%	27%	73%	0%	
	PEAK HR FACTOR	0.892												
	APP/DEPART	421	/	0	2	/	394	889	/	1,008	897	/	807	0

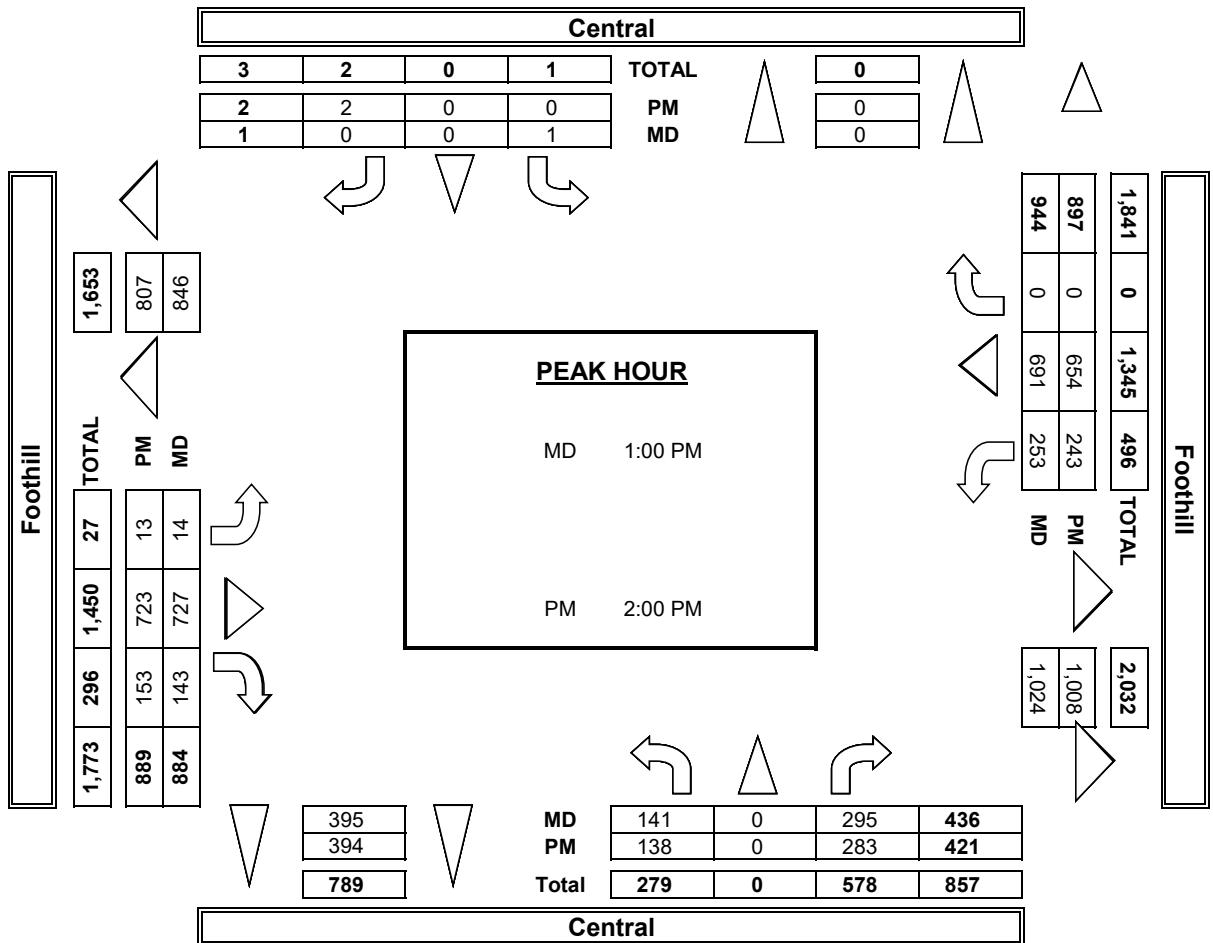
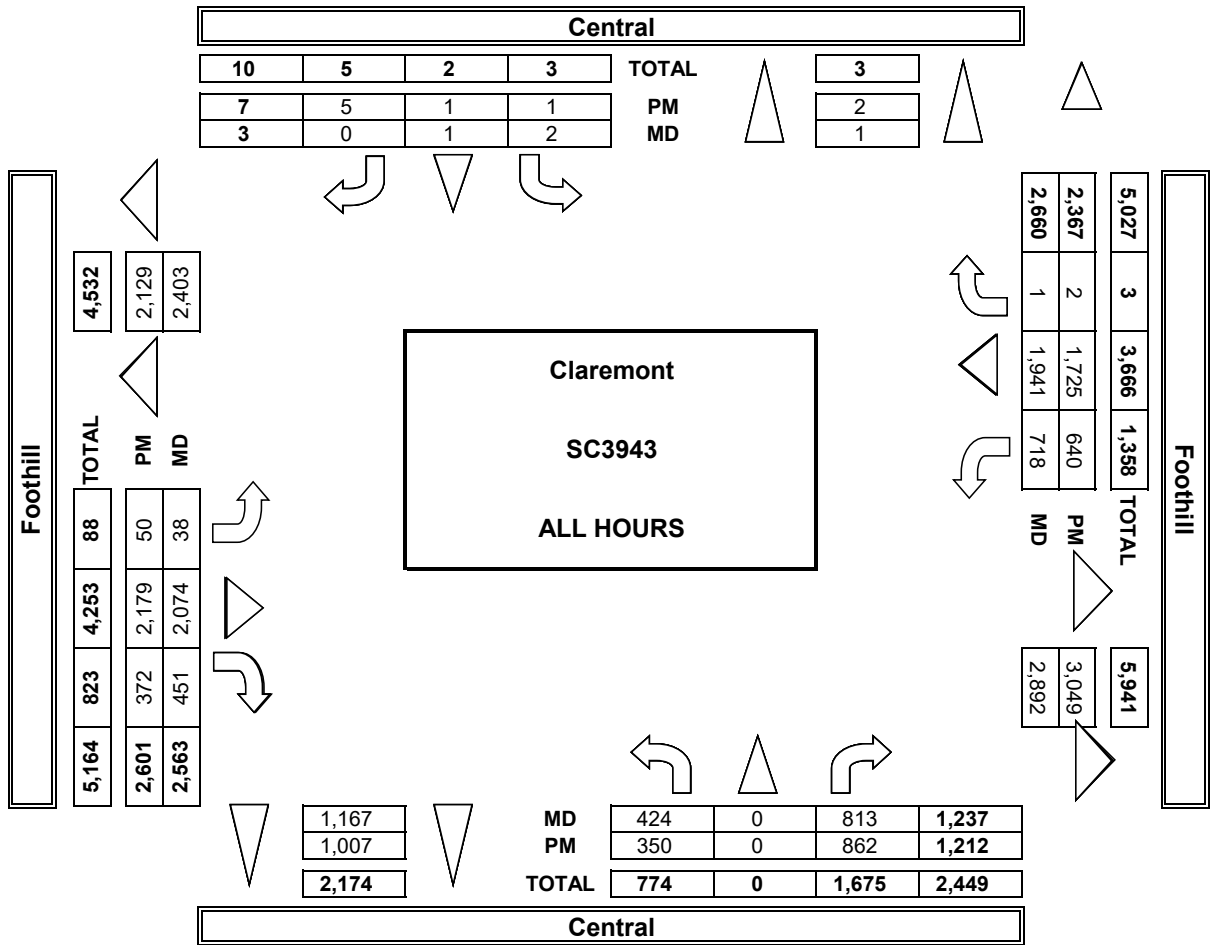


MD	11:00 AM	0	2	0	0	2
	11:15 AM	0	0	0	0	0
	11:30 AM	0	0	0	0	0
	11:45 AM	0	2	0	0	2
	12:00 PM	0	3	0	1	4
	12:15 PM	2	1	0	1	4
	12:30 PM	1	2	0	1	4
	12:45 PM	2	2	0	2	6
	1:00 PM	1	1	0	1	3
	1:15 PM	1	1	0	0	2
PM	1:30 PM	2	1	1	1	5
	1:45 PM	1	0	0	0	1
	TOTAL	10	15	1	7	33
	2:00 PM	1	3	0	0	4
	2:15 PM	2	0	0	2	4
	2:30 PM	0	1	0	0	1
	2:45 PM	0	0	0	0	0
	3:00 PM	0	0	0	0	0
	3:15 PM	1	0	0	0	1
	3:30 PM	1	0	0	0	1
	3:45 PM	0	0	0	0	0
	4:00 PM	0	3	0	0	3
	4:15 PM	0	0	0	0	0
	4:30 PM	2	0	0	0	2
	4:45 PM	0	0	0	0	0
	TOTAL	7	7	0	2	16

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	3	0	1	4
2	1	0	1	4
1	2	0	1	4
2	2	0	2	6
1	1	0	1	3
1	1	0	0	2
2	1	1	1	5
1	0	0	0	1
10	15	1	7	33
1	3	0	0	4
2	0	0	2	4
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
0	3	0	0	3
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
7	7	0	2	16

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	1	0	0	1
1	1	0	1	3
1	1	0	2	4
1	0	0	1	2
0	0	0	0	0
1	0	0	1	2
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	4	0	2	6

AimTD LLC
TURNING MOVEMENT COUNTS



**6th St & Indian Hill Blvd
Claremont California
Thursday, January 25, 2024**

Time	Southbound Indian Hill Blvd						Westbound 6th St						Northbound Indian Hill Blvd						Eastbound 6th St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	3	68	0	3	71	0	2	1	2	2	5	0	3	45	0	0	48	0	1	0	0	1	1	125
7:15 AM	0	2	93	2	0	97	0	4	0	2	0	6	0	0	47	1	0	48	0	0	1	0	0	1	152
7:30 AM	0	2	109	0	1	111	0	2	3	0	0	5	0	1	88	1	0	90	0	0	2	1	1	3	209
7:45 AM	0	2	138	0	0	140	0	1	3	5	2	9	0	0	151	5	0	156	0	0	1	1	0	2	307
Hourly Total	0	9	408	2	4	419	0	9	7	9	4	25	0	4	331	7	0	342	0	1	4	2	2	7	793
8:00 AM	0	4	164	2	0	170	0	0	0	9	0	9	0	1	186	12	0	199	0	0	2	1	7	3	381
8:15 AM	0	9	177	0	0	186	0	1	1	4	1	6	0	2	135	4	0	141	0	0	2	0	1	2	335
8:30 AM	0	6	167	0	0	173	0	4	1	3	0	8	0	0	78	4	0	82	0	0	1	1	1	2	265
8:45 AM	0	3	123	3	0	129	0	4	1	3	0	8	0	0	79	2	1	81	0	0	1	1	0	2	220
Hourly Total	0	22	631	5	0	658	0	9	3	19	1	31	0	3	478	22	1	503	0	0	6	3	9	9	1201
4:00 PM	0	4	107	2	0	113	0	1	1	5	2	7	0	1	145	8	0	154	0	1	0	1	2	2	276
4:15 PM	0	2	143	0	9	145	0	4	1	6	0	11	0	1	150	5	2	156	0	0	0	1	6	1	313
4:30 PM	0	5	90	1	0	96	0	4	4	9	6	17	0	2	132	4	5	138	0	0	3	1	0	4	255
4:45 PM	0	6	117	0	0	123	0	3	1	9	10	13	0	3	134	3	1	140	0	3	3	2	12	8	284
Hourly Total	0	17	457	3	9	477	0	12	7	29	18	48	0	7	561	20	8	588	0	4	6	5	20	15	1128
5:00 PM	0	3	108	0	1	111	0	8	0	13	1	21	0	1	163	4	4	168	0	1	1	1	1	3	303
5:15 PM	0	1	92	0	0	93	0	3	1	5	5	9	0	1	122	5	4	128	0	1	3	0	2	4	234
5:30 PM	0	8	78	0	0	86	0	0	2	7	0	9	0	1	143	5	0	149	0	0	1	2	3	3	247
5:45 PM	0	2	107	1	0	110	0	3	1	2	3	6	0	1	144	2	1	147	0	1	3	2	2	6	269
Hourly Total	0	14	385	1	1	400	0	14	4	27	9	45	0	4	572	16	9	592	0	3	8	5	8	16	1053
4 Hours TOTAL	0	62	1881	11	14	1954	0	44	21	84	32	149	0	18	1942	65	18	2025	0	8	24	15	39	47	4175
Cars	0	62	1868	10	14	1940	0	43	21	83	32	147	0	18	1930	64	18	2012	0	7	24	15	36	46	4145
Heavy Vehicles	0	0	13	1	0	14	0	1	0	1	0	2	0	0	12	1	0	13	0	1	0	0	3	1	30
Heavy Vehicle %	0.00%	0.00%	0.69%	9.09%	0.00%	0.72%	0.00%	2.27%	0.00%	1.19%	0.00%	1.34%	0.00%	0.00%	0.62%	1.54%	0.00%	0.64%	0.00%	12.50%	0.00%	0.00%	7.69%	2.13%	0.72%

**6th St & Indian Hill Blvd
Claremont California
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:45 AM	0	2	138	0	0	140	0	1	3	5	2	9	0	0	151	5	0	156	0	0	1	1	0	2	307
8:00 AM	0	4	164	2	0	170	0	0	0	9	0	9	0	1	186	12	0	199	0	0	2	1	7	3	381
8:15 AM	0	9	177	0	0	186	0	1	1	4	1	6	0	2	135	4	0	141	0	0	2	0	1	2	335
8:30 AM	0	6	167	0	0	173	0	4	1	3	0	8	0	0	78	4	0	82	0	0	1	1	1	2	265
Peak Hour Total	0	21	646	2	0	669	0	6	5	21	3	32	0	3	550	25	0	578	0	0	6	3	9	9	1288
PHF	0.000	0.583	0.912	0.250	0.000	0.899	0.000	0.375	0.417	0.583	0.375	0.889	0.000	0.375	0.739	0.521	0.000	0.726	0.000	0.000	0.750	0.750	0.321	0.750	0.845

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:15 PM	0	2	143	0	9	145	0	4	1	6	0	11	0	1	150	5	2	156	0	0	0	1	6	1	313
4:30 PM	0	5	90	1	0	96	0	4	4	9	6	17	0	2	132	4	5	138	0	0	3	1	0	4	255
4:45 PM	0	6	117	0	0	123	0	3	1	9	10	13	0	3	134	3	1	140	0	3	3	2	12	8	284
5:00 PM	0	3	108	0	1	111	0	8	0	13	1	21	0	1	163	4	4	168	0	1	1	1	1	3	303
Peak Hour Total	0	16	458	1	10	475	0	19	6	37	17	62	0	7	579	16	12	602	0	4	7	5	19	16	1155
PHF	0.000	0.667	0.801	0.250	0.278	0.819	0.000	0.594	0.375	0.712	0.425	0.738	0.000	0.583	0.888	0.800	0.600	0.896	0.000	0.333	0.583	0.625	0.396	0.500	0.923

Total Vehicles On Leg 3988

Vehicles Entering Intersection 1954			Vehicles Exiting Intersection 2034		
Southbound					
Cars	10	1868	62	0	14
Heavy	1	13	0	0	0
Total	11	1881	62	0	14



Total Vehicles on Leg 97	Vehicles Entering Intersection 47	Eastbound	Cars	Heavy	Total
			36	3	39
			0	0	0
	Vehicles Exiting Intersection 50		7	1	8
			24	0	24
			15	0	15



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 149	Total Vehicles on Leg 300
83	1	84			
21	0	21			
43	1	44		Vehicles Exiting Intersection 151	
0	0	0			
32	0	32			



4 Hour Volumes

Cars	18	0	18	1930	64
Heavy	0	0	0	12	1
Total	18	0	18	1942	65
Northbound					
Vehicles Entering Intersection 2025			Vehicles Exiting Intersection 1940		
Total Vehicles On Leg			3965		



**6th St & Indian Hill Blvd
Claremont California
Saturday, January 27, 2024**

Time	Southbound Indian Hill Blvd						Westbound 6th St						Northbound Indian Hill Blvd						Eastbound 6th St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	
11:00 AM	0	6	120	2	0	128	0	4	0	5	5	9	0	2	137	2	2	141	0	0	0	2	1	2	280
11:15 AM	0	2	110	1	0	113	0	2	2	5	4	9	0	0	132	4	3	136	0	0	1	5	3	6	264
11:30 AM	0	4	119	2	2	125	0	6	2	13	0	21	0	1	126	4	0	131	0	0	0	1	1	1	278
11:45 AM	0	4	140	1	0	145	0	4	0	7	5	11	0	0	130	5	2	135	0	0	1	1	4	2	293
Hourly Total	0	16	489	6	2	511	0	16	4	30	14	50	0	3	525	15	7	543	0	0	2	9	9	11	1115
12:00 PM	0	1	133	0	0	134	0	3	0	3	4	6	0	3	138	3	0	144	0	1	1	1	0	3	287
12:15 PM	0	3	118	0	0	121	0	7	1	9	5	17	0	0	125	2	0	127	0	0	1	0	5	1	266
12:30 PM	0	4	129	2	0	135	0	2	1	2	2	5	0	2	125	2	0	129	0	1	1	1	4	3	272
12:45 PM	0	2	122	0	0	124	0	8	3	8	1	19	0	3	153	1	0	157	0	2	0	2	4	4	304
Hourly Total	0	10	502	2	0	514	0	20	5	22	12	47	0	8	541	8	0	557	0	4	3	4	13	11	1129
1:00 PM	0	3	103	0	0	106	0	5	2	13	2	20	0	0	153	4	0	157	0	1	0	1	4	2	285
1:15 PM	0	2	124	0	0	126	0	3	0	12	3	15	0	2	121	5	2	128	0	0	0	0	0	0	269
1:30 PM	0	2	126	0	0	128	0	3	0	9	1	12	0	1	149	5	2	155	0	0	0	0	2	0	295
1:45 PM	0	7	123	0	1	130	0	4	2	6	2	12	0	1	145	7	0	153	0	0	0	1	0	1	296
Hourly Total	0	14	476	0	1	490	0	15	4	40	8	59	0	4	568	21	4	593	0	1	0	2	6	3	1145
2:00 PM	0	6	100	0	0	106	0	7	1	8	0	16	0	0	137	8	0	145	0	0	1	1	3	2	269
2:15 PM	0	2	87	1	0	90	0	2	1	10	2	13	0	0	143	5	0	148	0	0	1	0	3	1	252
2:30 PM	0	3	109	0	1	112	0	12	2	10	4	24	0	0	124	5	2	129	0	0	2	0	1	2	267
2:45 PM	0	2	94	0	0	96	0	2	2	10	1	14	0	0	151	3	0	154	0	0	0	2	3	2	266
Hourly Total	0	13	390	1	1	404	0	23	6	38	7	67	0	0	555	21	2	576	0	0	4	3	10	7	1054
4 Hours TOTAL	0	53	1857	9	4	1919	0	74	19	130	41	223	0	15	2189	65	13	2269	0	5	9	18	38	32	4443
Cars	0	53	1852	9	4	1914	0	74	19	129	39	222	0	15	2179	64	13	2258	0	5	9	18	32	32	4426
Heavy Vehicles	0	0	5	0	0	5	0	0	0	1	2	1	0	0	10	1	0	11	0	0	0	0	6	0	17
Heavy Vehicle %	0.00%	0.00%	0.27%	0.00%	0.00%	0.26%	0.00%	0.00%	0.00%	0.77%	4.88%	0.45%	0.00%	0.00%	0.46%	1.54%	0.00%	0.48%	0.00%	0.00%	0.00%	0.00%	15.79%	0.00%	0.38%

**6th St & Indian Hill Blvd
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	
11:00 AM	0	6	120	2	0	128	0	4	0	5	5	9	0	2	137	2	2	141	0	0	0	2	1	2	280
11:15 AM	0	2	110	1	0	113	0	2	2	5	4	9	0	0	132	4	3	136	0	0	1	5	3	6	264
11:30 AM	0	4	119	2	2	125	0	6	2	13	0	21	0	1	126	4	0	131	0	0	0	1	1	1	278
11:45 AM	0	4	140	1	0	145	0	4	0	7	5	11	0	0	130	5	2	135	0	0	1	1	4	2	293
Peak Hour Total	0	16	489	6	2	511	0	16	4	30	14	50	0	3	525	15	7	543	0	0	2	9	9	11	1115
PHF	0.000	0.667	0.873	0.750	0.250	0.881	0.000	0.667	0.500	0.577	0.700	0.595	0.000	0.375	0.958	0.750	0.583	0.963	0.000	0.000	0.500	0.450	0.563	0.458	0.951

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	
12:45 PM	0	2	122	0	0	124	0	8	3	8	1	19	0	3	153	1	0	157	0	2	0	2	4	4	304
1:00 PM	0	3	103	0	0	106	0	5	2	13	2	20	0	0	153	4	0	157	0	1	0	1	4	2	285
1:15 PM	0	2	124	0	0	126	0	3	0	12	3	15	0	2	121	5	2	128	0	0	0	0	0	0	269
1:30 PM	0	2	126	0	0	128	0	3	0	9	1	12	0	1	149	5	2	155	0	0	0	0	2	0	295
Peak Hour Total	0	9	475	0	0	484	0	19	5	42	7	66	0	6	576	15	4	597	0	3	0	3	10	6	1153
PHF	0.000	0.750	0.942	0.000	0.000	0.945	0.000	0.594	0.417	0.808	0.583	0.825	0.000	0.500	0.941	0.750	0.500	0.951	0.000	0.375	0.000	0.375	0.625	0.375	0.948

Total Vehicles On Leg

4243

Vehicles Entering Intersection 1919			Vehicles Exiting Intersection 2324		
Southbound					
Cars	9	1852	53	0	4
Heavy	0	5	0	0	0
Total	9	1857	53	0	4



Total Vehicles on Leg 75	Vehicles Entering Intersection 32	Eastbound	Cars	Heavy	Total
			32	6	38
			0	0	0
	Vehicles Exiting Intersection 43		5	0	5
			9	0	9
			18	0	18



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 223	Total Vehicles on Leg 350
129	1	130			
19	0	19			
74	0	74		Vehicles Exiting Intersection 127	
0	0	0			
39	2	41			



4 Hour Volumes

Cars	13	0	15	2179	64
Heavy	0	0	0	10	1
Total	13	0	15	2189	65
Northbound					
Vehicles Entering Intersection 2269			Vehicles Exiting Intersection 1949		
Total Vehicles On Leg			4218		



INTERSECTION TURNING MOVEMENT COUNTS

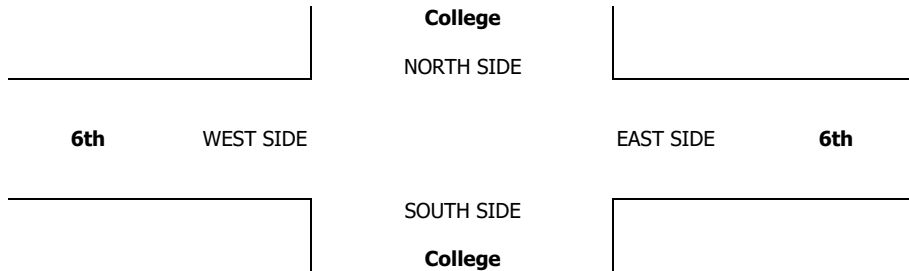
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont College 6th	PROJECT #: LOCATION #: CONTROL:	SC3943 4 STOP ALL
--------------------------	---	-----------------------------	---------------------------------------	-------------------------

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	College			College			6th			6th			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	

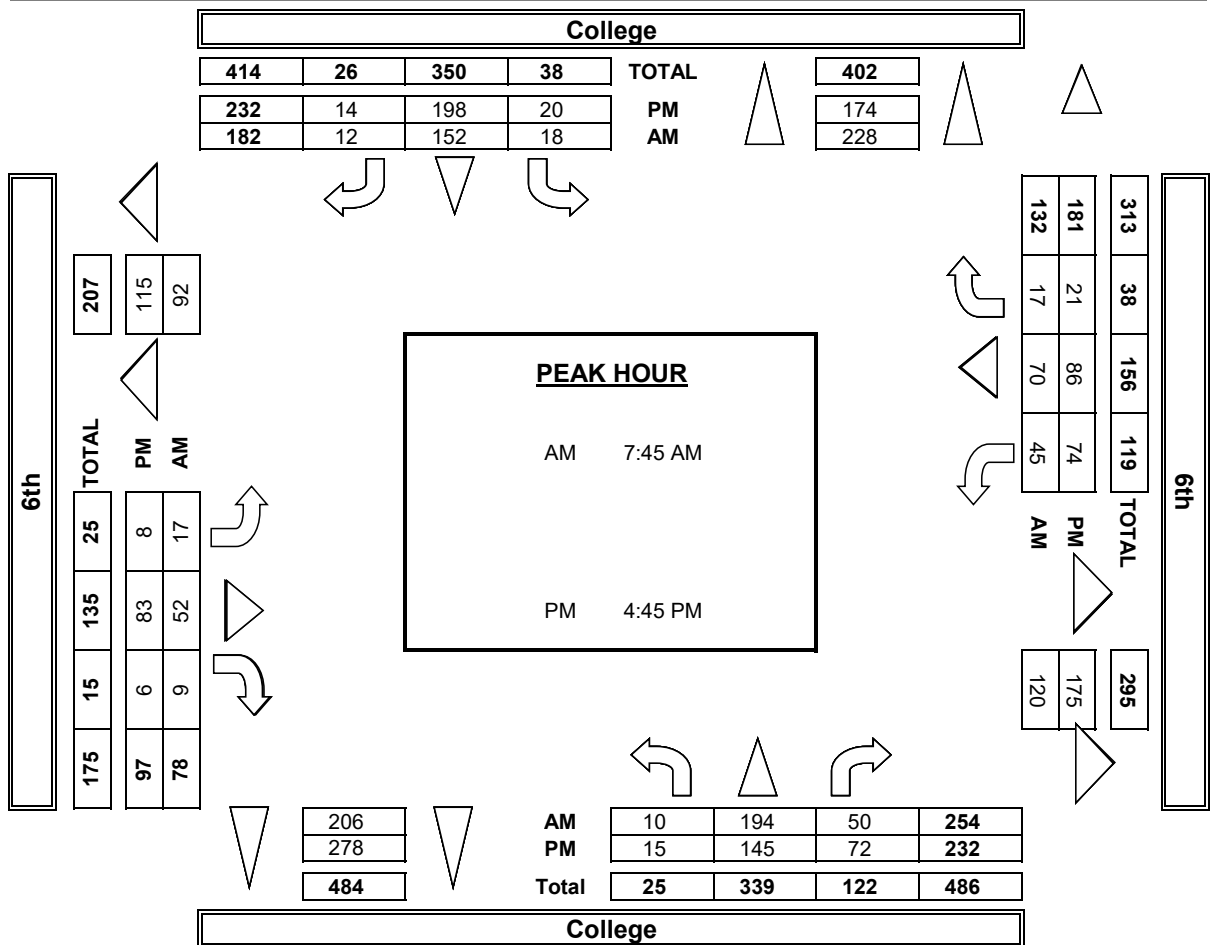
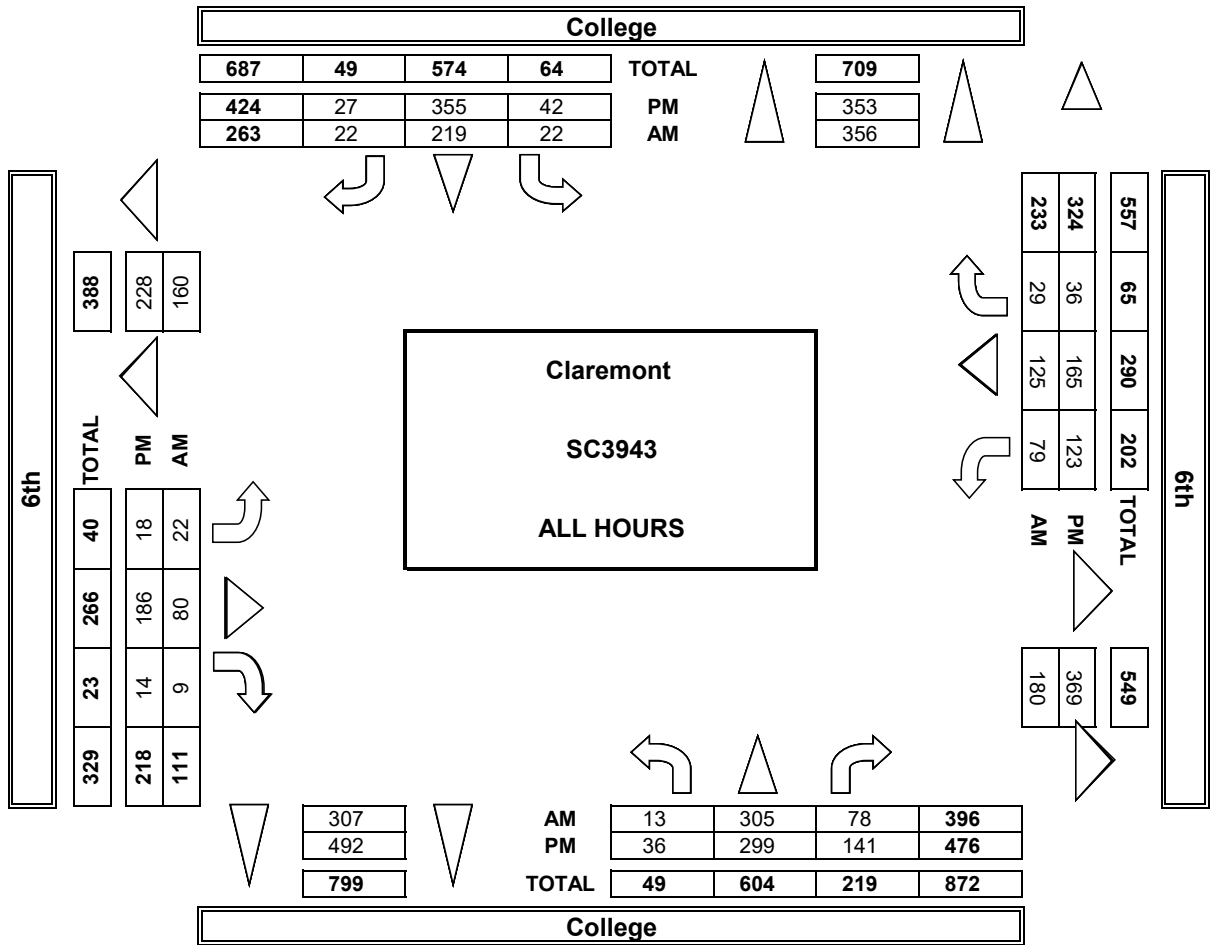
AM	7:00 AM	1	14	5	2	17	1	4	3	0	3	8	4	62
	7:15 AM	0	26	3	1	13	4	0	4	0	9	15	2	77
	7:30 AM	0	21	5	0	20	0	0	11	0	8	20	2	87
	7:45 AM	5	65	10	5	40	1	1	15	0	11	25	7	185
	8:00 AM	2	63	13	5	41	4	5	15	5	15	15	4	187
	8:15 AM	2	32	11	4	45	6	5	11	3	8	13	5	145
	8:30 AM	1	34	16	4	26	1	6	11	1	11	17	1	129
	8:45 AM	2	50	15	1	17	5	1	10	0	14	12	4	131
	VOLUMES	13	305	78	22	219	22	22	80	9	79	125	29	1,003
	APPROACH %	3%	77%	20%	8%	83%	8%	20%	72%	8%	34%	54%	12%	
APP/DEPART	396	/	356	263	/	307	111	/	180	233	/	160	0	
BEGIN PEAK HR	7:45 AM													
VOLUMES	10	194	50	18	152	12	17	52	9	45	70	17	646	
APPROACH %	4%	76%	20%	10%	84%	7%	22%	67%	12%	34%	53%	13%		
PEAK HR FACTOR	0.794			0.827			0.780			0.767			0.864	
APP/DEPART	254	/	228	182	/	206	78	/	120	132	/	92	0	
PM	4:00 PM	2	45	18	6	38	3	3	30	3	10	25	3	186
	4:15 PM	10	31	16	4	43	1	2	25	2	15	17	4	170
	4:30 PM	8	34	19	4	33	5	3	34	3	11	19	4	177
	4:45 PM	5	36	25	9	43	3	0	13	1	19	19	7	180
	5:00 PM	2	37	17	4	54	4	1	31	4	23	23	8	208
	5:15 PM	6	28	13	4	51	6	4	17	1	12	17	3	162
	5:30 PM	2	44	17	3	50	1	3	22	0	20	27	3	192
	5:45 PM	1	44	16	8	43	4	2	14	0	13	18	4	167
	VOLUMES	36	299	141	42	355	27	18	186	14	123	165	36	1,442
	APPROACH %	8%	63%	30%	10%	84%	6%	8%	85%	6%	38%	51%	11%	
APP/DEPART	476	/	353	424	/	492	218	/	369	324	/	228	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	15	145	72	20	198	14	8	83	6	74	86	21	742	
APPROACH %	6%	63%	31%	9%	85%	6%	8%	86%	6%	41%	48%	12%		
PEAK HR FACTOR	0.879			0.935			0.674			0.838			0.892	
APP/DEPART	232	/	174	232	/	278	97	/	175	181	/	115	0	



		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	6	4	0	1	11
	7:15 AM	0	0	3	2	5
	7:30 AM	5	1	1	2	9
	7:45 AM	5	6	6	1	18
	8:00 AM	8	16	11	2	37
	8:15 AM	5	1	3	2	11
	8:30 AM	2	11	8	6	27
	8:45 AM	7	6	6	5	24
TOTAL		38	45	38	21	142
PM	4:00 PM	28	81	25	32	166
	4:15 PM	12	16	8	18	54
	4:30 PM	14	13	8	11	46
	4:45 PM	10	3	10	8	31
	5:00 PM	12	6	14	8	40
	5:15 PM	8	12	9	10	39
	5:30 PM	9	2	6	6	23
	5:45 PM	6	8	10	5	29
TOTAL		99	141	90	98	428

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
6	4	0	1	11
0	0	3	2	5
5	1	1	2	9
5	5	6	1	17
5	14	11	2	32
3	1	2	2	8
2	11	7	6	26
7	6	5	3	21
33	42	35	19	129
26	77	25	29	157
10	15	8	18	51
13	13	8	8	42
10	3	10	7	30
12	6	12	6	36
8	12	7	10	37
9	2	6	6	23
6	8	9	4	27
94	136	85	88	403

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
College
6th

PROJECT #:
LOCATION #:
CONTROL:

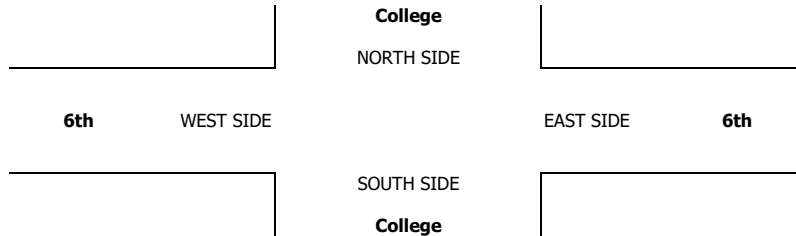
SC3943
4
STOP ALL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	College			College			6th			6th			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	

MD	11:00 AM	2	38	12	4	27	3	4	15	3	7	14	5	134
	11:15 AM	1	24	15	9	34	1	1	12	1	22	24	3	147
	11:30 AM	3	22	8	4	31	3	0	7	1	10	20	0	109
	11:45 AM	1	33	10	3	37	3	0	10	0	18	22	2	139
	12:00 PM	6	40	12	3	34	3	1	14	0	16	21	2	152
	12:15 PM	2	41	13	4	51	3	3	10	0	13	21	3	164
	12:30 PM	2	43	14	5	45	2	3	12	1	18	22	1	168
	12:45 PM	3	37	13	2	48	4	2	15	1	13	15	1	154
	1:00 PM	0	56	16	1	38	0	3	13	1	19	31	5	183
	1:15 PM	2	37	22	6	41	2	1	26	1	15	14	5	172
	1:30 PM	2	31	8	6	36	0	4	17	1	17	13	9	144
	1:45 PM	3	31	16	3	31	5	3	17	1	13	27	7	157
	VOLUMES	27	433	159	50	453	29	25	168	11	181	244	43	1,823
	APPROACH %	4%	70%	26%	9%	85%	5%	12%	82%	5%	39%	52%	9%	
	APP/DEPART	619	/	501	532	/	644	204	/	378	468	/	300	0
PM	BEGIN PEAK HR	12:30 PM												
	VOLUMES	7	173	65	14	172	8	9	66	4	65	82	12	677
	APPROACH %	3%	71%	27%	7%	89%	4%	11%	84%	5%	41%	52%	8%	
	PEAK HR FACTOR		0.851			0.898			0.705			0.723		0.925
	APP/DEPART	245	/	194	194	/	241	79	/	145	159	/	97	0
	02:00 PM	2	40	8	0	23	3	2	12	2	13	23	4	132
	2:15 PM	4	25	15	1	38	2	2	20	4	11	18	2	142
	2:30 PM	3	30	15	4	32	5	0	9	2	22	22	1	145
	2:45 PM	6	37	20	3	39	1	1	8	3	16	25	2	161
	3:00 PM	14	63	11	2	31	3	0	12	6	22	24	5	193
	3:15 PM	8	41	10	2	34	5	1	13	0	11	15	6	146
	3:30 PM	5	30	13	8	32	1	3	9	1	13	18	1	134
	3:45 PM	4	24	13	2	44	0	2	9	2	13	16	2	131
	4:00 PM	5	29	16	4	31	2	1	6	2	17	15	2	130
	4:15 PM	4	30	15	0	24	0	1	11	2	17	17	2	123
	4:30 PM	6	32	17	2	43	3	2	15	1	8	16	2	147
	4:45 PM	2	28	13	6	37	5	1	11	1	16	17	4	141
	VOLUMES	63	409	166	34	408	30	16	135	26	179	226	33	1,725
	APPROACH %	10%	64%	26%	7%	86%	6%	9%	76%	15%	41%	52%	8%	
	APP/DEPART	638	/	458	472	/	618	177	/	335	438	/	314	0
	BEGIN PEAK HR	2:30 PM												
	VOLUMES	31	171	56	11	136	14	2	42	11	71	86	14	645
	APPROACH %	12%	66%	22%	7%	84%	9%	4%	76%	20%	42%	50%	8%	
	PEAK HR FACTOR		0.733			0.936			0.764			0.838		0.835
	APP/DEPART	258	/	187	161	/	219	55	/	109	171	/	130	0

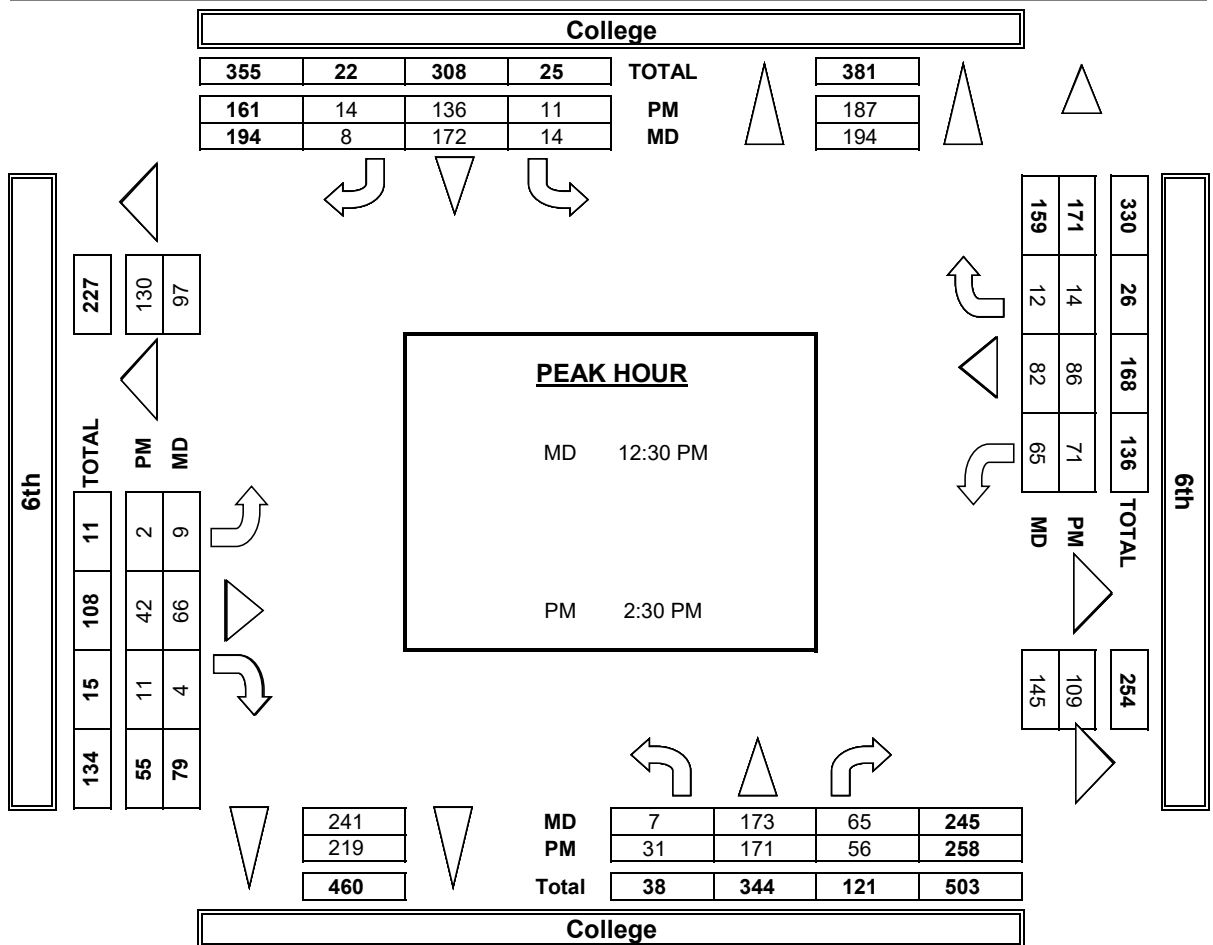
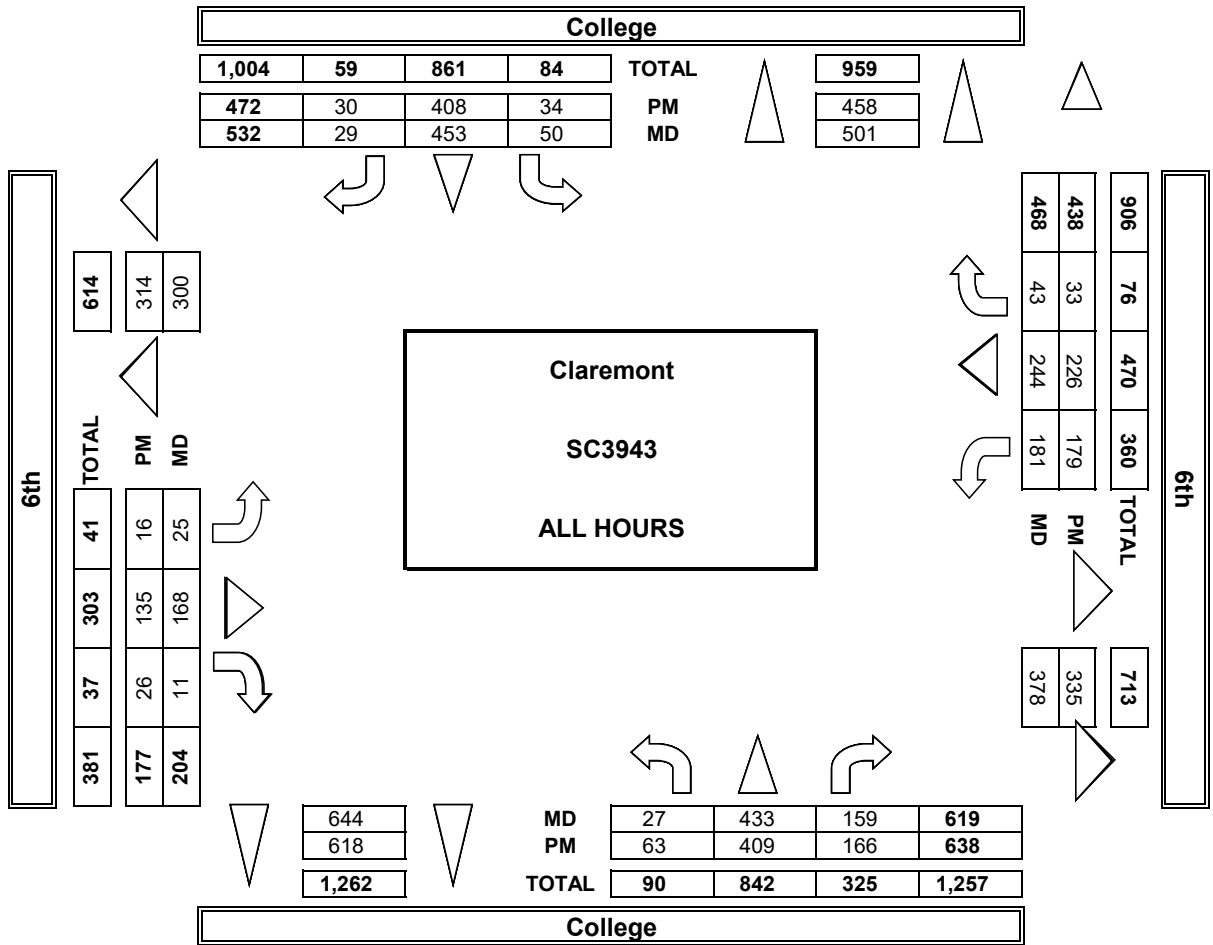


MD	11:00 AM	7	7	13	6	33
	11:15 AM	6	10	9	4	29
	11:30 AM	23	9	8	5	45
	11:45 AM	13	6	3	4	26
	12:00 PM	5	0	9	3	17
	12:15 PM	28	5	6	7	46
	12:30 PM	6	5	9	9	29
	12:45 PM	6	12	11	7	36
	1:00 PM	11	7	5	5	28
	1:15 PM	5	5	4	14	28
	1:30 PM	6	4	4	7	21
	1:45 PM	6	18	7	14	45
	TOTAL	122	88	88	85	383
	2:00 PM	4	5	3	5	17
PM	2:15 PM	2	6	7	17	32
	2:30 PM	7	1	18	2	28
	2:45 PM	6	9	9	5	29
	3:00 PM	7	7	7	11	32
	3:15 PM	4	9	5	4	22
	3:30 PM	3	12	10	11	36
	3:45 PM	15	14	8	6	43
	4:00 PM	4	1	6	3	14
	4:15 PM	5	7	6	8	26
	4:30 PM	6	4	4	10	24
	4:45 PM	3	15	7	11	36
	TOTAL	66	90	90	93	339

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7	7	13	6	33
6	10	9	4	29
23	9	8	5	45
13	6	3	4	26
5	0	9	3	17
28	5	6	7	46
6	5	9	9	29
6	12	11	7	36
11	7	5	5	28
5	5	4	14	28
6	4	4	7	21
6	18	7	14	45
122	88	88	85	383
4	5	3	5	17
2	6	7	17	32
7	1	18	2	28
6	9	9	5	29
7	7	7	11	32
4	9	5	4	22
3	12	10	11	36
15	14	8	6	43
4	1	6	3	14
5	7	6	8	26
6	4	4	10	24
3	15	7	11	36
66	90	90	93	339

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
5	6	8	5	24
6	10	8	3	27
22	9	8	5	44
12	6	3	4	25
3	0	9	1	13
6	5	5	3	19
6	5	7	7	25
6	12	11	5	34
11	7	5	4	27
5	5	3	14	27
6	4	4	7	21
5	18	7	14	44
93	87	78	72	330
4	4	3	5	16
1	5	7	16	29
7	1	16	2	26
6	6	6	5	23
7	7	7	11	32
4	9	5	4	22
3	11	10	11	35
15	13	8	6	42
4	1	5	3	13
5	7	6	8	26
6	2	4	10	22
3	13	7	11	34
65	79	84	92	320

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Apr 13, 23

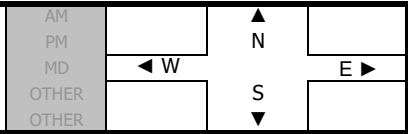
LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Mills
6th

PROJECT #:
LOCATION #:
CONTROL:

SC3943
6
STOP ALL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mills			Mills			6th			6th			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	

AM	7:00 AM	5	0	2	0	0	1	0	7	1	5	28	2	51
	7:15 AM	4	1	1	0	0	0	0	11	2	1	19	1	40
	7:30 AM	0	0	1	0	0	0	0	12	1	4	36	0	54
	7:45 AM	2	0	2	0	1	1	0	20	1	1	65	0	93
	8:00 AM	6	0	3	0	0	0	1	21	5	4	47	0	87
	8:15 AM	5	0	1	1	0	0	1	19	4	4	33	0	68
	8:30 AM	0	0	2	0	0	0	0	18	2	4	40	0	66
	8:45 AM	1	2	2	0	1	0	0	20	7	2	40	1	76
	VOLUMES	23	3	14	1	2	2	2	128	23	25	308	4	535
	APPROACH %	58%	8%	35%	20%	40%	40%	1%	84%	15%	7%	91%	1%	
PM	APP/DEPART	40	/	9	5	/	50	153	/	143	337	/	333	0
	BEGIN PEAK HR	7:45 AM												
	VOLUMES	13	0	8	1	1	1	2	78	12	13	185	0	314
	APPROACH %	62%	0%	38%	33%	33%	33%	2%	85%	13%	7%	93%	0%	
	PEAK HR FACTOR	0.583			0.375			0.852			0.750			0.844
	APP/DEPART	21	/	2	3	/	26	92	/	87	198	/	199	0
	4:00 PM	2	0	2	0	0	0	1	50	13	8	38	1	115
	4:15 PM	3	0	2	1	0	1	1	61	8	8	52	3	140
	4:30 PM	2	1	4	0	0	1	0	64	4	6	45	3	130
	4:45 PM	5	1	5	2	2	0	1	53	6	6	35	0	116
PM	5:00 PM	6	0	2	1	0	1	0	84	11	2	43	1	151
	5:15 PM	5	0	3	0	0	0	1	54	7	2	44	0	116
	5:30 PM	6	0	2	3	0	0	2	51	1	1	50	2	118
	5:45 PM	2	0	4	2	0	2	1	39	4	2	35	0	91
	VOLUMES	31	2	24	9	2	5	7	456	54	35	342	10	977
	APPROACH %	54%	4%	42%	56%	13%	31%	1%	88%	10%	9%	88%	3%	
	APP/DEPART	57	/	17	16	/	92	517	/	489	387	/	379	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	16	2	13	4	2	3	2	262	29	22	175	7	537
	APPROACH %	52%	6%	42%	44%	22%	33%	1%	89%	10%	11%	86%	3%	
	PEAK HR FACTOR	0.705			0.563			0.771			0.810			0.889
	APP/DEPART	31	/	10	9	/	54	293	/	279	204	/	194	0

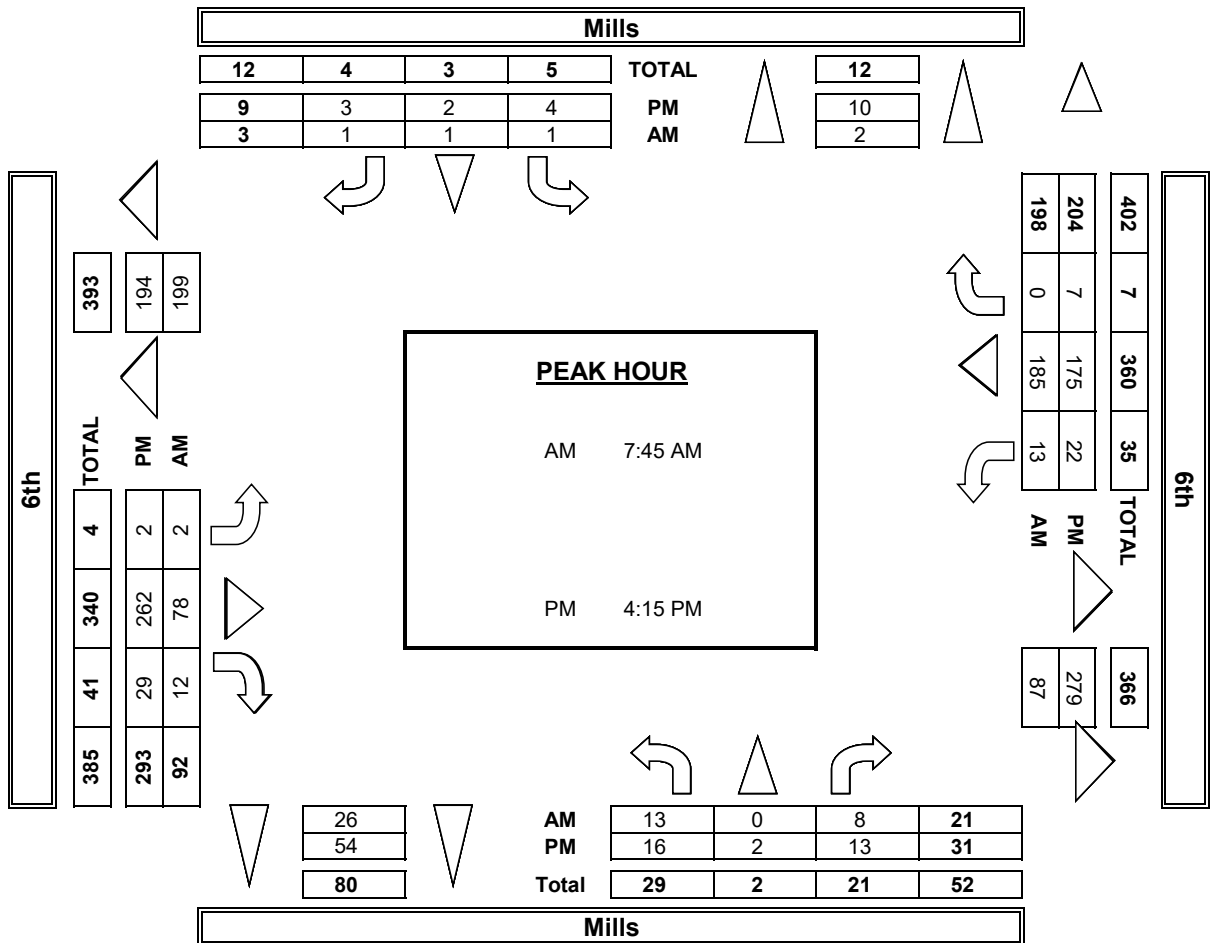
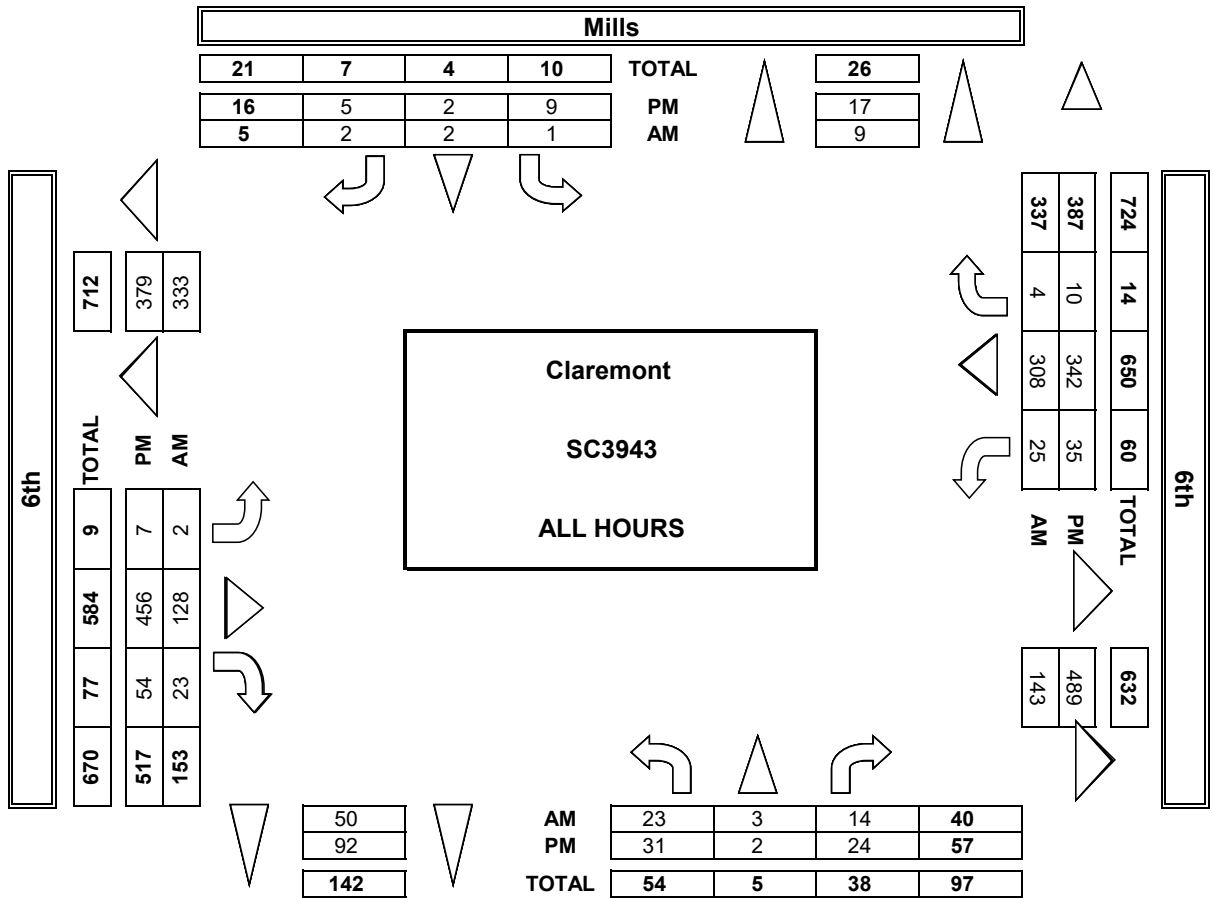


AM	7:00 AM	2	1	7	1	11
	7:15 AM	0	1	3	1	5
	7:30 AM	3	0	4	1	8
	7:45 AM	5	6	0	5	16
	8:00 AM	2	2	6	2	12
	8:15 AM	0	3	6	5	14
	8:30 AM	3	4	1	10	18
	8:45 AM	1	8	8	4	21
	TOTAL	16	25	35	29	105
	4:00 PM	7	7	16	8	38
PM	4:15 PM	4	5	13	10	32
	4:30 PM	0	11	5	21	37
	4:45 PM	2	20	14	21	57
	5:00 PM	4	8	9	14	35
	5:15 PM	7	13	14	15	49
	5:30 PM	3	13	2	16	34
	5:45 PM	2	15	12	14	43
	TOTAL	29	92	85	119	325

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
2	1	7	1	11
0	1	3	1	5
3	0	4	1	8
5	6	0	5	16
2	2	6	2	12
0	3	6	5	14
3	4	1	10	18
1	8	8	4	21
16	25	35	29	105
7	7	16	8	38
4	5	13	10	32
0	11	5	21	37
2	20	14	21	57
4	8	9	14	35
7	13	14	15	49
3	13	2	16	34
2	15	12	14	43
29	92	85	119	325

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
2	1	7	1	11
0	1	3	1	5
3	0	4	1	8
4	6	0	5	15
2	1	6	2	11
0	3	6	5	14
3	4	1	10	18
0	8	8	4	20
14	24	35	29	102
6	5	16	8	35
4	5	9	8	26
0	8	5	18	31
0	20	13	21	54
4	8	9	14	35
6	13	12	14	45
2	13	2	16	33
2	14	12	14	42
24	86	78	113	301

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Mills
6th

PROJECT #:
LOCATION #:
CONTROL:

SC3943
6
STOP ALL

NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mills			Mills			6th			6th			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	

MD	11:00 AM	2	0	4	1	3	0	1	32	4	1	26	2	76
	11:15 AM	4	0	1	0	1	1	0	30	5	1	45	1	89
	11:30 AM	6	0	3	0	0	0	1	19	3	3	31	1	67
	11:45 AM	1	0	1	1	0	0	0	23	4	0	36	1	67
	12:00 PM	3	0	3	0	0	0	0	34	3	2	42	1	88
	12:15 PM	5	0	2	1	2	0	1	34	4	8	40	1	98
	12:30 PM	4	0	3	0	3	0	2	36	3	2	34	1	88
	12:45 PM	5	0	3	1	0	0	0	37	5	7	39	1	98
	1:00 PM	4	0	1	0	0	0	0	29	4	9	49	2	98
	1:15 PM	2	0	2	0	0	2	2	41	5	5	35	1	95
	1:30 PM	1	0	2	1	0	0	0	31	2	2	38	0	77
	1:45 PM	1	0	5	0	0	0	2	28	2	4	49	1	92
	VOLUMES	38	0	30	5	9	3	9	374	44	44	464	13	1,033
	APPROACH %	56%	0%	44%	29%	53%	18%	2%	88%	10%	8%	89%	2%	
	APP/DEPART	68	/	20	17	/	95	427	/	411	521	/	507	0
PM	BEGIN PEAK HR	12:15 PM												
	VOLUMES	18	0	9	2	5	0	3	136	16	26	162	5	382
	APPROACH %	67%	0%	33%	29%	71%	0%	2%	88%	10%	13%	84%	3%	
	PEAK HR FACTOR	0.844			0.583			0.923			0.804			0.974
	APP/DEPART	27	/	8	7	/	47	155	/	147	193	/	180	0
	02:00 PM	2	0	3	1	2	1	2	28	5	4	42	3	93
	2:15 PM	5	0	2	0	1	0	3	38	0	3	63	0	115
	2:30 PM	3	0	4	1	0	1	1	32	7	4	43	0	96
	2:45 PM	4	0	2	0	1	1	0	31	5	4	43	1	92
	3:00 PM	6	1	3	0	0	0	0	23	3	3	36	0	75
	3:15 PM	1	0	2	1	0	0	0	21	6	5	39	0	75
	3:30 PM	1	0	6	3	1	0	3	27	5	1	34	0	81
	3:45 PM	2	1	1	1	1	1	1	27	3	6	32	1	77
	4:00 PM	1	0	5	0	0	1	1	41	4	7	38	3	101
	4:15 PM	1	0	0	0	0	0	0	35	3	3	32	0	74
	4:30 PM	4	0	0	0	0	1	0	35	0	4	26	0	70
	4:45 PM	1	0	3	0	0	0	0	26	3	2	37	0	72
	VOLUMES	31	2	31	7	6	6	11	364	44	46	465	8	1,021
	APPROACH %	48%	3%	48%	37%	32%	32%	3%	87%	11%	9%	90%	2%	
	APP/DEPART	64	/	19	19	/	97	419	/	402	519	/	503	0
	BEGIN PEAK HR	2:00 PM												
	VOLUMES	14	0	11	2	4	3	6	129	17	15	191	4	396
	APPROACH %	56%	0%	44%	22%	44%	33%	4%	85%	11%	7%	91%	2%	
	PEAK HR FACTOR	0.893			0.563			0.927			0.795			0.861
	APP/DEPART	25	/	9	9	/	36	152	/	142	210	/	209	0

Mills

NORTH SIDE

6th

WEST SIDE

EAST SIDE

6th

SOUTH SIDE

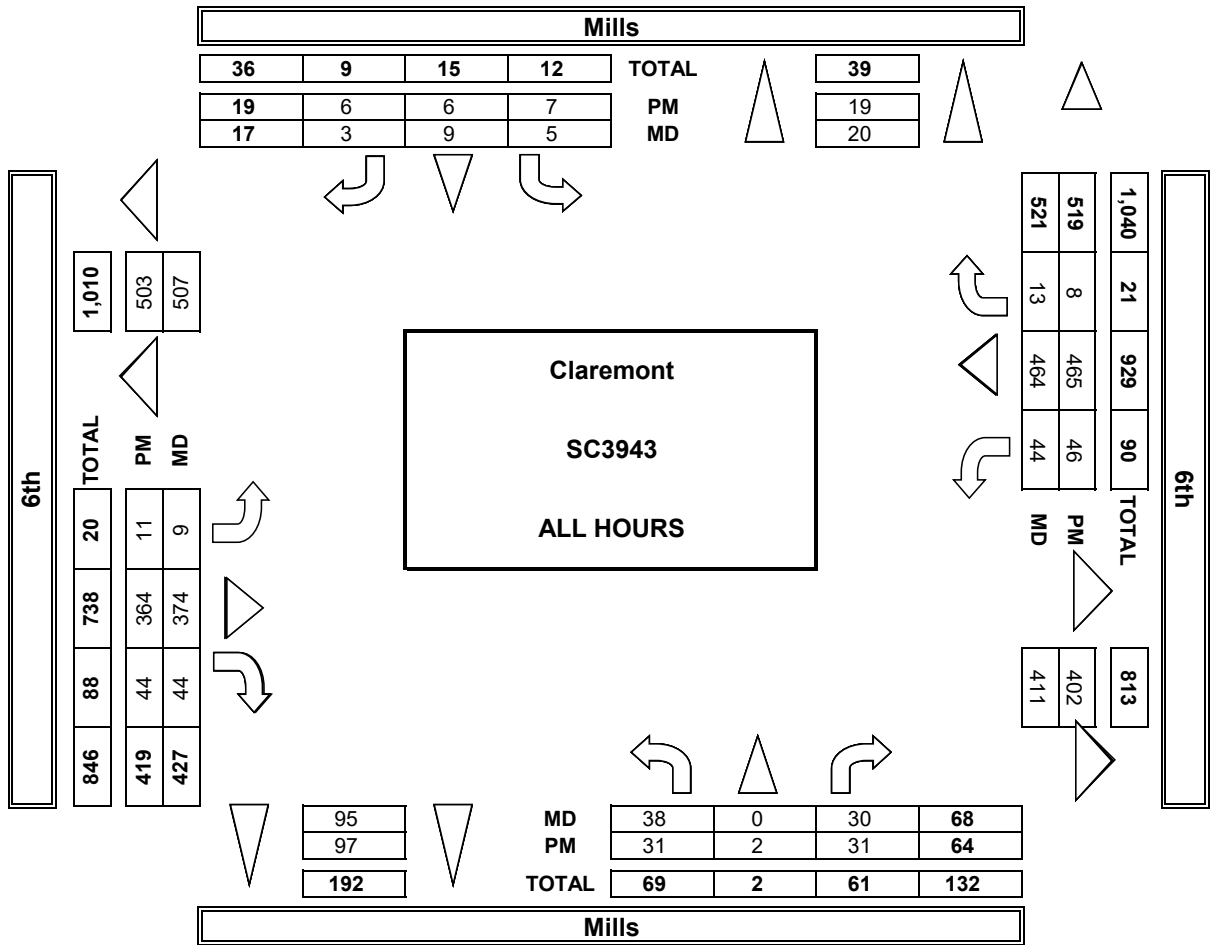
Mills

MD	11:00 AM	2	0	4	1	3	0	1	32	4	1	26	2	76
	11:15 AM	4	0	1	0	1	1	0	30	5	1	45	1	89
	11:30 AM	6	0	3	0	0	0	1	19	3	3	31	1	67
	11:45 AM	1	0	1	1	0	0	0	23	4	0	36	1	67
	12:00 PM	3	0	3	0	0	0	0	34	3	2	42	1	88
	12:15 PM	5	0	2	1	2	0	1	34	4	8	40	1	98
	12:30 PM	4	0	3	0	3	0	2	36	3	2	34	1	88
	12:45 PM	5	0	3	1	0	0	0	37	5	7	39	1	98
	1:00 PM	4	0	1	0	0	0	0	29	4	9	49	2	98
	1:15 PM	2	0	2	0	0	2	2	41	5	5	35	1	95
	1:30 PM	1	0	2	1	0	0	0	31	2	2	38	0	77
	1:45 PM	1	0	5	0	0	0	2	28	2	4	49	1	92
	TOTAL	38	0	30	5	9	3	9	374	44	44	464	13	1,033
	APPROACH %	56%	0%	44%	29%	53%	18%	2%	88%	10%	8%	89%	2%	
	APP/DEPART	68	/	20	17	/	95	427	/	411	521	/	507	0
PM	02:00 PM	2	0	3	1	2	1	2	28	5	4	42	3	93
	2:15 PM	5	0	2	0	1	0	3	38	0	3	63	0	115
	2:30 PM	3	0	4	1	0	1	1	32	7	4	43	0	96
	2:45 PM	4	0	2	0	1	1	0	31	5	4	43	1	92
	3:00 PM	6	1	3	0	0	0	0	23	3	3	36	0	75
	3:15 PM	1	0	2	1	0	0	0	21	6	5	39	0	75
	3:30 PM	1	0	6	3	1	0	3	27	5	1	34	0	81
	3:45 PM	2	1	1	1	1	1	1	27	3	6	32	1	77
	4:00 PM	1	0	5	0	0	1	1	41	4	7	38	3	101
	4:15 PM	1	0	0	0	0	0	0	35	3	3	32	0	74
	4:30 PM	4	0	0	0	0	1	0	35	0	4	26	0	70
	4:45 PM	1	0	3	0	0	0	0	26	3	2	37	0	72
	TOTAL	31	2	31	7	6	6	11	364	44	46	465	8	1,021
	APPROACH %	48%	3%	48%	37%	32%	32%	3%	87%	11%	9%	90%	2%	
	APP/DEPART	64	/	19	19	/	97	419	/	402	519	/	503	0
	BEGIN PEAK HR	2:00 PM												
	VOLUMES	14	0	11	2	4	3	6	129	17	15	191	4	396
	APPROACH %	56%	0%	44%	22%	44%	33%	4%	85%	11%	7%	91%	2%	
	PEAK HR FACTOR	0.893			0.563			0.927			0.795			0.861
	APP/DEPART	25	/	9	9	/	36	152	/	142	210	/	209	0

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
6	3	8	6	23
7	7	14	15	43
10	10	11	25	56
7	9	7	10	33
5	7	7	10	29
23	16	12	19	70
11	12	4	17	44
13	10	14	6	43
2	14	11	9	36
8	2	7	3	20
4	7	23	15	49
6	3	7	15	31
102	100	125	150	477
2	21	6	19	48
2	1	6	4	13
2	13	7	18	40
1	6	15	8	30
2	7	7	16	32
4	7	2	13	26
2	8	7	21	38
1	7	4	21	33
0	3	10	5	18
3	7	4	11	25
0	8	3	9	20
1	7	4	11	23
20	95	75	156	346

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4	2	8	5	19
5	7	14	14	40
10	10	11	25	56
7	9	7	10	33
3	7	7	9	26
0	15	11	19	45
10	12	4	17	43
12	9	14	6	41
2	13	11	9	35
8	2	6	3	19
1	4	23	14	42
6	2	7	15	30
68	92	123	146	429
2	21	6	19	48
2	1	6	4	13
2	9	7	18	36
1	4	15	8	28
0	7	6	15	28
2	7	2	12	23
2	7	6	20	35
1	5	4	20	30
0	3	10	5	18
2	7	4	11	24
0	7	2	9	18
1	4	4	11	20
15	82	72	152	321

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

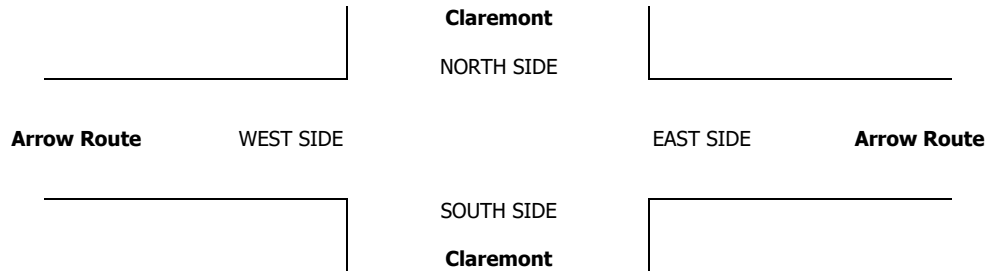
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 4, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Claremont Arrow Route	PROJECT #: LOCATION #: CONTROL:	SC3668 5 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

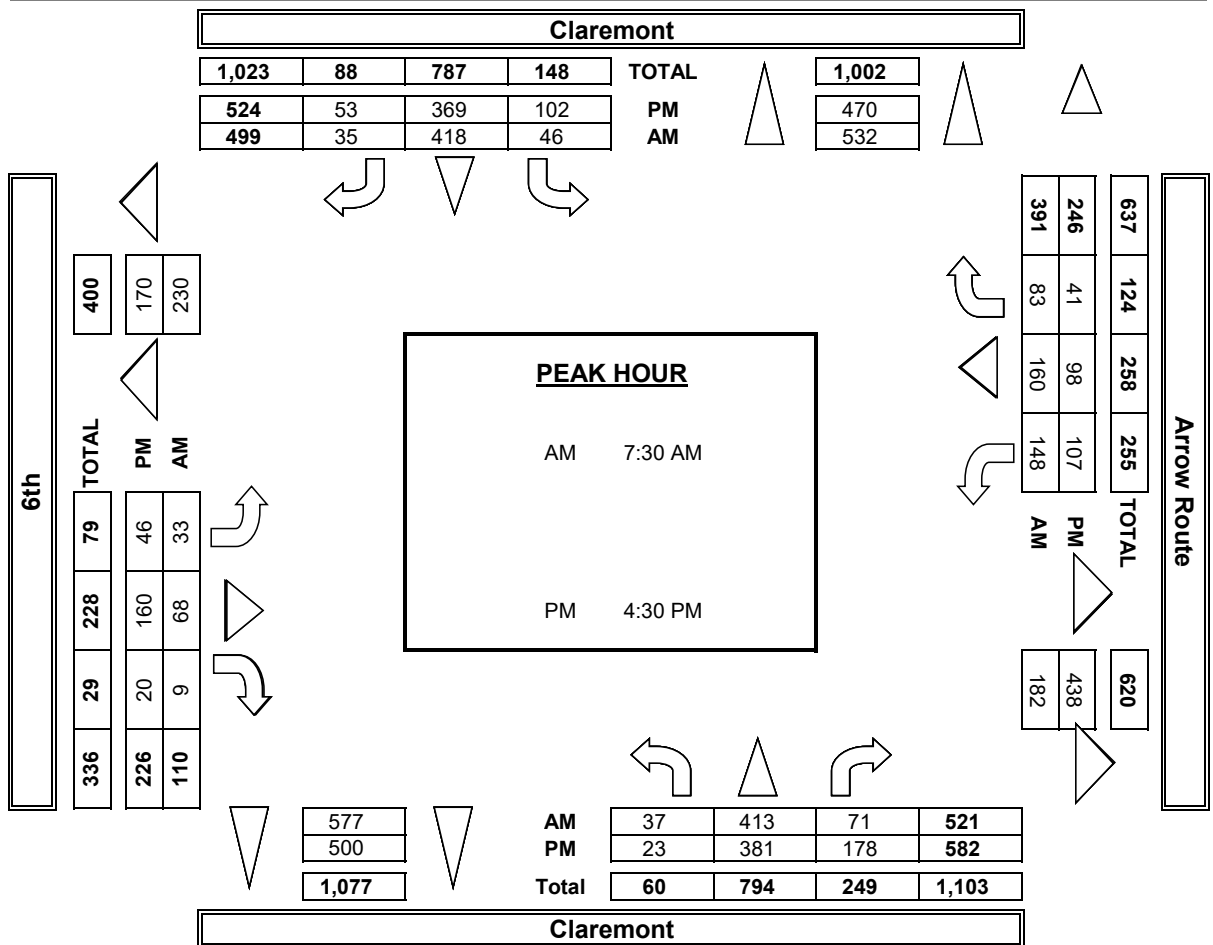
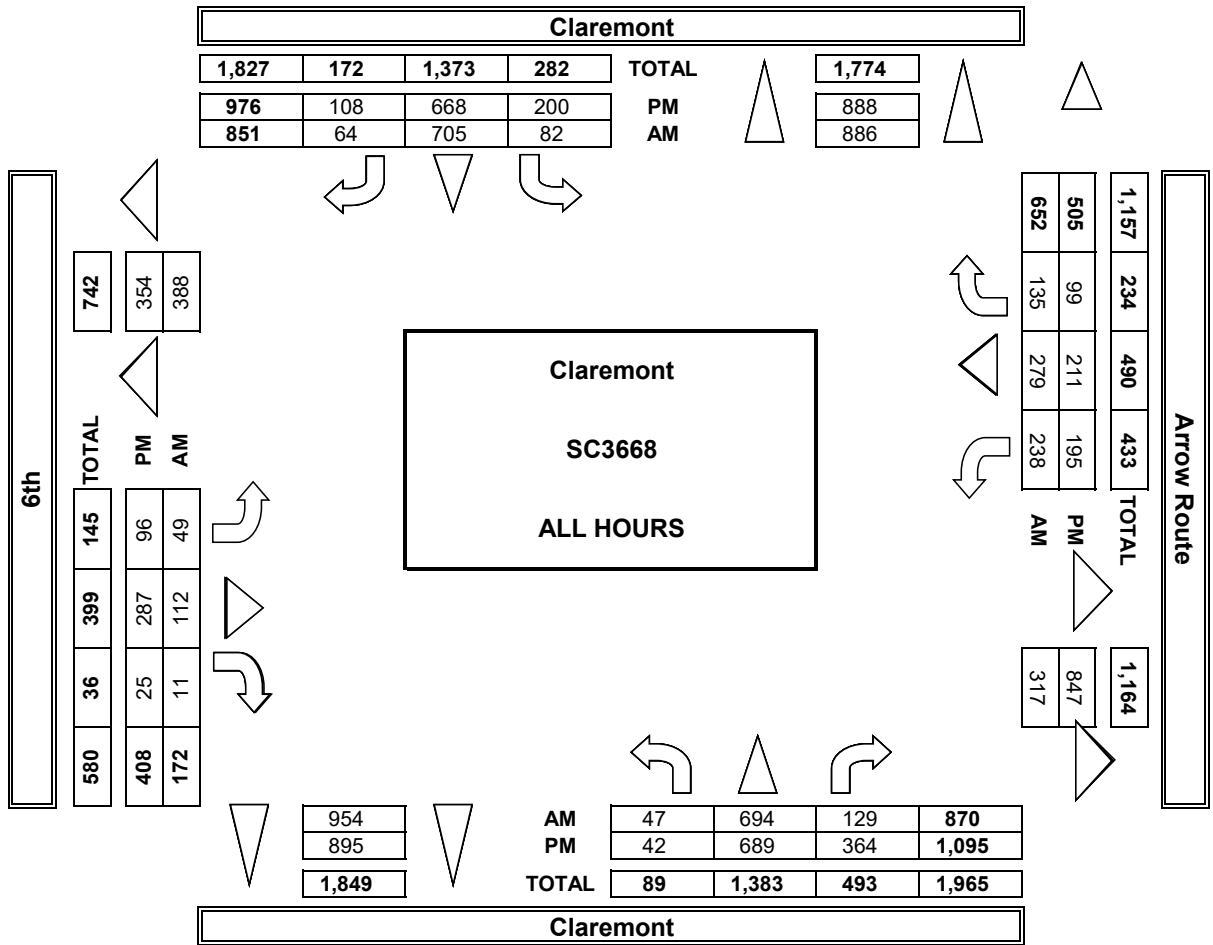
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			6th			Arrow Route			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 0.5	ER 0.5	WL 1	WT 1	WR 1	TOTAL

AM	7:00 AM	2	58	16	6	79	6	4	9	0	11	21	9	221
	7:15 AM	2	66	14	12	72	4	3	7	0	17	29	9	235
	7:30 AM	11	96	13	10	99	5	10	11	2	41	39	14	351
	7:45 AM	12	122	20	9	110	6	6	13	2	37	37	24	398
	8:00 AM	10	100	25	13	128	11	14	25	2	42	52	28	450
	8:15 AM	4	95	13	14	81	13	3	19	3	28	32	17	322
	8:30 AM	2	84	11	6	70	5	5	13	0	34	31	18	279
	8:45 AM	4	73	17	12	66	14	4	15	2	28	38	16	289
	VOLUMES	47	694	129	82	705	64	49	112	11	238	279	135	2,545
	APPROACH %	5%	80%	15%	10%	83%	8%	28%	65%	6%	37%	43%	21%	
APP/DEPART	870	/	886	851	/	954	172	/	317	652	/	388	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	37	413	71	46	418	35	33	68	9	148	160	83	1,521	
APPROACH %	7%	79%	14%	9%	84%	7%	30%	62%	8%	38%	41%	21%		
PEAK HR FACTOR	0.846			0.821			0.671			0.801			0.845	
APP/DEPART	521	/	532	499	/	577	110	/	182	391	/	230	0	
PM	4:00 PM	8	91	46	34	77	12	16	23	3	24	22	11	367
	4:15 PM	1	82	50	17	86	15	14	36	0	20	35	18	374
	4:30 PM	1	88	53	14	93	12	9	36	5	21	19	8	359
	4:45 PM	7	89	28	24	84	11	11	31	2	24	38	11	360
	5:00 PM	4	114	62	40	85	9	9	57	9	30	21	12	452
	5:15 PM	11	90	35	24	107	21	17	36	4	32	20	10	407
	5:30 PM	4	75	43	20	57	14	10	40	0	14	24	13	314
	5:45 PM	6	60	47	27	79	14	10	27	2	30	32	16	350
	VOLUMES	42	689	364	200	668	108	96	287	25	195	211	99	2,984
	APPROACH %	4%	63%	33%	20%	68%	11%	24%	70%	6%	39%	42%	20%	
APP/DEPART	1,095	/	888	976	/	895	408	/	847	505	/	354	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	23	381	178	102	369	53	46	160	20	107	98	41	1,578	
APPROACH %	4%	65%	31%	19%	70%	10%	20%	71%	9%	43%	40%	17%		
PEAK HR FACTOR	0.808			0.862			0.753			0.842			0.873	
APP/DEPART	582	/	470	524	/	500	226	/	438	246	/	170	0	



		ALL PED AND BIKE					PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	6	0	1	7	0	6	0	1	7
	7:15 AM	0	3	0	4	7	0	2	0	3	5
	7:30 AM	2	1	1	2	6	0	0	0	2	2
	7:45 AM	0	8	1	0	9	0	6	0	0	6
	8:00 AM	6	3	4	2	15	2	1	2	2	7
	8:15 AM	1	8	0	1	10	0	7	0	1	8
	8:30 AM	2	5	0	4	11	0	5	0	3	8
	8:45 AM	0	8	3	4	15	0	6	0	4	10
TOTAL		11	42	9	18	80	2	33	2	16	53
PM	4:00 PM	1	11	1	3	16	0	7	0	3	10
	4:15 PM	3	10	1	2	16	0	8	0	1	9
	4:30 PM	0	6	1	3	10	0	5	0	2	7
	4:45 PM	0	8	0	1	9	0	5	0	0	5
	5:00 PM	1	11	1	2	15	0	9	0	1	10
	5:15 PM	4	6	2	3	15	2	6	0	1	9
	5:30 PM	2	10	1	3	16	1	9	1	3	14
5:45 PM	0	13	0	10	23	0	11	0	9	20	
TOTAL		11	75	7	27	120	3	60	1	20	84

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Claremont
Arrow Route

PROJECT #:
LOCATION #:
CONTROL:

SC3668
5
SIGNAL

NOTES:										AM PM MD OTHER OTHER	◀ W S ▶ E	▲ N ▼
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	NORTHBOUND Claremont			SOUTHBOUND Claremont			EASTBOUND 6th			WESTBOUND Arrow Route			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 0.5	ER 0.5	WL 1	WT 1	WR 1	TOTAL

MD	11:00 AM	6	63	21	24	67	17	19	10	3	24	23	20	297
	11:15 AM	8	75	15	12	64	23	18	20	8	19	27	5	294
	11:30 AM	8	81	19	9	75	17	14	15	7	13	25	14	297
	11:45 AM	8	72	25	12	67	9	13	13	3	17	28	13	280
	12:00 PM	10	73	18	13	67	14	21	25	5	21	32	11	310
	12:15 PM	12	79	30	15	74	14	14	24	8	17	24	12	323
	12:30 PM	8	54	16	10	55	19	12	23	8	26	23	11	265
	12:45 PM	11	62	27	13	61	17	5	27	7	26	29	17	302
	1:00 PM	9	81	23	14	73	29	16	24	7	15	28	9	328
	1:15 PM	5	78	29	19	67	17	12	24	9	27	22	10	319
VOLUMES		85	718	223	141	670	176	144	205	65	205	261	122	3,015
APPROACH %		8%	70%	22%	14%	68%	18%	35%	50%	16%	35%	44%	21%	
APP/DEPART		1,026	/	988	987	/	949	414	/	565	588	/	513	0
BEGIN PEAK HR		12:15 PM												
VOLUMES		40	276	96	52	263	79	47	98	30	84	104	49	1,218
APPROACH %		10%	67%	23%	13%	67%	20%	27%	56%	17%	35%	44%	21%	
PEAK HR FACTOR		0.851			0.849			0.931			0.823			0.928
APP/DEPART		412	/	373	394	/	381	175	/	245	237	/	219	0
PM	03:00 PM	5	67	19	17	65	15	11	32	8	26	38	14	317
	3:15 PM	7	64	26	14	68	7	14	22	3	17	29	11	282
	3:30 PM	4	63	22	8	64	10	6	24	7	17	29	9	263
	3:45 PM	10	65	21	12	69	14	16	23	5	24	22	9	290
	4:00 PM	12	66	19	10	74	13	17	30	21	17	25	12	316
	4:15 PM	6	67	23	12	78	12	14	15	8	25	29	9	298
	4:30 PM	5	61	19	9	56	22	13	34	4	13	28	10	274
	4:45 PM	9	58	22	16	54	17	18	25	2	18	24	16	279
	VOLUMES	58	511	171	98	528	110	109	205	58	157	224	90	2,319
	APPROACH %	8%	69%	23%	13%	72%	15%	29%	55%	16%	33%	48%	19%	
APP/DEPART		740	/	712	736	/	748	372	/	473	471	/	386	0
BEGIN PEAK HR		3:45 PM												
VOLUMES		33	259	82	43	277	61	60	102	38	79	104	40	1,178
APPROACH %		9%	69%	22%	11%	73%	16%	30%	51%	19%	35%	47%	18%	
PEAK HR FACTOR		0.964			0.934			0.735			0.885			0.932
APP/DEPART		374	/	359	381	/	396	200	/	227	223	/	196	0

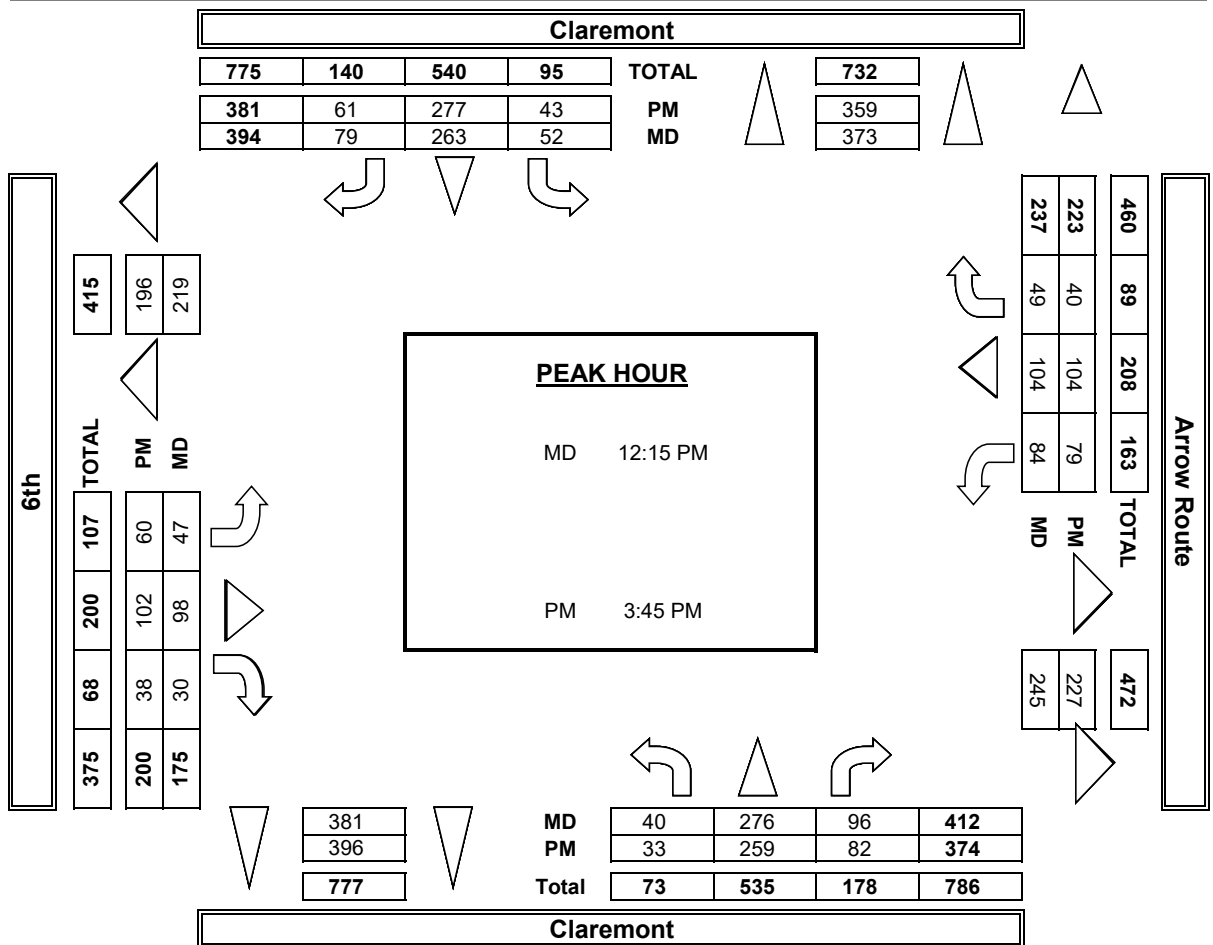
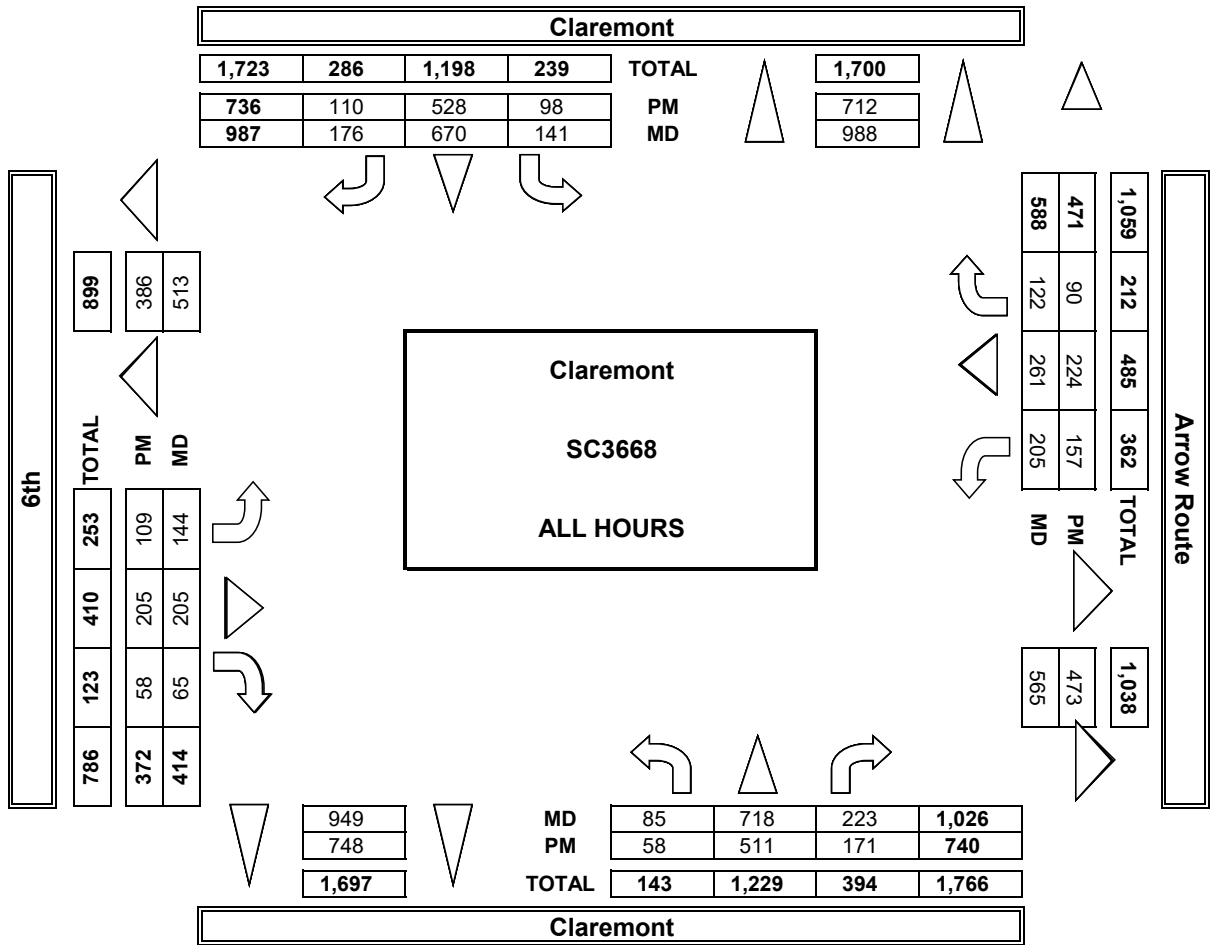
Claremont		Claremont	
NORTH SIDE		NORTH SIDE	
Arrow Route	WEST SIDE	EAST SIDE	Arrow Route
SOUTH SIDE		SOUTH SIDE	
Claremont		Claremont	

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
PM	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	9	0	1	11
1	7	0	2	10
1	5	0	1	7
0	2	0	0	2
0	6	0	2	8
0	5	0	3	8
2	10	1	6	19
0	4	0	2	6
0	5	0	1	6
3	5	1	0	9
8	58	2	18	86
0	5	0	2	7
2	5	2	3	12
1	5	0	2	8
0	3	2	5	10
2	5	2	0	9
3	5	3	1	12
1	4	1	0	6
1	7	1	4	13
10	39	11	17	77

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	4	0	1	5
1	5	0	1	7
0	5	0	1	6
0	2	0	0	2
0	4	0	1	5
0	3	0	0	3
1	7	1	6	15
0	4	0	2	6
0	5	0	1	6
1	3	1	0	5
3	42	2	13	60
0	3	0	1	4
0	3	0	2	5
0	3	0	1	4
0	2	0	5	7
2	5	2	0	9
2	3	2	1	8
0	3	0	0	3
1	4	1	2	8
5	26	5	12	48

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 4, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Upland Monte Vista Arrow Route	PROJECT #: LOCATION #: CONTROL:	SC3668 10 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

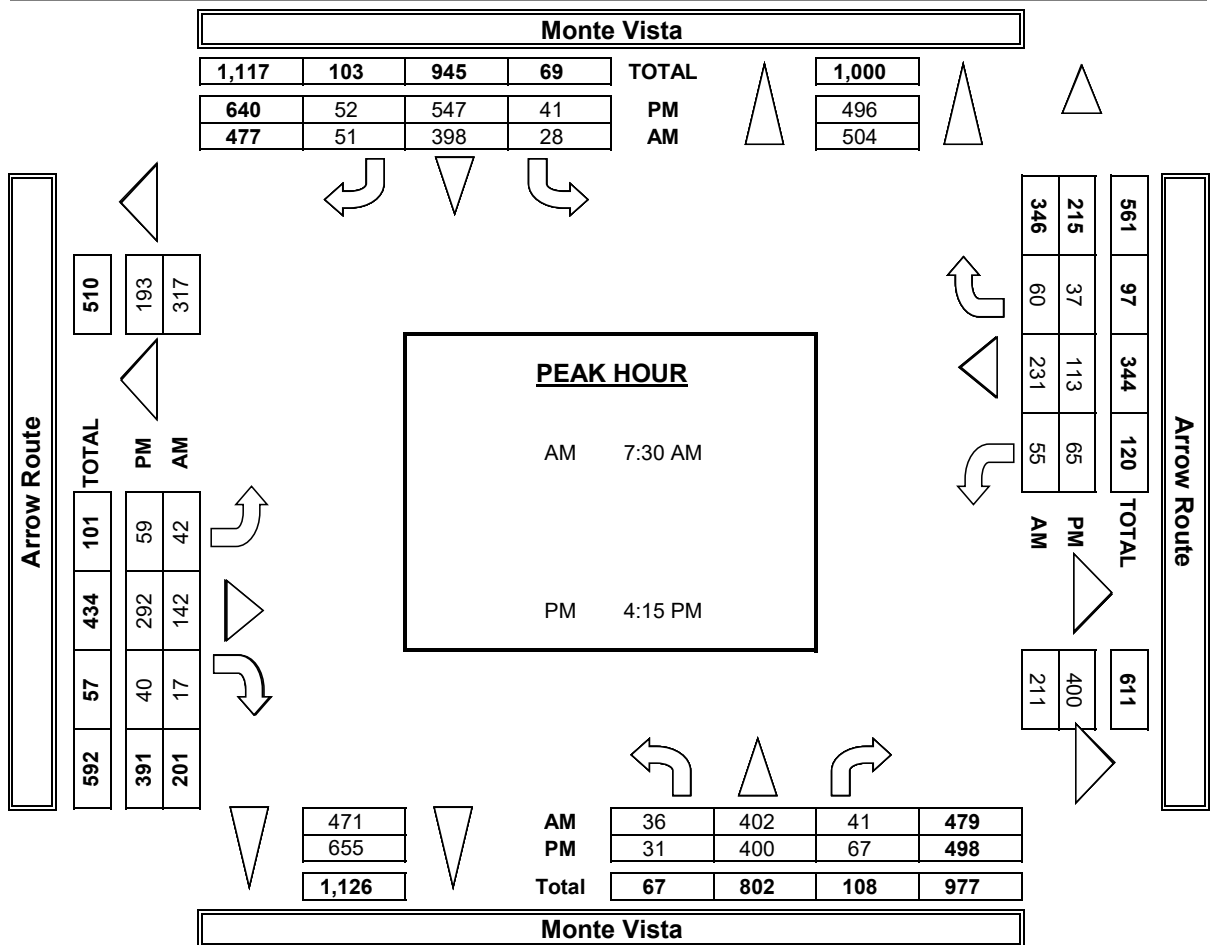
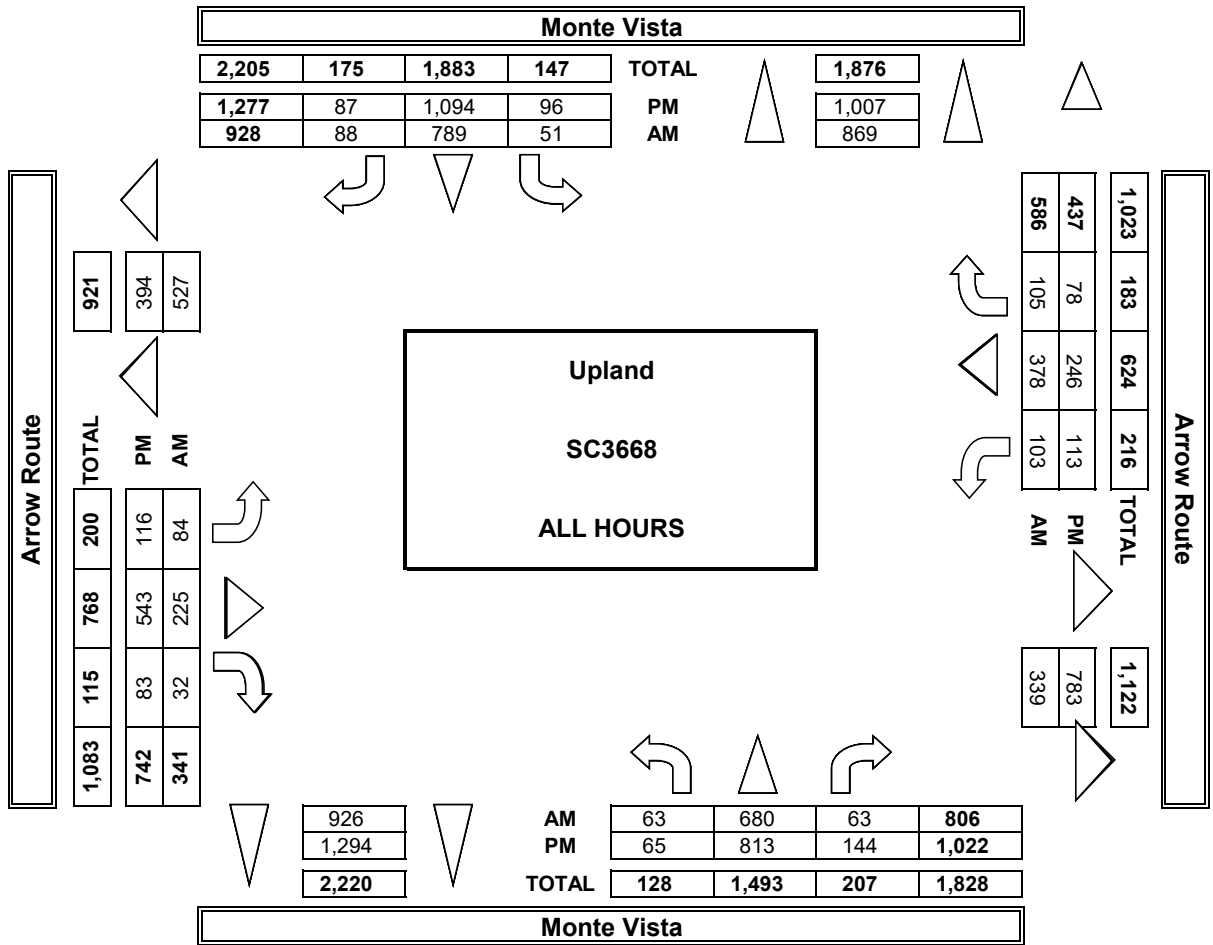
	NORTHBOUND Monte Vista			SOUTHBOUND Monte Vista			EASTBOUND Arrow Route			WESTBOUND Arrow Route			
LANES:	NL 2	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL

AM	7:00 AM	5	63	5	5	87	6	5	17	4	11	21	10	239
	7:15 AM	1	57	2	6	119	12	8	22	3	13	36	13	292
	7:30 AM	4	98	9	4	101	14	15	27	7	18	59	16	372
	7:45 AM	10	109	12	5	92	12	12	34	0	17	61	24	388
	8:00 AM	13	98	11	11	110	15	9	49	6	12	64	10	408
	8:15 AM	9	97	9	8	95	10	6	32	4	8	47	10	335
	8:30 AM	13	85	7	7	92	8	14	17	3	12	48	9	315
	8:45 AM	8	73	8	5	93	11	15	27	5	12	42	13	312
	VOLUMES	63	680	63	51	789	88	84	225	32	103	378	105	2,661
	APPROACH %	8%	84%	8%	5%	85%	9%	25%	66%	9%	18%	65%	18%	
APP/DEPART	806	/	869	928	/	926	341	/	339	586	/	527	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	36	402	41	28	398	51	42	142	17	55	231	60	1,503	
APPROACH %	8%	84%	9%	6%	83%	11%	21%	71%	8%	16%	67%	17%		
PEAK HR FACTOR		0.914			0.877			0.785			0.848		0.921	
APP/DEPART	479	/	504	477	/	471	201	/	211	346	/	317	0	
PM	4:00 PM	6	125	29	14	138	7	12	63	8	12	33	11	458
	4:15 PM	10	104	19	11	142	12	12	77	9	17	27	10	450
	4:30 PM	5	107	22	10	131	9	17	65	6	19	26	14	431
	4:45 PM	8	100	17	7	128	15	21	48	9	15	29	3	400
	5:00 PM	8	89	9	13	146	16	9	102	16	14	31	10	463
	5:15 PM	8	83	23	13	136	7	11	65	12	10	42	9	419
	5:30 PM	8	109	16	12	139	13	17	56	12	15	26	11	434
	5:45 PM	12	96	9	16	134	8	17	67	11	11	32	10	423
	VOLUMES	65	813	144	96	1,094	87	116	543	83	113	246	78	3,478
	APPROACH %	6%	80%	14%	8%	86%	7%	16%	73%	11%	26%	56%	18%	
APP/DEPART	1,022	/	1,007	1,277	/	1,294	742	/	783	437	/	394	0	
BEGIN PEAK HR	4:15 PM													
VOLUMES	31	400	67	41	547	52	59	292	40	65	113	37	1,744	
APPROACH %	6%	80%	13%	6%	85%	8%	15%	75%	10%	30%	53%	17%		
PEAK HR FACTOR		0.929			0.914			0.770			0.911		0.942	
APP/DEPART	498	/	496	640	/	655	391	/	400	215	/	193	0	

	Monte Vista	
	NORTH SIDE	
Arrow Route	WEST SIDE	EAST SIDE
		Arrow Route
	SOUTH SIDE	
	Monte Vista	

ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	0	0	1	0	0	0	0	0
	7:30 AM	2	0	0	0	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	2	0	0	2	0	1	0	0	1
	8:15 AM	0	1	0	0	1	0	1	0	0	1
	8:30 AM	1	1	0	1	3	0	0	0	1	1
	8:45 AM	0	2	0	0	2	0	0	0	0	0
TOTAL	4	6	0	1	11	0	2	0	1	3	
PM	4:00 PM	0	2	0	0	2	0	0	0	0	0
	4:15 PM	0	3	0	0	3	0	1	0	0	1
	4:30 PM	0	1	0	0	1	0	1	0	0	1
	4:45 PM	0	3	2	1	6	0	3	1	0	4
	5:00 PM	0	3	0	0	3	0	3	0	0	3
	5:15 PM	3	0	0	0	3	2	0	0	0	2
	5:30 PM	0	1	1	0	2	0	0	1	0	1
	5:45 PM	1	2	0	0	3	0	0	0	0	0
TOTAL	4	15	3	1	23	2	8	2	0	12	

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

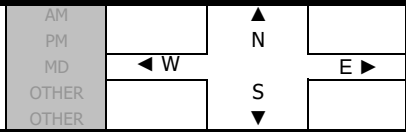
DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Upland
Monte Vista
Arrow Route

PROJECT #: SC3668
LOCATION #: 10
CONTROL: SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Monte Vista			Monte Vista			Arrow Route			Arrow Route			
LANES:	NL 2	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL

MD	11:00 AM	4	84	5	11	130	9	8	32	8	7	23	11	332
	11:15 AM	5	72	7	15	98	16	16	23	8	7	24	9	300
	11:30 AM	12	70	7	5	109	6	14	25	7	12	22	10	299
	11:45 AM	12	81	5	9	117	15	24	33	3	14	30	13	356
	12:00 PM	11	92	9	4	120	4	20	25	9	13	33	7	347
	12:15 PM	5	75	5	6	122	15	19	35	9	10	32	10	343
	12:30 PM	10	75	5	6	127	18	15	39	13	4	22	11	345
	12:45 PM	9	71	10	8	111	10	17	42	12	13	36	5	344
	1:00 PM	10	76	13	7	91	15	22	30	10	10	23	7	314
	1:15 PM	8	101	10	7	125	13	16	37	9	9	35	5	375
	VOLUMES	86	797	76	78	1,150	121	171	321	88	99	280	88	3,355
	APPROACH %	9%	83%	8%	6%	85%	9%	29%	55%	15%	21%	60%	19%	
PM	APP/DEPART	959	/	1,056	1,349	/	1,350	580	/	473	467	/	476	0
	BEGIN PEAK HR	11:45 AM												
	VOLUMES	38	323	24	25	486	52	78	132	34	41	117	41	1,391
	APPROACH %	10%	84%	6%	4%	86%	9%	32%	54%	14%	21%	59%	21%	
	PEAK HR FACTOR	0.859			0.932			0.910			0.873			0.977
	APP/DEPART	385	/	441	563	/	569	244	/	180	199	/	201	0
	03:00 PM	11	74	1	9	106	9	10	38	12	9	29	7	315
	3:15 PM	10	83	5	4	120	9	6	35	10	7	36	10	335
	3:30 PM	5	70	11	7	90	12	12	35	12	9	30	9	302
	3:45 PM	12	78	6	6	126	9	14	36	11	15	25	3	341
	4:00 PM	10	78	7	6	106	8	18	42	6	13	34	12	340
	4:15 PM	7	68	6	2	106	5	11	35	13	13	34	11	311
	4:30 PM	14	73	10	4	88	10	11	43	9	9	29	10	310
	4:45 PM	8	94	8	8	93	15	9	46	14	6	22	11	334
	VOLUMES	77	620	54	46	836	77	91	310	87	81	239	73	2,591
	APPROACH %	10%	83%	7%	5%	87%	8%	19%	64%	18%	21%	61%	19%	
	APP/DEPART	751	/	784	959	/	1,009	488	/	409	393	/	389	0
	BEGIN PEAK HR	3:15 PM												
	VOLUMES	37	309	29	23	442	38	50	148	39	44	125	34	1,318
	APPROACH %	10%	82%	8%	5%	88%	8%	21%	62%	16%	22%	62%	17%	
	PEAK HR FACTOR	0.957			0.892			0.898			0.860			0.966
	APP/DEPART	375	/	392	503	/	526	237	/	200	203	/	200	0

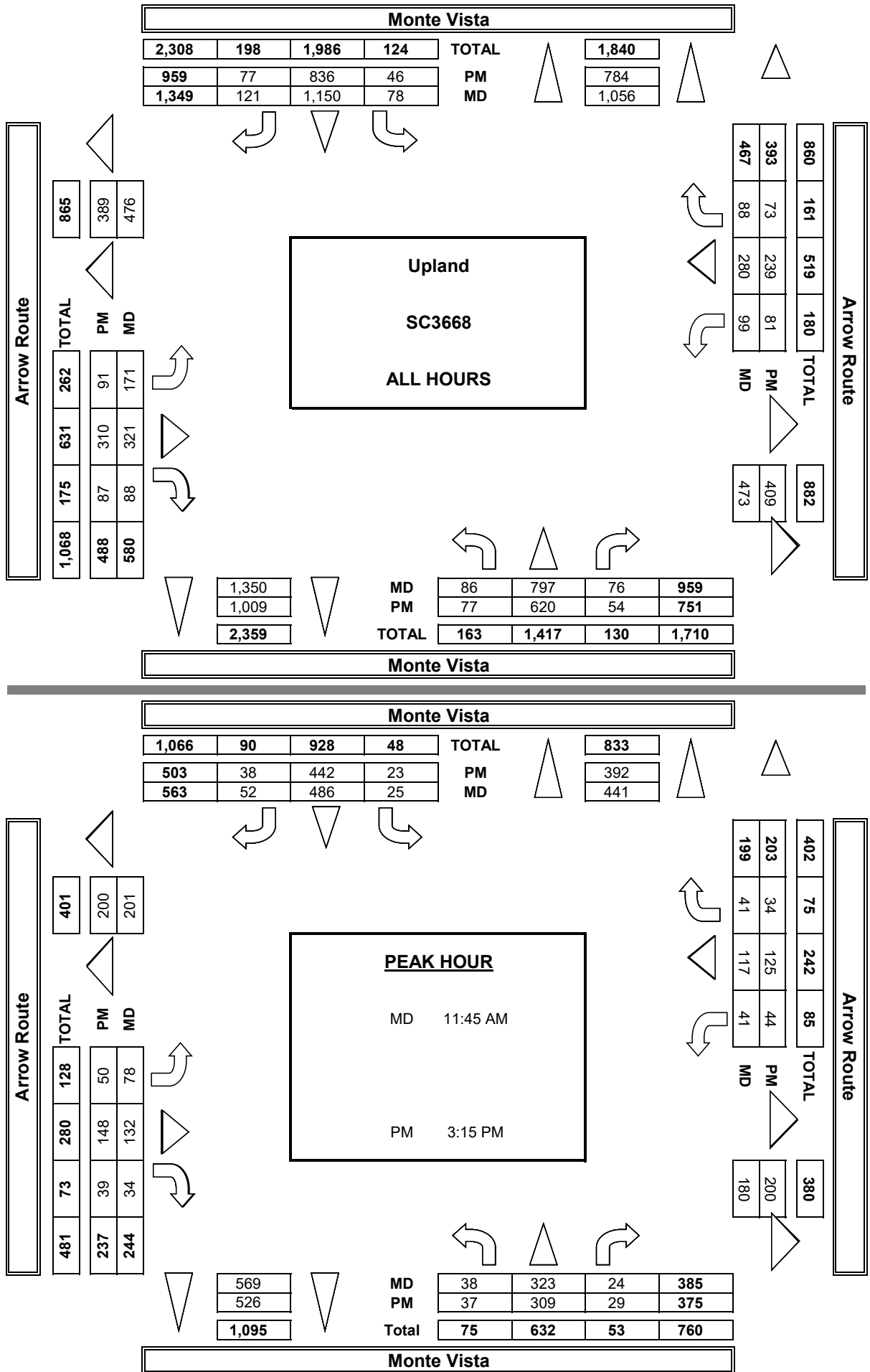


MD	11:00 AM	0	5	0	0	5
	11:15 AM	0	1	1	0	2
	11:30 AM	1	0	0	0	1
	11:45 AM	0	1	1	0	2
	12:00 PM	0	2	0	0	2
	12:15 PM	0	3	0	0	3
	12:30 PM	0	3	1	0	4
	12:45 PM	0	1	1	0	2
	1:00 PM	0	0	0	0	0
	1:15 PM	1	2	0	0	3
	TOTAL	2	18	4	0	24
	3:00 PM	1	1	0	1	3
	3:15 PM	0	0	0	0	0
PM	3:30 PM	1	3	0	0	4
	3:45 PM	1	1	0	0	2
	4:00 PM	0	0	0	0	0
	4:15 PM	0	2	1	0	3
	4:30 PM	1	3	2	1	7
	4:45 PM	0	3	0	0	3
	TOTAL	4	13	3	2	22

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	5	0	0	5
0	1	1	0	2
1	0	0	0	1
0	1	1	0	2
0	2	0	0	2
0	3	0	0	3
0	3	1	0	4
0	1	1	0	2
0	0	0	0	0
1	2	0	0	3
2	18	4	0	24
1	1	0	1	3
0	0	0	0	0
1	3	0	0	4
1	1	0	0	2
0	0	0	0	0
0	2	1	0	3
1	3	2	1	7
0	3	0	0	3
4	13	3	2	22

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	5	0	0	6
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	3	0	0	3
0	7	0	1	8

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Indian Hill Harrison	PROJECT #: LOCATION #: CONTROL:	SC3943 2 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

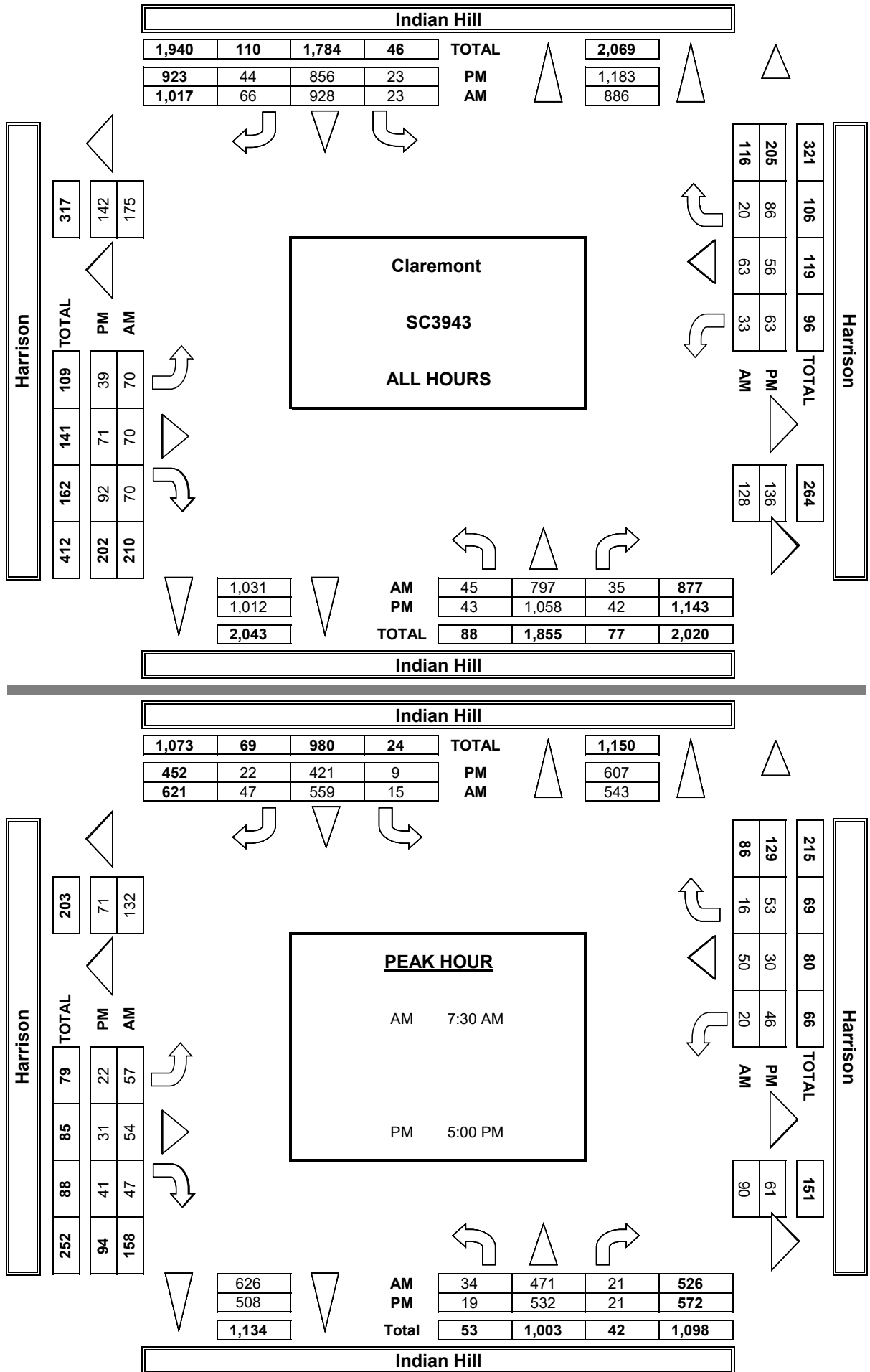
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Indian Hill			Indian Hill			Harrison			Harrison			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	0	1	1	1	0.5	0.5	1	0.5	0.5	1	

AM	7:00 AM	2	68	2	0	69	1	5	2	2	1	1	0	153
	7:15 AM	2	93	1	0	94	5	2	3	5	3	3	0	211
	7:30 AM	5	82	5	3	129	14	6	5	9	1	15	5	279
	7:45 AM	15	136	4	1	118	22	24	8	18	3	17	4	370
	8:00 AM	10	143	8	6	153	5	20	29	13	11	11	2	411
	8:15 AM	4	110	4	5	159	6	7	12	7	5	7	5	331
	8:30 AM	3	71	7	2	126	9	1	7	5	5	2	1	239
	8:45 AM	4	94	4	6	80	4	5	4	11	4	7	3	226
	VOLUMES	45	797	35	23	928	66	70	70	70	33	63	20	2,220
	APPROACH %	5%	91%	4%	2%	91%	6%	33%	33%	33%	28%	54%	17%	
PM	APP/DEPART	877	/	886	1,017	/	1,031	210	/	128	116	/	175	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	34	471	21	15	559	47	57	54	47	20	50	16	1,391
	APPROACH %	6%	90%	4%	2%	90%	8%	36%	34%	30%	23%	58%	19%	
	PEAK HR FACTOR	0.817			0.913			0.637			0.896			0.846
	APP/DEPART	526	/	543	621	/	626	158	/	90	86	/	132	0
	4:00 PM	9	152	5	4	106	9	5	12	11	4	8	9	334
	4:15 PM	5	130	5	2	100	4	4	11	16	3	6	10	296
	4:30 PM	2	123	7	1	109	5	5	9	11	2	4	8	286
	4:45 PM	8	121	4	7	120	4	3	8	13	8	8	6	310
PM	5:00 PM	10	136	4	6	108	5	5	11	10	19	9	20	343
	5:15 PM	0	124	5	1	106	4	6	7	12	4	9	12	290
	5:30 PM	3	144	5	1	96	4	6	5	8	9	7	12	300
	5:45 PM	6	128	7	1	111	9	5	8	11	14	5	9	314
	VOLUMES	43	1,058	42	23	856	44	39	71	92	63	56	86	2,473
	APPROACH %	4%	93%	4%	2%	93%	5%	19%	35%	46%	31%	27%	42%	
	APP/DEPART	1,143	/	1,183	923	/	1,012	202	/	136	205	/	142	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	19	532	21	9	421	22	22	31	41	46	30	53	1,247
	APPROACH %	3%	93%	4%	2%	93%	5%	23%	33%	44%	36%	23%	41%	
	PEAK HR FACTOR	0.941			0.934			0.904			0.672			0.909
	APP/DEPART	572	/	607	452	/	508	94	/	61	129	/	71	0



ALL PED AND BIKE						PEDESTRIAN CROSSINGS					
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	1	0	0	1	2	1	0	0	0	1
	7:15 AM	0	0	1	0	1	0	0	0	0	0
	7:30 AM	1	0	2	0	3	1	0	2	0	3
	7:45 AM	1	2	6	0	9	1	2	5	0	8
	8:00 AM	3	0	6	0	9	2	0	5	0	7
	8:15 AM	7	0	0	0	7	7	0	0	0	7
	8:30 AM	1	0	2	1	4	1	0	2	1	4
	8:45 AM	0	2	2	0	4	0	2	2	0	4
PM	TOTAL	14	4	19	2	39	13	4	16	1	34
	4:00 PM	7	3	1	3	14	7	3	1	3	14
	4:15 PM	3	0	0	2	5	3	0	0	2	5
	4:30 PM	2	2	2	3	9	2	2	2	3	9
	4:45 PM	1	0	1	1	3	1	0	1	1	3
	5:00 PM	1	0	0	2	3	1	0	0	2	3
	5:15 PM	1	0	0	2	3	1	0	0	1	2
	5:30 PM	1	1	7	2	11	1	1	7	2	11
TOTAL	5:45 PM	1	0	0	9	10	1	0	0	9	10
	TOTAL	17	6	11	24	58	17	6	11	23	57

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Indian Hill
Harrison

PROJECT #:
LOCATION #:
CONTROL:

SC3943
2
SIGNAL

NOTES:

AM	▲	
PM		
MD	◀ W	E ▶
OTHER		
OTHER	S ▼	

	NORTHBOUND Indian Hill			SOUTHBOUND Indian Hill			EASTBOUND Harrison			WESTBOUND Harrison			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 1	EL 0.5	ET 0.5	ER 1	WL 0.5	WT 0.5	WR 1	TOTAL

MD	11:00 AM	4	99	2	2	108	0	2	9	16	9	1	10	262
	11:15 AM	10	107	1	2	105	4	2	4	8	5	4	8	260
	11:30 AM	7	99	1	3	124	2	3	5	14	5	7	10	280
	11:45 AM	7	145	3	4	135	4	4	1	7	6	5	7	328
	12:00 PM	7	127	1	1	131	4	8	6	14	3	4	6	312
	12:15 PM	3	96	4	3	122	3	4	14	12	12	7	9	289
	12:30 PM	3	129	2	5	111	3	3	2	11	7	7	9	292
	12:45 PM	5	128	4	0	102	4	5	4	8	4	12	6	282
	1:00 PM	3	123	6	2	108	2	3	6	4	6	8	6	277
	1:15 PM	4	129	4	2	114	1	4	5	13	10	6	6	298
	1:30 PM	3	136	4	4	91	2	6	6	10	14	1	9	286
	1:45 PM	4	129	5	5	96	7	5	1	10	7	1	5	275
	VOLUMES	60	1,447	37	33	1,347	36	49	63	127	88	63	91	3,441
	APPROACH %	4%	94%	2%	2%	95%	3%	21%	26%	53%	36%	26%	38%	
	APP/DEPART	1,544	/	1,587	1,416	/	1,562	239	/	133	242	/	159	0
PM	BEGIN PEAK HR	11:45 AM												
	VOLUMES	20	497	10	13	499	14	19	23	44	28	23	31	1,221
	APPROACH %	4%	94%	2%	2%	95%	3%	22%	27%	51%	34%	28%	38%	
	PEAK HR FACTOR		0.850			0.920			0.717			0.732		0.931
	APP/DEPART	527	/	547	526	/	571	86	/	46	82	/	57	0
	02:00 PM	8	106	3	1	85	4	3	6	15	5	3	11	250
	2:15 PM	7	90	4	0	101	5	6	5	8	7	6	3	242
	2:30 PM	5	136	2	1	103	3	3	1	11	3	3	9	280
	2:45 PM	2	132	0	1	118	5	4	4	6	4	4	5	285
	3:00 PM	5	137	4	2	103	3	4	5	10	2	3	4	282
	3:15 PM	8	123	3	6	92	1	5	4	10	8	13	5	278
	3:30 PM	11	123	1	1	85	7	4	5	15	4	3	10	269
	3:45 PM	2	125	2	1	99	5	2	2	6	7	7	4	262
	4:00 PM	4	129	2	2	113	10	2	3	8	7	7	7	294
	4:15 PM	4	101	3	0	99	6	7	7	4	4	5	6	246
	4:30 PM	6	128	3	3	116	9	4	2	13	2	1	4	291
	4:45 PM	4	115	3	1	97	4	2	2	8	10	2	1	249
	VOLUMES	66	1,445	30	19	1,211	62	46	46	114	63	57	69	3,228
	APPROACH %	4%	94%	2%	1%	94%	5%	22%	22%	55%	33%	30%	37%	
	APP/DEPART	1,541	/	1,560	1,292	/	1,388	206	/	95	189	/	185	0
	BEGIN PEAK HR	2:30 PM												
	VOLUMES	20	528	9	10	416	12	16	14	37	17	23	23	1,125
	APPROACH %	4%	95%	2%	2%	95%	3%	24%	21%	55%	27%	37%	37%	
	PEAK HR FACTOR		0.954			0.883			0.882			0.606		0.987
	APP/DEPART	557	/	567	438	/	470	67	/	33	63	/	55	0

Indian Hill

NORTH SIDE

Harrison

WEST SIDE

EAST SIDE

Harrison

SOUTH SIDE

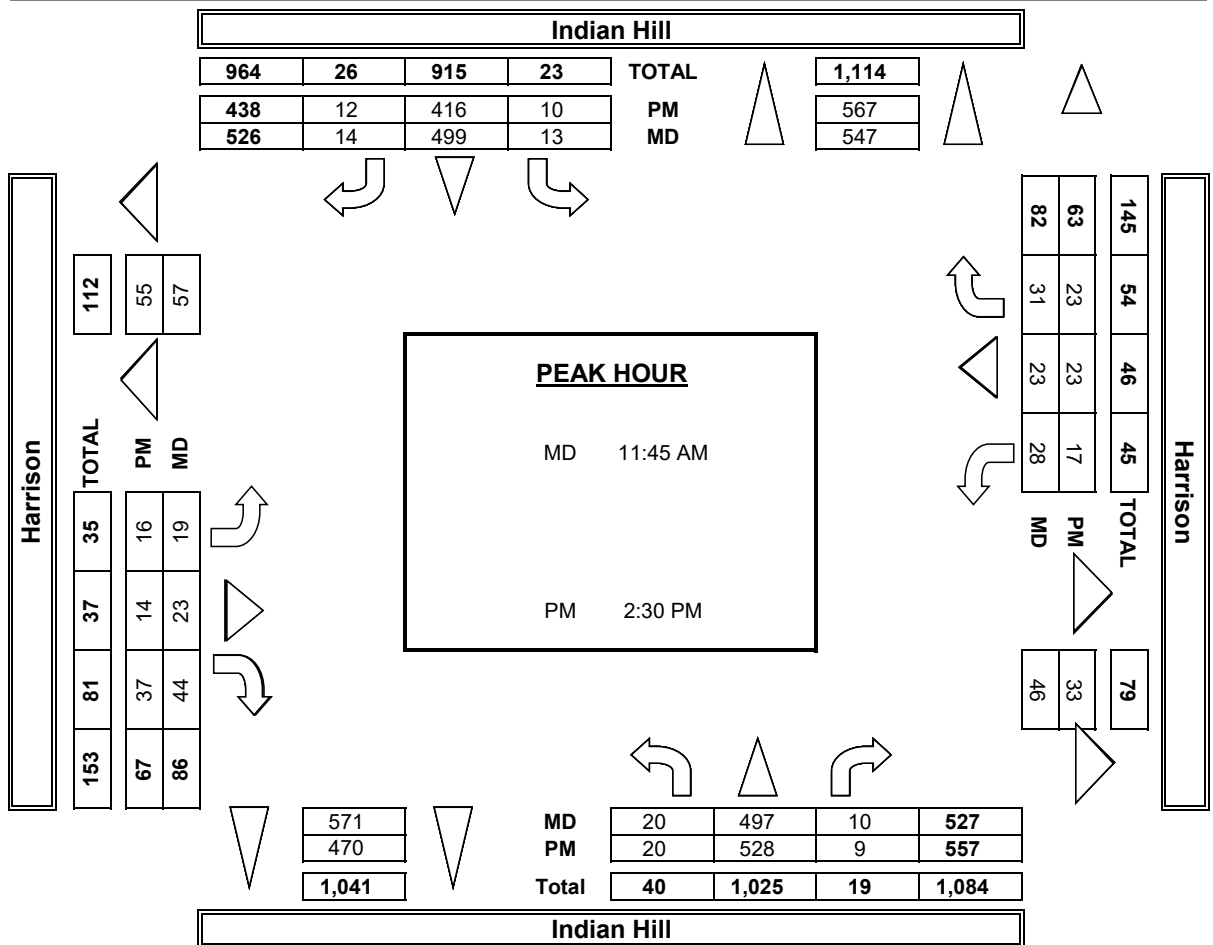
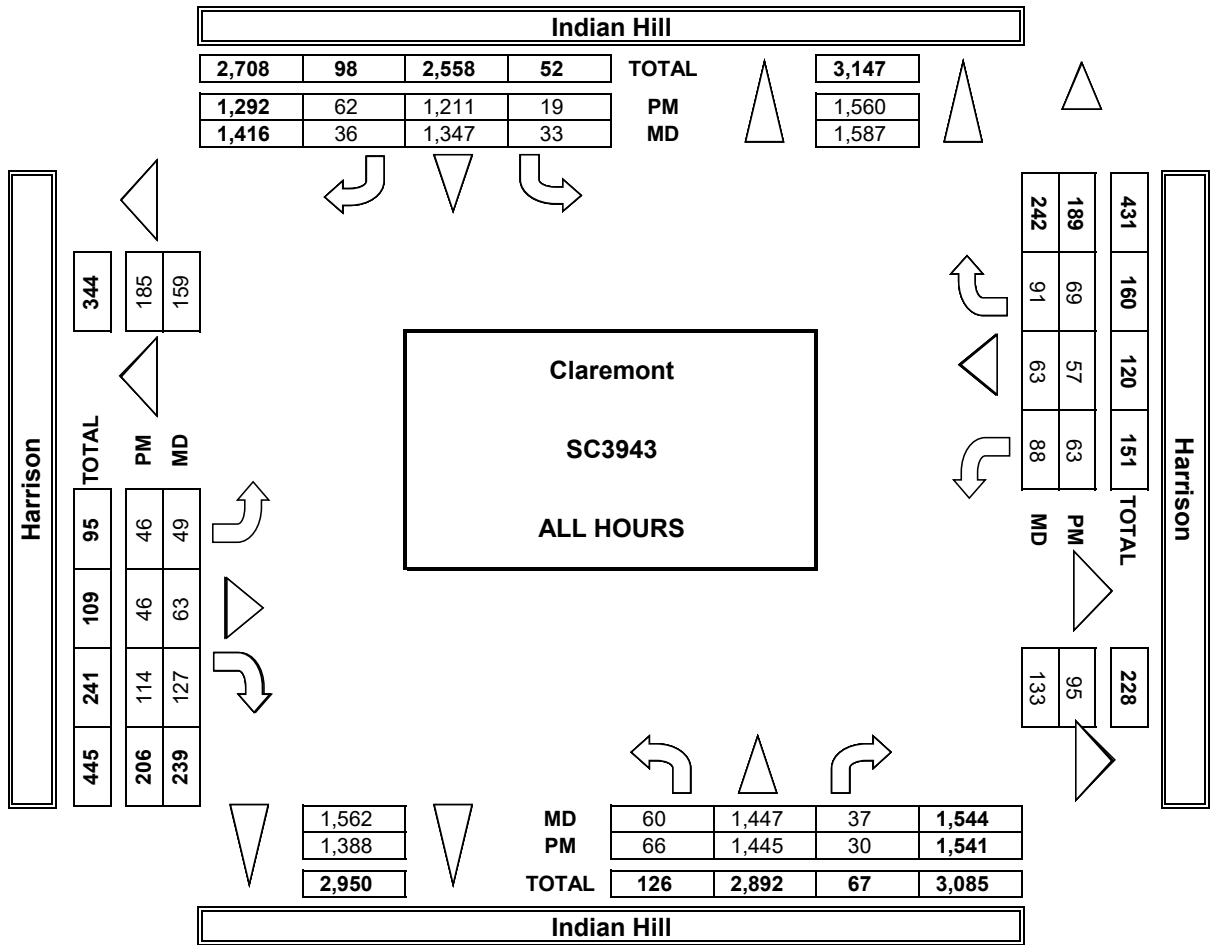
Indian Hill

MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
	1:30 PM	
	1:45 PM	
	TOTAL	
PM	2:00 PM	
	2:15 PM	
	2:30 PM	
	2:45 PM	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4	0	5	1	10
2	2	4	2	10
4	0	3	2	9
0	2	6	3	11
2	0	2	2	6
2	5	1	6	14
4	3	6	3	16
0	1	2	3	6
1	1	3	0	5
0	0	5	4	9
0	5	2	1	8
1	0	4	0	5
20	19	43	27	109
1	4	2	4	11
2	0	3	1	6
2	0	4	0	6
0	1	0	0	1
1	2	3	4	10
2	0	9	6	17
1	1	3	5	10
1	7	5	7	20
3	0	6	2	11
2	2	0	3	7
1	4	1	3	9
0	0	2	1	3
16	21	38	36	111

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4	0	5	1	10
2	2	4	2	10
4	0	3	2	9
0	2	6	3	11
2	0	2	0	4
1	4	1	6	12
4	3	4	2	13
0	1	1	3	5
1	1	3	0	5
0	0	5	4	9
0	5	2	1	8
0	0	2	0	2
18	18	38	24	98
1	4	1	4	10
1	0	2	1	4
1	0	3	0	4
0	1	0	0	1
0	2	2	2	6
2	0	8	4	14
0	1	2	5	8
1	6	5	4	16
3	0	4	1	8
2	0	0	3	5
1	4	1	3	9
0	0	2	1	3
12	18	30	28	88

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 13, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Indian Hill 1st	PROJECT #: LOCATION #: CONTROL:	SC3943 3 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

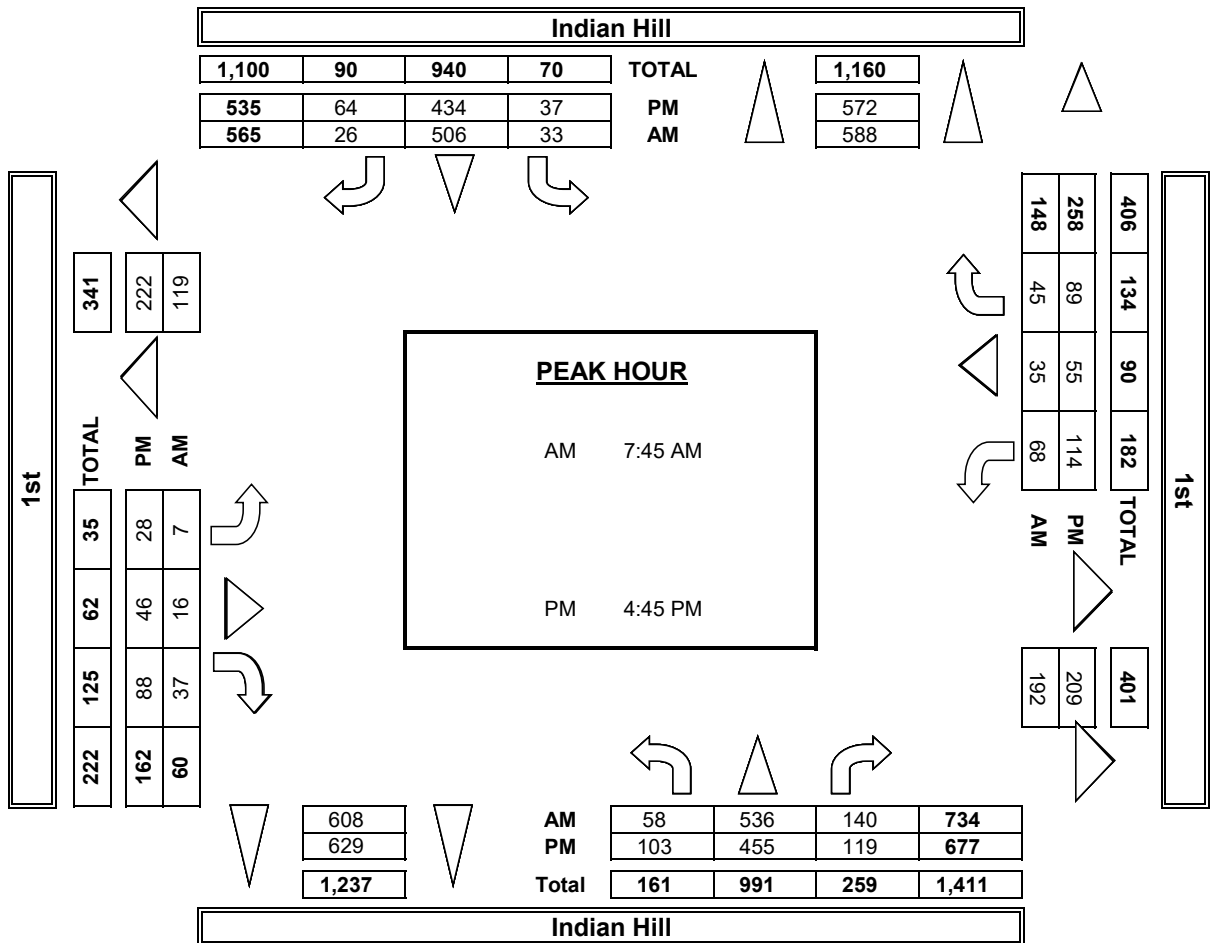
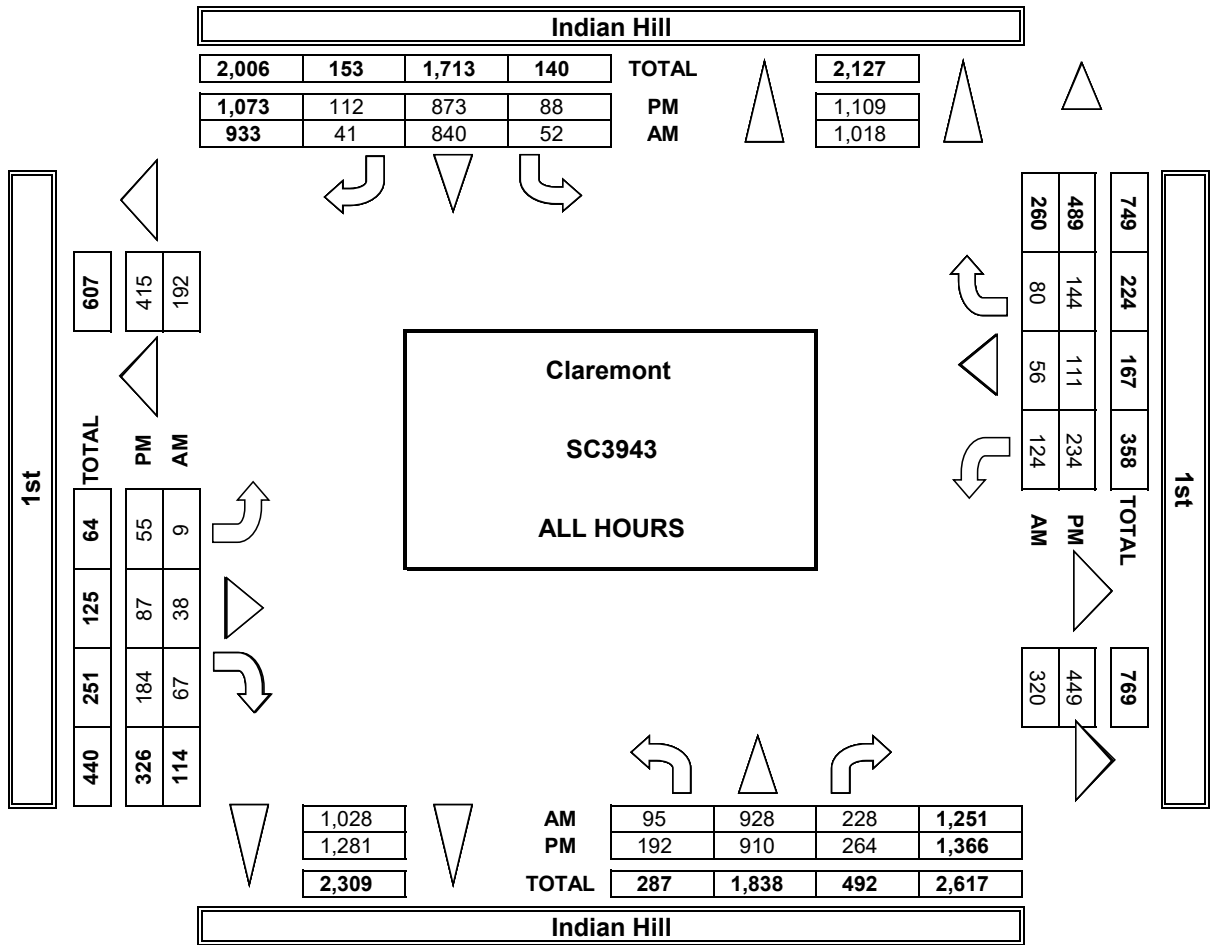
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Indian Hill			Indian Hill			1st			1st			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	0	1	1	1	1	0.5	0.5	

AM	7:00 AM	5	74	11	1	67	2	0	4	5	8	3	2	182
	7:15 AM	3	104	21	7	83	3	0	4	5	14	2	9	255
	7:30 AM	10	103	19	2	110	3	0	5	7	17	7	7	290
	7:45 AM	13	173	35	9	116	9	3	4	5	12	5	7	391
	8:00 AM	19	164	41	8	133	5	0	4	8	14	11	9	416
	8:15 AM	8	110	30	8	139	7	2	4	11	24	8	17	368
	8:30 AM	18	89	34	8	118	5	2	4	13	18	11	12	332
	8:45 AM	19	111	37	9	74	7	2	9	13	17	9	17	324
	VOLUMES	95	928	228	52	840	41	9	38	67	124	56	80	2,558
	APPROACH %	8%	74%	18%	6%	90%	4%	8%	33%	59%	48%	22%	31%	
APP/DEPART	1,251	/	1,018	933	/	1,028	114	/	320	260	/	192	0	
BEGIN PEAK HR	7:45 AM													
VOLUMES	58	536	140	33	506	26	7	16	37	68	35	45	1,507	
APPROACH %	8%	73%	19%	6%	90%	5%	12%	27%	62%	46%	24%	30%		
PEAK HR FACTOR	0.819			0.917			0.789			0.755			0.906	
APP/DEPART	734	/	588	565	/	608	60	/	192	148	/	119	0	
PM	4:00 PM	20	136	43	11	137	11	6	14	24	34	13	21	470
	4:15 PM	15	113	41	10	97	7	5	11	27	21	8	16	371
	4:30 PM	21	108	22	17	98	12	8	5	20	37	17	10	375
	4:45 PM	29	107	30	12	123	15	12	8	17	28	13	18	412
	5:00 PM	24	119	31	6	116	16	6	21	24	33	15	21	432
	5:15 PM	21	105	24	8	94	12	6	10	18	30	17	24	369
	5:30 PM	29	124	34	11	101	21	4	7	29	23	10	26	419
	5:45 PM	33	98	39	13	107	18	8	11	25	28	18	8	406
	VOLUMES	192	910	264	88	873	112	55	87	184	234	111	144	3,254
	APPROACH %	14%	67%	19%	8%	81%	10%	17%	27%	56%	48%	23%	29%	
APP/DEPART	1,366	/	1,109	1,073	/	1,281	326	/	449	489	/	415	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	103	455	119	37	434	64	28	46	88	114	55	89	1,632	
APPROACH %	15%	67%	18%	7%	81%	12%	17%	28%	54%	44%	21%	34%		
PEAK HR FACTOR	0.905			0.892			0.794			0.908			0.944	
APP/DEPART	677	/	572	535	/	629	162	/	209	258	/	222	0	



		ALL PED AND BIKE					PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	2	0	0	1	3	1	0	0	1	2
	7:15 AM	0	0	2	1	3	0	0	1	1	2
	7:30 AM	1	3	3	1	8	1	3	2	1	7
	7:45 AM	1	1	0	0	2	1	1	0	0	2
	8:00 AM	3	1	2	1	7	3	1	2	1	7
	8:15 AM	2	1	1	1	5	2	1	1	1	5
	8:30 AM	5	0	0	2	7	5	0	0	2	7
	8:45 AM	5	1	1	3	10	5	1	1	3	10
TOTAL		19	7	9	10	45	18	7	7	10	42
PM	4:00 PM	14	10	10	18	52	14	9	10	17	50
	4:15 PM	29	5	5	24	63	28	4	5	23	60
	4:30 PM	22	13	3	14	52	22	12	3	14	51
	4:45 PM	23	10	4	24	61	22	10	2	24	58
	5:00 PM	19	9	5	24	57	19	9	5	23	56
	5:15 PM	24	4	5	4	37	24	4	5	3	36
	5:30 PM	15	7	4	19	45	14	7	4	19	44
	5:45 PM	23	11	1	25	60	23	11	1	25	60
TOTAL		169	69	37	152	427	166	66	35	148	415

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 15, 23

LOCATION:
NORTH & SOUTH:
EAST & WEST:

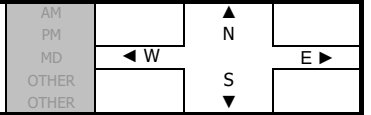
Claremont
Indian Hill
1st

PROJECT #:
LOCATION #:
CONTROL:

SC3943
3
SIGNAL

NOTES:

Queue NB MD/PM



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Indian Hill			Indian Hill			1st			1st			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	1	1	0	1	1	1	1	0.5	0.5	

MD	11:00 AM	24	110	32	9	105	16	6	7	13	19	5	22	368
	11:15 AM	23	119	46	5	97	13	8	8	12	36	12	31	410
	11:30 AM	24	98	31	8	88	9	7	4	13	29	9	18	338
	11:45 AM	28	131	50	9	113	19	10	9	18	23	13	27	450
	12:00 PM	26	100	45	11	101	20	7	8	20	35	9	23	405
	12:15 PM	29	104	37	10	115	20	7	12	16	28	15	24	417
	12:30 PM	29	116	31	6	108	27	8	10	28	32	12	27	434
	12:45 PM	26	97	41	7	87	28	6	9	13	27	11	18	370
	1:00 PM	22	106	20	8	95	15	9	11	26	25	13	22	372
	1:15 PM	32	100	33	8	133	17	11	8	17	28	11	21	419
	1:30 PM	25	99	31	6	102	19	10	9	31	24	11	18	385
	1:45 PM	23	111	35	4	102	13	10	4	25	24	6	24	381
	VOLUMES	311	1,291	432	91	1,246	216	99	99	232	330	127	275	4,749
	APPROACH %	15%	63%	21%	6%	80%	14%	23%	23%	54%	45%	17%	38%	
	APP/DEPART	2,034	/	1,665	1,553	/	1,774	430	/	656	732	/	654	0
PM	BEGIN PEAK HR	11:45 AM												
	VOLUMES	112	451	163	36	437	86	32	39	82	118	49	101	1,706
	APPROACH %	15%	62%	22%	6%	78%	15%	21%	25%	54%	44%	18%	38%	
	PEAK HR FACTOR		0.868			0.964			0.832			0.944		0.948
	APP/DEPART	726	/	584	559	/	627	153	/	248	268	/	247	0
	02:00 PM	29	95	28	12	80	9	7	9	23	16	6	17	331
	2:15 PM	34	97	20	3	98	20	8	11	20	16	14	19	360
	2:30 PM	19	111	24	6	109	14	11	6	24	30	19	19	392
	2:45 PM	24	112	35	10	100	15	10	17	32	21	16	17	409
	3:00 PM	23	104	33	10	88	20	6	15	17	26	11	15	368
	3:15 PM	31	111	30	8	90	14	8	11	24	24	20	20	391
	3:30 PM	27	102	31	12	96	19	11	10	29	25	11	17	390
	3:45 PM	41	117	31	5	80	15	16	13	27	26	23	17	411
	4:00 PM	42	110	23	8	106	15	15	8	35	25	12	12	411
	4:15 PM	30	98	23	16	99	12	6	8	26	21	16	21	376
	4:30 PM	36	104	15	14	92	17	17	10	22	23	11	15	376
	4:45 PM	27	99	24	4	82	14	7	12	25	26	17	17	354
	VOLUMES	363	1,260	317	108	1,120	184	122	130	304	279	176	206	4,569
	APPROACH %	19%	65%	16%	8%	79%	13%	22%	23%	55%	42%	27%	31%	
	APP/DEPART	1,940	/	1,588	1,412	/	1,691	556	/	568	661	/	722	0
	BEGIN PEAK HR	3:15 PM												
	VOLUMES	141	440	115	33	372	63	50	42	115	100	66	66	1,603
	APPROACH %	20%	63%	17%	7%	79%	13%	24%	20%	56%	43%	28%	28%	
	PEAK HR FACTOR		0.921			0.907			0.892			0.879		0.975
	APP/DEPART	696	/	556	468	/	582	207	/	195	232	/	270	0

Indian Hill

NORTH SIDE

1st

WEST SIDE

EAST SIDE

1st

SOUTH SIDE

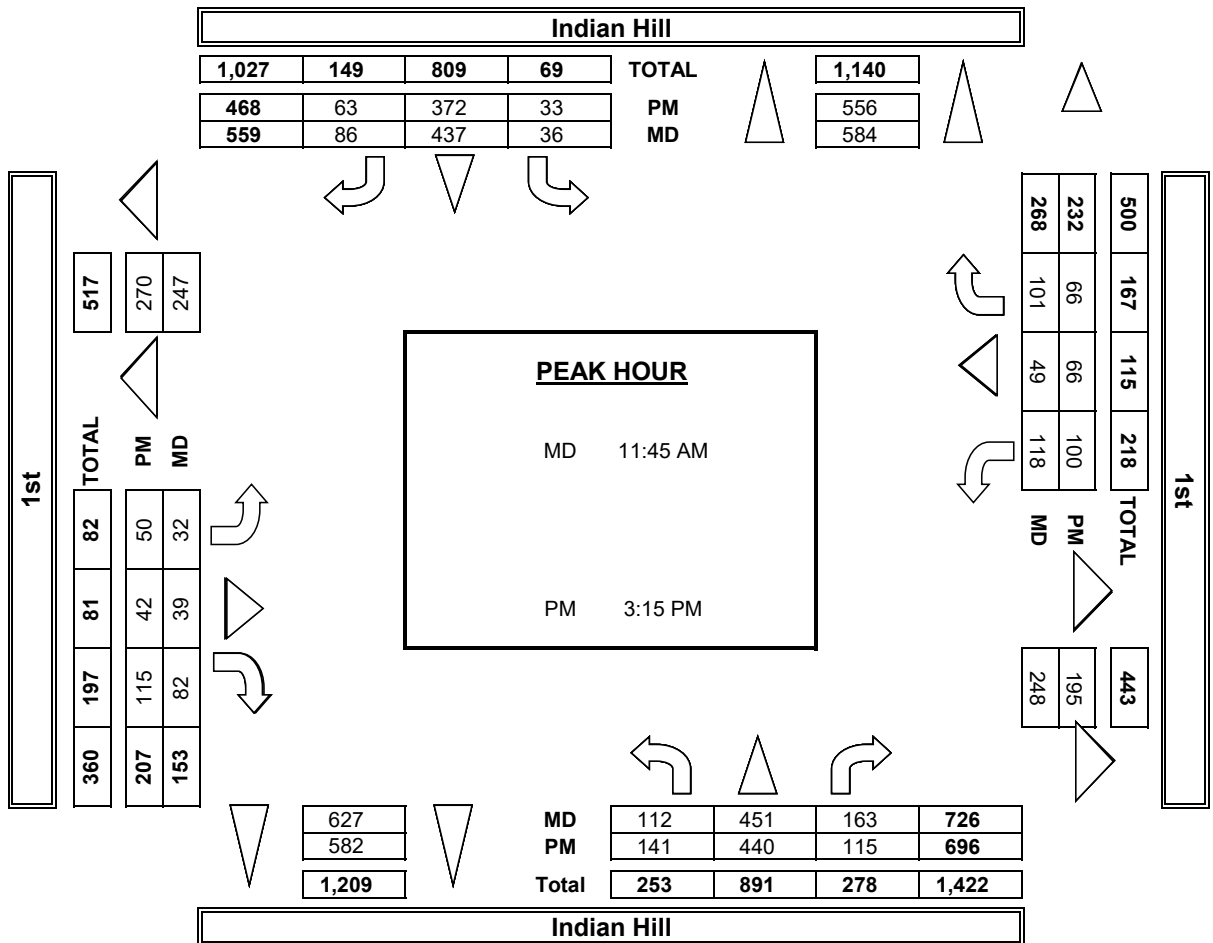
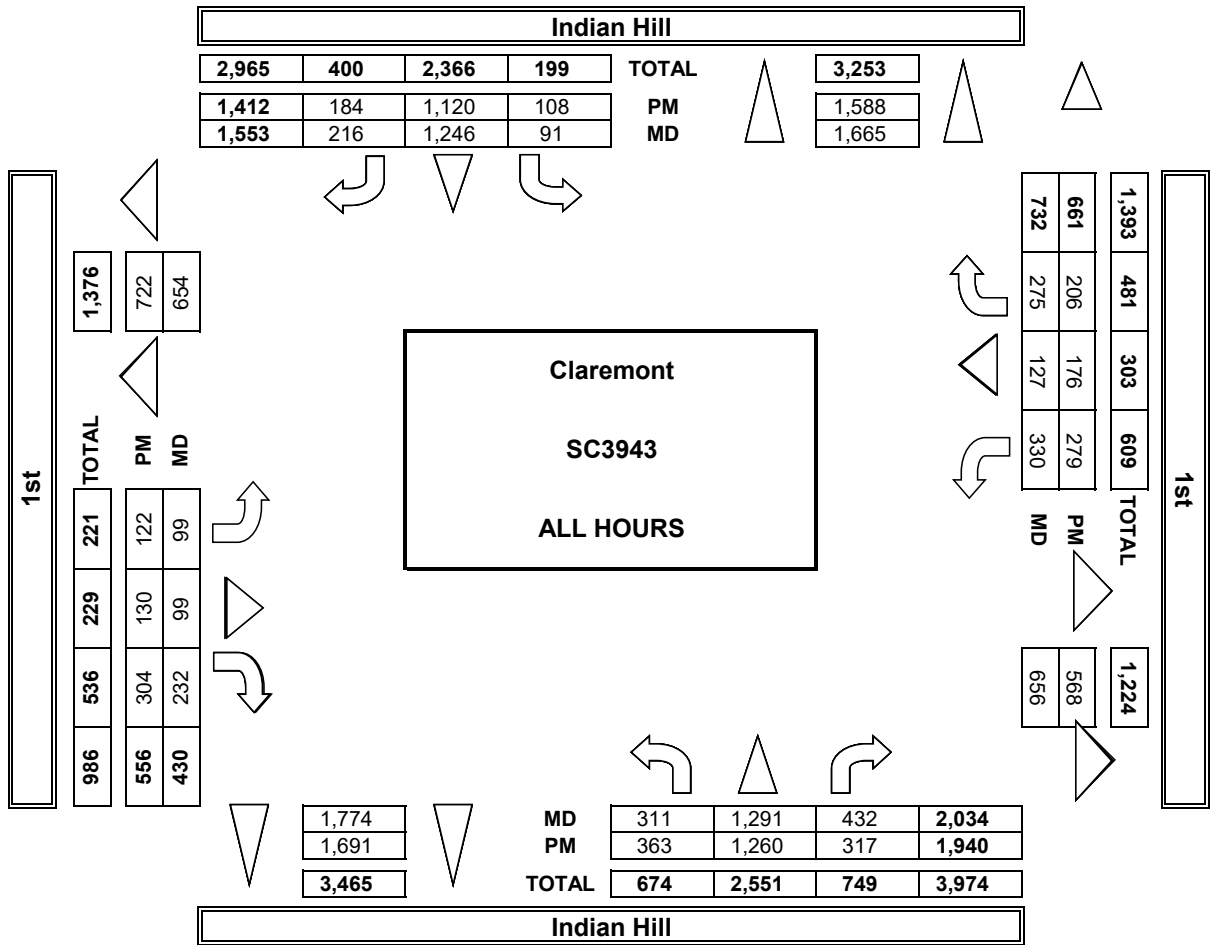
Indian Hill

MD	11:00 AM	24	110	32	9	105	16	6	7	13	19	5	22	368
	11:15 AM	23	119	46	5	97	13	8	8	12	36	12	31	410
	11:30 AM	24	98	31	8	88	9	7	4	13	29	9	18	338
	11:45 AM	28	131	50	9	113	19	10	9	18	23	13	27	450
	12:00 PM	26	100	45	11	101	20	7	8	20	35	9	23	405
	12:15 PM	29	104	37	10	115	20	7	12	16	28	15	24	417
	12:30 PM	29	116	31	6	108	27	8	10	28	32	12	27	434
	12:45 PM	26	97	41	7	87	28	6	9	13	27	11	18	370
	1:00 PM	22	106	20	8	95	15	9	11	26	25	13	22	372
	1:15 PM	32	100	33	8	133	17	11	8	17	28	11	21	419
	1:30 PM	25	99	31	6	102	19	10	9	31	24	11	18	385
	1:45 PM	23	111	35	4	102	13	10	4	25	24	6	24	381
	TOTAL	311	1,291	432	91	1,246	216	99	99	232	330	127	275	4,749
PM	2:00 PM	29	95	28	12	80	9	7	9	23	16	6	17	331
	2:15 PM	34	97	20	3	98	20	8	11	20	16	14	19	360
	2:30 PM	19	111	24	6	109	14	11	6	24	30	19	19	392
	2:45 PM	24	112	35	10	100	15	10	17	32	21	16	17	409
	3:00 PM	23	104	33	10	88	20	6	15	17	26	11	15	368
	3:15 PM	31	111	30	8	90	14	8	11	24	24	20	20	391
	3:30 PM	27	102	31	12	96	19	11	10	29	25	11	17	390
	3:45 PM	41	117	31	5	80	15	16	13	27	26	23	17	411
	4:00 PM	42	110	23	8	106	15	15	8	35	25	12	12	411
	4:15 PM	30	98	23	16	99	12	6	8	26	21	16	21	376
	4:30 PM	36	104	15	14	92	17	17	10	22	23	11	15	376
	4:45 PM	27	99	24	4	82	14	7	12	25	26	17	17	354
	TOTAL	363	1,260	317	108	1,120	184	122	130	304	279	176	206	4,569

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
31	13	4	25	73
23	7	5	13	48
26	7	1	19	53
22	11	6	17	56
37	29	6	20	92
41	16	4	34	95
36	21	10	62	129
55	13	16	23	107
35	21	8	37	101
42	31	10	23	106
45	26	6	54	131
47	39	12	30	128
440	234	88	357	1,119
69	34	17	28	148
68	19	6	64	157
22	26	0	39	87
57	38	13	63	171
44	40	9	49	142
44	18	2	33	97
42	27	18	61	148
43	27	5	53	128
50	20	9	35	114
62	18	8	49	137
32	21	11	40	104
22	19	12	28	81
555	307	110	542	1,514

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
27	11	3	25	66
23	6	3	13	45
26	7	1	19	53
20	10	6	17	53
30	27	5	18	80
39	16	4	34	93
34	20	10	60	124
52	13	16	23	104
35	18	8	37	98
42	30	9	23	104
44	23	6	54	127
44	38	11	30	123
416	219	82	353	1,070
68	34	17	28	147
65	19	6	62	152
20	26	0	39	85
57	37	13	63	170
44	38	8	43	133
44	18	2	33	97
40	22	16	60	138
43	22	5	51	121
48	19	8	34	109
60	17	8	49	134
30	21	11	38	100
20	17	12	28	77
539	290	106	528	1,463

AimTD LLC
TURNING MOVEMENT COUNTS



**1st St & College Ave
Claremont California
Thursday, January 25, 2024**

Time	Southbound College Ave						Westbound 1st St						Northbound College Ave						Eastbound 1st St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	2	8	4	1	14	0	5	10	5	2	20	0	3	16	8	1	27	0	1	11	4	0	16	77
7:15 AM	0	8	14	2	0	24	0	4	13	9	2	26	0	5	20	3	5	28	0	2	12	7	1	21	99
7:30 AM	0	2	14	2	5	18	0	13	17	16	1	46	0	5	38	4	2	47	0	6	9	7	1	22	133
7:45 AM	0	9	39	1	3	49	0	7	14	8	3	29	0	7	68	13	1	88	0	5	13	9	2	27	193
Hourly Total	0	21	75	9	9	105	0	29	54	38	8	121	0	20	142	28	9	190	0	14	45	27	4	86	502
8:00 AM	0	5	43	5	1	53	1	5	18	14	1	38	0	10	78	8	3	96	1	5	24	6	1	36	223
8:15 AM	0	10	47	4	1	61	0	3	27	9	2	39	0	7	43	3	4	53	0	4	17	11	0	32	185
8:30 AM	0	11	25	3	0	39	0	6	27	8	1	41	0	5	30	3	0	38	0	4	15	3	3	22	140
8:45 AM	0	5	23	2	1	30	0	2	20	8	1	30	0	10	57	3	1	70	1	6	14	6	1	27	157
Hourly Total	0	31	138	14	3	183	1	16	92	39	5	148	0	32	208	17	8	257	2	19	70	26	5	117	705
4:00 PM	0	9	53	9	1	71	0	8	26	9	3	43	0	4	32	9	7	45	5	8	30	11	1	54	213
4:15 PM	0	7	52	10	4	69	0	5	20	6	4	31	0	9	27	5	2	41	0	7	20	13	5	40	181
4:30 PM	0	7	55	13	2	75	0	16	41	11	5	68	0	14	35	11	4	60	1	8	24	17	5	50	253
4:45 PM	0	10	52	11	1	73	0	6	23	7	5	36	0	9	40	9	1	58	1	7	21	8	7	37	204
Hourly Total	0	33	212	43	8	288	0	35	110	33	17	178	0	36	134	34	14	204	7	30	95	49	18	181	851
5:00 PM	0	12	77	5	12	94	2	5	31	12	5	50	0	7	29	13	10	49	0	6	35	23	7	64	257
5:15 PM	0	11	63	15	5	89	0	11	28	10	2	49	0	10	20	15	6	45	5	4	29	17	5	55	238
5:30 PM	0	9	36	11	1	56	0	7	15	10	0	32	0	18	16	5	5	39	4	8	29	13	6	54	181
5:45 PM	0	9	41	11	4	61	1	5	23	14	1	43	0	5	25	10	2	40	2	7	20	11	4	40	184
Hourly Total	0	41	217	42	22	300	3	28	97	46	8	174	0	40	90	43	23	173	11	25	113	64	22	213	860
4 Hours TOTAL	0	126	642	108	42	876	4	108	353	156	38	621	0	128	574	122	54	824	20	88	323	166	49	597	2918
Cars	0	126	640	108	40	874	4	107	314	156	33	581	0	127	570	120	52	817	20	88	277	166	47	551	2823
Heavy Vehicles	0	0	2	0	2	2	0	1	39	0	5	40	0	1	4	2	2	7	0	0	46	0	2	46	95
Heavy Vehicle %	0.00%	0.00%	0.31%	0.00%	4.76%	0.23%	0.00%	0.93%	11.05%	0.00%	13.16%	6.44%	0.00%	0.78%	0.70%	1.64%	3.70%	0.85%	0.00%	0.00%	14.24%	0.00%	4.08%	7.71%	3.26%

**1st St & College Ave
Claremont California
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:45 AM	0	9	39	1	3	49	0	7	14	8	3	29	0	7	68	13	1	88	0	5	13	9	2	27	193
8:00 AM	0	5	43	5	1	53	1	5	18	14	1	38	0	10	78	8	3	96	1	5	24	6	1	36	223
8:15 AM	0	10	47	4	1	61	0	3	27	9	2	39	0	7	43	3	4	53	0	4	17	11	0	32	185
8:30 AM	0	11	25	3	0	39	0	6	27	8	1	41	0	5	30	3	0	38	0	4	15	3	3	22	140
Peak Hour Total	0	35	154	13	5	202	1	21	86	39	7	147	0	29	219	27	8	275	1	18	69	29	6	117	741
PHF	0.000	0.795	0.819	0.650	0.417	0.828	0.250	0.750	0.796	0.696	0.583	0.896	0.000	0.725	0.702	0.519	0.500	0.716	0.250	0.900	0.719	0.659	0.500	0.813	0.831

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:30 PM	0	7	55	13	2	75	0	16	41	11	5	68	0	14	35	11	4	60	1	8	24	17	5	50	253
4:45 PM	0	10	52	11	1	73	0	6	23	7	5	36	0	9	40	9	1	58	1	7	21	8	7	37	204
5:00 PM	0	12	77	5	12	94	2	5	31	12	5	50	0	7	29	13	10	49	0	6	35	23	7	64	257
5:15 PM	0	11	63	15	5	89	0	11	28	10	2	49	0	10	20	15	6	45	5	4	29	17	5	55	238
Peak Hour Total	0	40	247	44	20	331	2	38	123	40	17	203	0	40	124	48	21	212	7	25	109	65	24	206	952
PHF	0.000	0.833	0.802	0.733	0.417	0.880	0.250	0.594	0.750	0.833	0.850	0.746	0.000	0.714	0.775	0.800	0.525	0.883	0.350	0.781	0.779	0.707	0.857	0.805	0.926

Total Vehicles On Leg 1694

Vehicles Entering Intersection 876			Vehicles Exiting Intersection 818		
Southbound					
Cars	108	640	126	0	40
Heavy	0	2	0	0	2
Total	108	642	126	0	42



Total Vehicles on Leg 1206	Vehicles Entering Intersection 597	Eastbound	Cars	Heavy	Total
			47	2	49
			20	0	20
	Vehicles Exiting Intersection 609		88	0	88
			277	46	323
			166	0	166



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 621	Total Vehicles on Leg 1196
156	0	156			
314	39	353			
107	1	108		Vehicles Exiting Intersection 575	
4	0	4			
33	5	38			



4 Hour Volumes

Cars	52	0	127	570	120
Heavy	2	0	1	4	2
Total	54	0	128	574	122
Northbound					
Vehicles Entering Intersection 824			Vehicles Exiting Intersection 916		
Total Vehicles On Leg			1740		



**1st St & College Ave
Claremont California
Saturday, January 27, 2024**

Time	Southbound College Ave						Westbound 1st St						Northbound College Ave						Eastbound 1st St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	5	38	10	5	53	0	3	22	5	4	30	0	13	23	5	6	41	2	5	19	10	8	36	160
11:15 AM	0	3	37	5	4	45	0	2	23	9	8	34	0	15	32	8	8	55	4	3	11	15	5	33	167
11:30 AM	0	11	29	6	7	46	0	5	16	8	4	29	0	15	41	9	4	65	2	7	19	15	14	43	183
11:45 AM	0	10	35	6	3	51	0	3	19	18	4	40	0	15	38	10	3	63	4	5	19	13	4	41	195
Hourly Total	0	29	139	27	19	195	0	13	80	40	20	133	0	58	134	32	21	224	12	20	68	53	31	153	705
12:00 PM	0	8	35	19	9	62	0	4	19	9	5	32	0	11	38	8	4	57	5	8	23	17	10	53	204
12:15 PM	0	8	34	13	4	55	0	5	22	11	10	38	0	12	30	5	10	47	3	11	18	5	9	37	177
12:30 PM	0	14	38	5	3	57	0	5	26	15	6	46	0	8	42	4	6	54	3	6	26	16	10	51	208
12:45 PM	0	12	28	9	3	49	0	10	24	11	4	45	0	18	40	5	0	63	7	7	17	13	3	44	201
Hourly Total	0	42	135	46	19	223	0	24	91	46	25	161	0	49	150	22	20	221	18	32	84	51	32	185	790
1:00 PM	0	9	42	15	4	66	1	5	27	10	3	43	0	11	24	7	7	42	3	9	18	16	4	46	197
1:15 PM	0	7	46	10	3	63	0	5	41	18	3	64	0	9	38	6	1	53	2	6	24	17	9	49	229
1:30 PM	0	1	35	6	4	42	0	5	23	9	3	37	0	6	36	6	3	48	4	12	22	16	3	54	181
1:45 PM	0	7	43	10	1	60	0	6	20	13	2	39	0	11	26	6	2	43	5	8	24	11	3	48	190
Hourly Total	0	24	166	41	12	231	1	21	111	50	11	183	0	37	124	25	13	186	14	35	88	60	19	197	797
2:00 PM	0	10	44	14	4	68	0	7	21	9	8	37	0	10	30	5	8	45	3	6	26	15	4	50	200
2:15 PM	0	9	32	8	1	49	0	6	28	7	12	41	0	6	25	2	5	33	2	2	22	12	10	38	161
2:30 PM	0	8	39	7	4	54	0	4	20	4	10	28	0	12	27	5	1	44	2	9	24	18	6	53	179
2:45 PM	0	7	37	7	1	51	0	3	24	8	5	35	0	6	36	6	2	48	3	4	27	8	7	42	176
Hourly Total	0	34	152	36	10	222	0	20	93	28	35	141	0	34	118	18	16	170	10	21	99	53	27	183	716
4 Hours TOTAL	0	129	592	150	60	871	1	78	375	164	91	618	0	178	526	97	70	801	54	108	339	217	109	718	3008
Cars	0	129	590	149	54	868	1	78	350	164	80	593	0	176	523	96	65	795	54	108	316	217	102	695	2951
Heavy Vehicles	0	0	2	1	6	3	0	0	25	0	11	25	0	2	3	1	5	6	0	0	23	0	7	23	57
Heavy Vehicle %	0.00%	0.00%	0.34%	0.67%	10.00%	0.34%	0.00%	0.00%	6.67%	0.00%	12.09%	4.05%	0.00%	1.12%	0.57%	1.03%	7.14%	0.75%	0.00%	0.00%	6.78%	0.00%	6.42%	3.20%	1.89%

**1st St & College Ave
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	5	38	10	5	53	0	3	22	5	4	30	0	13	23	5	6	41	2	5	19	10	8	36	160
11:15 AM	0	3	37	5	4	45	0	2	23	9	8	34	0	15	32	8	8	55	4	3	11	15	5	33	167
11:30 AM	0	11	29	6	7	46	0	5	16	8	4	29	0	15	41	9	4	65	2	7	19	15	14	43	183
11:45 AM	0	10	35	6	3	51	0	3	19	18	4	40	0	15	38	10	3	63	4	5	19	13	4	41	195
Peak Hour Total	0	29	139	27	19	195	0	13	80	40	20	133	0	58	134	32	21	224	12	20	68	53	31	153	705
PHF	0.000	0.659	0.914	0.675	0.679	0.920	0.000	0.650	0.870	0.556	0.625	0.831	0.000	0.967	0.817	0.800	0.656	0.862	0.750	0.714	0.895	0.883	0.554	0.890	0.904

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:30 PM	0	14	38	5	3	57	0	5	26	15	6	46	0	8	42	4	6	54	3	6	26	16	10	51	208
12:45 PM	0	12	28	9	3	49	0	10	24	11	4	45	0	18	40	5	0	63	7	7	17	13	3	44	201
1:00 PM	0	9	42	15	4	66	1	5	27	10	3	43	0	11	24	7	7	42	3	9	18	16	4	46	197
1:15 PM	0	7	46	10	3	63	0	5	41	18	3	64	0	9	38	6	1	53	2	6	24	17	9	49	229
Peak Hour Total	0	42	154	39	13	235	1	25	118	54	16	198	0	46	144	22	14	212	15	28	85	62	26	190	835
PHF	0.000	0.750	0.837	0.650	0.813	0.890	0.250	0.625	0.720	0.750	0.667	0.773	0.000	0.639	0.857	0.786	0.500	0.841	0.536	0.778	0.817	0.912	0.650	0.931	0.912

Total Vehicles On Leg 1669

Vehicles Entering Intersection 871			Vehicles Exiting Intersection 798		
Southbound					
Cars	149	590	129	0	54
Heavy	1	2	0	0	6
Total	150	592	129	0	60



Total Vehicles on Leg 1475	Vehicles Entering Intersection 718	Eastbound	Cars	Heavy	Total
			102	7	109
			54	0	54
	Vehicles Exiting Intersection 757		108	0	108
			316	23	339
			217	0	217



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 618	Total Vehicles on Leg 1184
164	0	164			
350	25	375			
78	0	78			
1	0	1			
80	11	91			
				Vehicles Exiting Intersection 566	



4 Hour Volumes

Cars	65	0	176	523	96
Heavy	5	0	2	3	1
Total	70	0	178	526	97
Northbound					
Vehicles Entering Intersection 801			Vehicles Exiting Intersection 887		
Total Vehicles On Leg			1688		



INTERSECTION TURNING MOVEMENT COUNTS

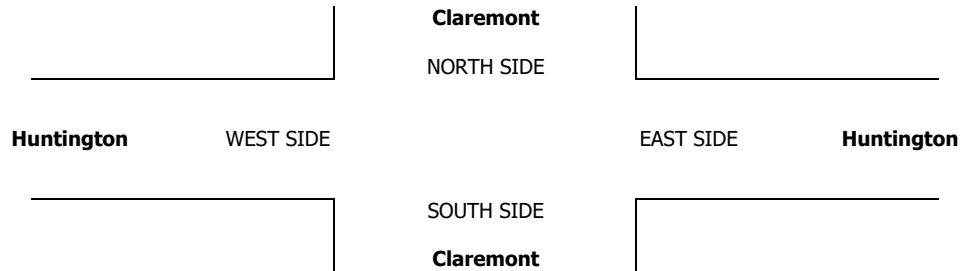
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 4, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Claremont Huntington	PROJECT #: LOCATION #: CONTROL:	SC3668 4 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
OTHER		▼		

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			1st			Huntington			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1	ET 1	ER 1	WL 0.5	WT 0.5	WR 1	TOTAL

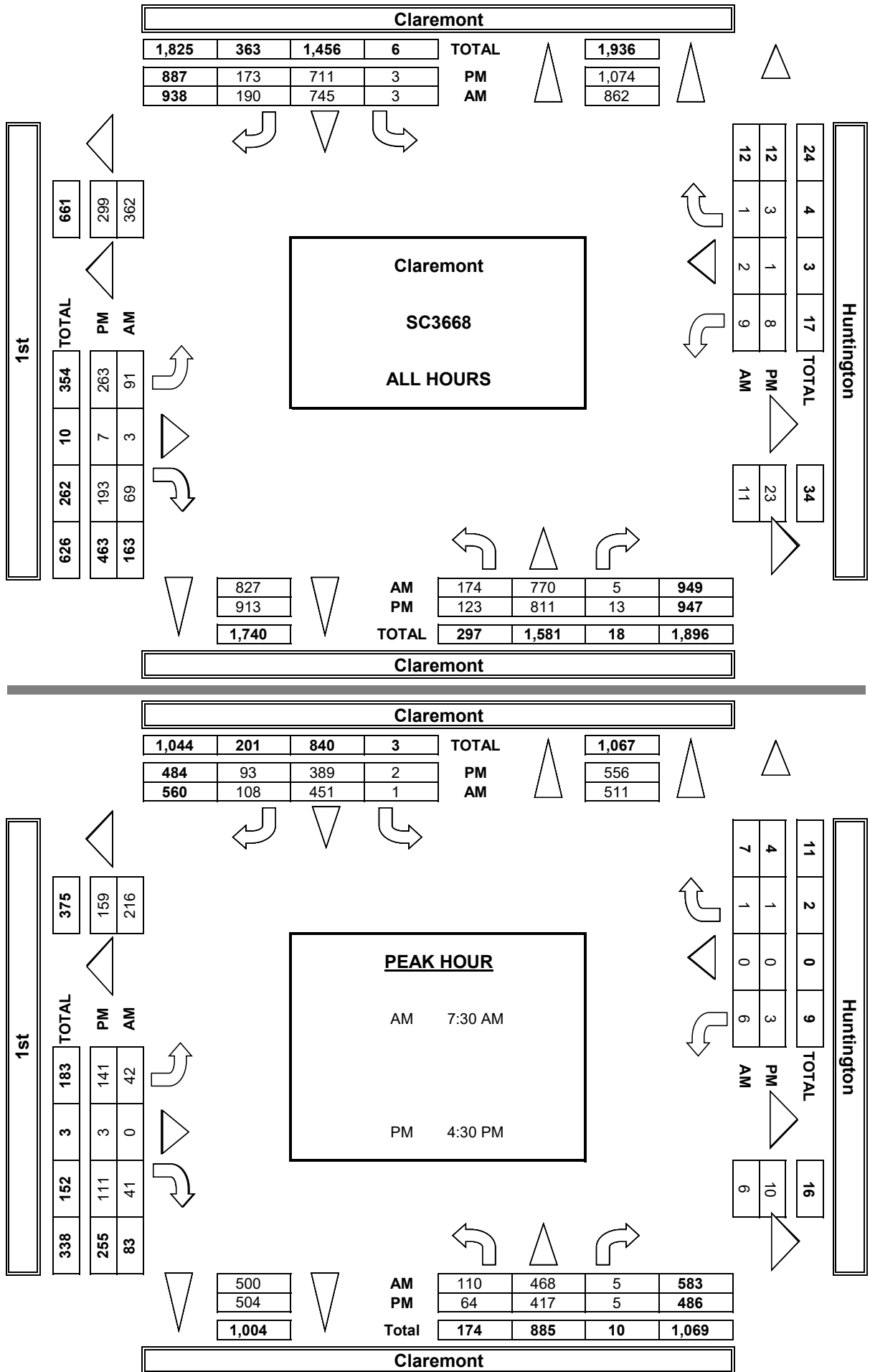
AM	7:00 AM	16	66	0	0	77	20	6	0	8	2	1	0	196
	7:15 AM	15	74	0	1	70	12	13	1	8	1	1	0	196
	7:30 AM	26	105	1	0	121	21	6	0	11	1	0	0	292
	7:45 AM	46	150	1	1	112	32	11	0	9	3	0	1	366
	8:00 AM	18	121	2	0	139	31	10	0	12	0	0	0	333
	8:15 AM	20	92	1	0	79	24	15	0	9	2	0	0	242
	8:30 AM	14	80	0	1	82	24	15	2	5	0	0	0	223
	8:45 AM	19	82	0	0	65	26	15	0	7	0	0	0	214
	VOLUMES	174	770	5	3	745	190	91	3	69	9	2	1	2,062
	APPROACH %	18%	81%	1%	0%	79%	20%	56%	2%	42%	75%	17%	8%	
APP/DEPART	949	/	862	938	/	827	163	/	11	12	/	362	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	110	468	5	1	451	108	42	0	41	6	0	1	1,233	
APPROACH %	19%	80%	1%	0%	81%	19%	51%	0%	49%	86%	0%	14%		
PEAK HR FACTOR	0.740			0.824			0.865			0.438			0.842	
APP/DEPART	583	/	511	560	/	500	83	/	6	7	/	216	0	
PM	4:00 PM	16	110	1	0	84	22	39	2	21	0	0	0	295
	4:15 PM	17	99	1	0	79	23	37	1	17	3	0	0	277
	4:30 PM	17	103	1	0	100	19	41	0	29	1	0	0	311
	4:45 PM	16	121	2	2	80	32	18	1	13	1	0	1	287
	5:00 PM	16	95	0	0	96	23	53	2	38	1	0	0	324
	5:15 PM	15	98	2	0	113	19	29	0	31	0	0	0	307
	5:30 PM	9	92	3	0	71	16	24	1	21	2	1	1	241
	5:45 PM	17	93	3	1	88	19	22	0	23	0	0	1	267
	VOLUMES	123	811	13	3	711	173	263	7	193	8	1	3	2,309
	APPROACH %	13%	86%	1%	0%	80%	20%	57%	2%	42%	67%	8%	25%	
APP/DEPART	947	/	1,074	887	/	913	463	/	23	12	/	299	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	64	417	5	2	389	93	141	3	111	3	0	1	1,229	
APPROACH %	13%	86%	1%	0%	80%	19%	55%	1%	44%	75%	0%	25%		
PEAK HR FACTOR	0.874			0.917			0.685			0.500			0.948	
APP/DEPART	486	/	556	484	/	504	255	/	10	4	/	159	0	



		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	3	4	0	0	7
	7:15 AM	4	4	2	0	10
	7:30 AM	1	0	0	0	1
	7:45 AM	2	1	1	0	4
	8:00 AM	8	0	0	0	8
	8:15 AM	1	4	0	3	8
	8:30 AM	6	2	0	2	10
	8:45 AM	5	2	4	0	11
TOTAL		30	17	7	5	59
PM	4:00 PM	1	1	1	1	4
	4:15 PM	3	1	1	3	8
	4:30 PM	1	1	1	3	6
	4:45 PM	4	1	1	3	9
	5:00 PM	5	2	1	1	9
	5:15 PM	0	3	2	1	6
	5:30 PM	4	1	0	2	7
5:45 PM	3	2	0	0	5	
TOTAL		21	12	7	14	54

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
2	3	0	0	5
1	3	1	0	5
1	0	0	0	1
1	0	0	0	1
4	0	0	0	4
0	3	0	3	6
2	2	0	2	6
1	2	2	0	5
12	13	3	5	33
1	0	1	1	3
1	0	0	1	2
0	0	0	3	3
1	0	0	2	3
1	0	0	0	1
0	1	0	0	1
1	0	0	2	3
1	2	0	0	3
6	3	1	9	19

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

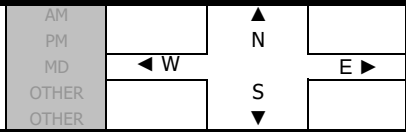
DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Claremont
Huntington

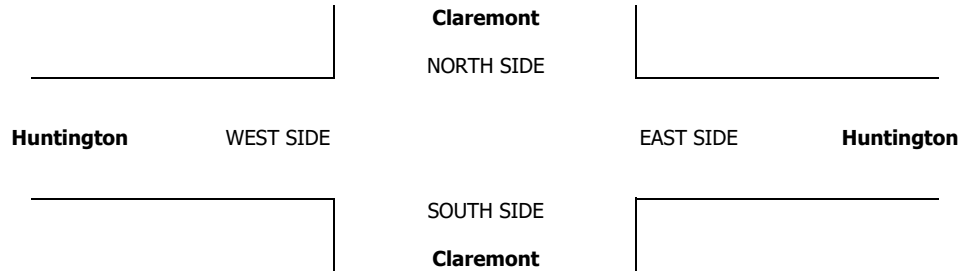
PROJECT #: SC3668
LOCATION #: 4
CONTROL: SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			1st			Huntington			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1	ET 1	ER 1	WL 0.5	WT 0.5	WR 1	TOTAL

MD	11:00 AM	14	66	0	0	59	30	28	0	20	0	1	0	218
	11:15 AM	13	71	0	0	75	19	25	1	20	0	0	1	225
	11:30 AM	9	90	1	2	73	23	18	1	17	1	0	3	238
	11:45 AM	16	84	1	0	65	21	14	1	13	2	1	0	218
	12:00 PM	18	79	0	0	73	21	23	0	20	0	0	2	236
	12:15 PM	12	89	0	0	79	24	27	0	20	0	0	0	251
	12:30 PM	16	67	0	0	60	24	12	1	20	0	0	1	201
	12:45 PM	12	74	0	1	66	26	20	1	14	0	0	1	215
	1:00 PM	8	86	0	1	74	21	29	0	18	0	0	1	238
	1:15 PM	18	65	1	2	74	24	39	0	25	1	0	1	250
VOLUMES	136	771	3	6	698	233	235	5	187	4	2	10	2,290	
APPROACH %	15%	85%	0%	1%	74%	25%	55%	1%	44%	25%	13%	63%		
APP/DEPART	910	/	1,017	937	/	890	427	/	13	16	/	370	0	
BEGIN PEAK HR	11:30 AM													
VOLUMES	55	342	2	2	290	89	82	2	70	3	1	5	943	
APPROACH %	14%	86%	1%	1%	76%	23%	53%	1%	45%	33%	11%	56%		
PEAK HR FACTOR	0.988			0.925			0.819			0.563			0.939	
APP/DEPART	399	/	429	381	/	364	154	/	6	9	/	144	0	
PM	03:00 PM	19	71	1	1	70	16	24	0	16	0	0	0	218
	3:15 PM	13	75	3	0	73	16	23	0	17	2	1	0	223
	3:30 PM	13	74	0	1	72	20	22	2	16	0	0	1	221
	3:45 PM	14	88	0	1	72	23	14	1	12	1	0	4	230
	4:00 PM	15	67	0	2	100	13	15	0	26	0	0	0	238
	4:15 PM	10	64	0	1	85	20	29	0	20	1	0	0	230
	4:30 PM	9	66	1	0	62	13	14	0	14	0	0	1	180
	4:45 PM	11	71	3	0	57	15	16	0	14	0	0	1	188
	VOLUMES	104	576	8	6	591	136	157	3	135	4	1	7	1,728
	APPROACH %	15%	84%	1%	1%	81%	19%	53%	1%	46%	33%	8%	58%	
APP/DEPART	688	/	741	733	/	731	295	/	16	12	/	240	0	
BEGIN PEAK HR	3:30 PM													
VOLUMES	52	293	0	5	329	76	80	3	74	2	0	5	919	
APPROACH %	15%	85%	0%	1%	80%	19%	51%	2%	47%	29%	0%	71%		
PEAK HR FACTOR	0.846			0.891			0.801			0.350			0.965	
APP/DEPART	345	/	378	410	/	405	157	/	8	7	/	128	0	

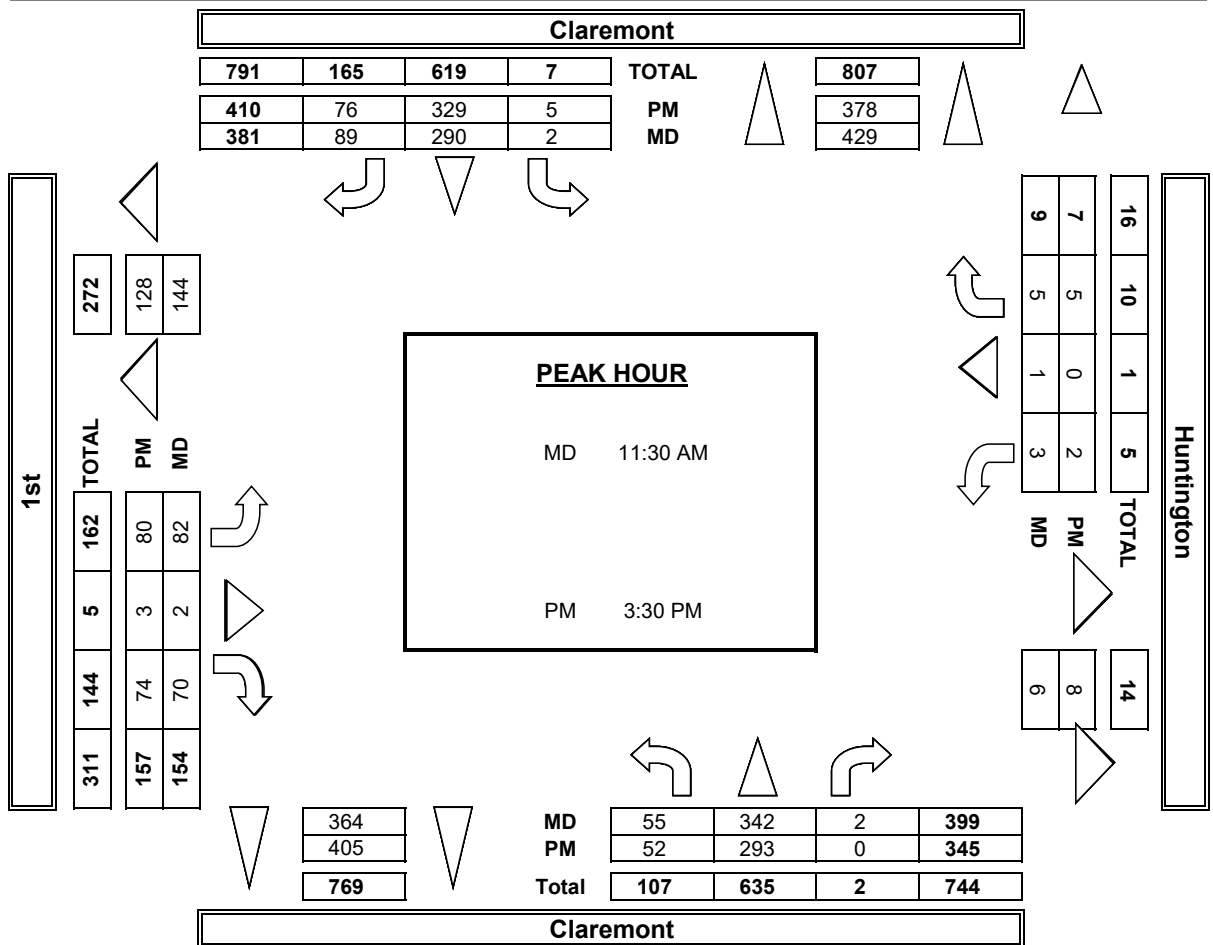
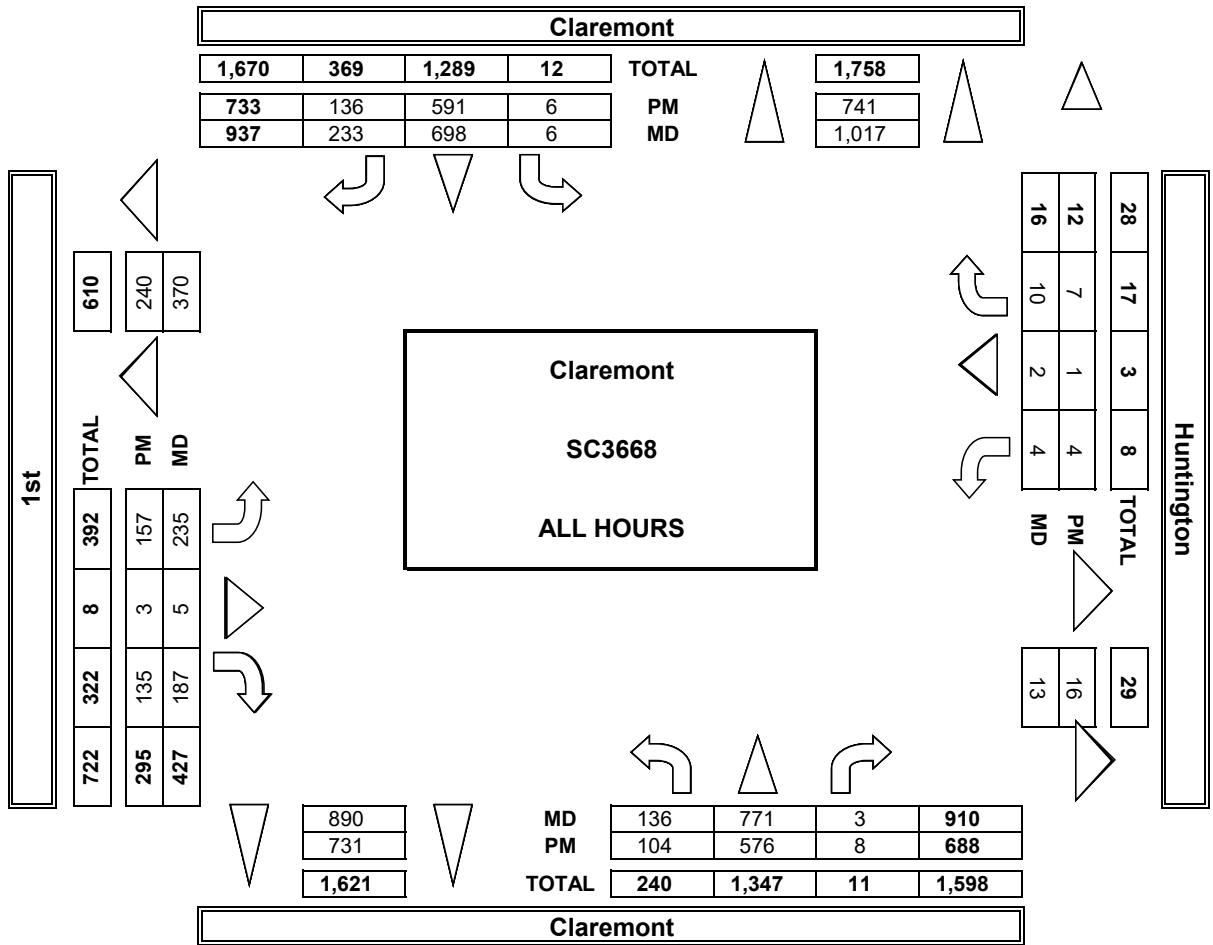


MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
PM	TOTAL	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
10	2	0	0	12
10	6	0	1	17
10	5	1	0	16
3	4	0	0	7
0	6	0	0	6
2	3	0	2	7
4	1	0	1	6
6	1	0	1	8
0	3	0	0	3
0	4	0	0	4
45	35	1	5	86
6	5	1	2	14
1	9	2	0	12
3	0	0	1	4
3	3	1	1	8
1	2	0	1	4
3	1	1	1	6
5	1	2	2	10
4	0	0	1	5
26	21	7	9	63

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	1	0	0	2
0	1	0	0	1
0	0	1	0	1
0	0	0	0	0
0	3	0	0	3
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
1	5	1	2	9
2	0	0	0	2
1	0	0	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	1	1
1	0	1	1	3
2	0	0	1	3
6	0	2	3	11

AimTD LLC
TURNING MOVEMENT COUNTS



**Arrow Hwy & Indian Hill Blvd
Claremont california
Thursday, January 25, 2024**

Time	Southbound Indian Hill Blvd						Westbound Arrow Hwy						Northbound Indian Hill Blvd						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	3	68	10	1	81	0	31	136	10	2	177	1	23	64	29	0	117	0	4	54	28	0	86	461
7:15 AM	0	6	78	2	0	86	1	40	139	7	0	187	1	23	78	26	0	128	2	9	65	24	1	100	501
7:30 AM	0	17	104	13	0	134	0	34	198	23	1	255	0	51	107	31	0	189	0	9	69	33	4	111	689
7:45 AM	0	14	112	6	0	132	0	34	182	22	1	238	1	38	172	61	1	272	0	23	114	35	1	172	814
Hourly Total	0	40	362	31	1	433	1	139	655	62	4	857	3	135	421	147	1	706	2	45	302	120	6	469	2465
8:00 AM	0	16	125	13	0	154	0	42	186	28	0	256	0	25	168	33	0	226	1	27	107	35	1	170	806
8:15 AM	0	22	123	9	0	154	0	47	121	15	1	183	0	24	111	30	1	165	3	17	79	34	1	133	635
8:30 AM	0	28	146	9	0	183	0	34	114	23	1	171	2	35	87	32	1	156	0	11	76	49	2	136	646
8:45 AM	0	10	99	7	0	116	0	22	128	12	3	162	0	36	121	50	4	207	0	12	106	32	5	150	635
Hourly Total	0	76	493	38	0	607	0	145	549	78	5	772	2	120	487	145	6	754	4	67	368	150	9	589	2722
4:00 PM	0	37	119	16	0	172	0	42	132	16	6	190	2	27	115	36	5	180	2	14	182	32	7	230	772
4:15 PM	0	22	105	13	0	140	0	40	92	17	3	149	2	30	120	35	1	187	2	25	196	41	3	264	740
4:30 PM	0	30	130	12	3	172	0	45	98	13	4	156	0	36	109	43	2	188	0	31	212	48	4	291	807
4:45 PM	0	21	121	12	0	154	0	43	121	20	3	184	1	34	107	37	2	179	0	25	224	35	3	284	801
Hourly Total	0	110	475	53	3	638	0	170	443	66	16	679	5	127	451	151	10	734	4	95	814	156	17	1069	3120
5:00 PM	0	38	156	23	0	217	0	50	131	10	4	191	3	29	138	40	1	210	1	19	192	34	3	246	864
5:15 PM	0	36	120	9	0	165	0	44	125	13	0	182	1	32	115	42	5	190	0	22	217	35	6	274	811
5:30 PM	0	38	113	11	0	162	0	47	115	9	2	171	3	31	108	41	3	183	0	20	191	31	2	242	758
5:45 PM	0	22	92	13	0	127	0	42	114	10	4	166	1	34	122	40	1	197	0	16	175	36	1	227	717
Hourly Total	0	134	481	56	0	671	0	183	485	42	10	710	8	126	483	163	10	780	1	77	775	136	12	989	3150
4 Hours TOTAL	0	360	1811	178	4	2349	1	637	2132	248	35	3018	18	508	1842	606	27	2974	11	284	2259	562	44	3116	11457
Cars	0	345	1791	170	3	2306	1	616	2102	232	31	2951	18	489	1822	579	24	2908	11	268	2233	546	40	3058	11223
Heavy Vehicles	0	15	20	8	1	43	0	21	30	16	4	67	0	19	20	27	3	66	0	16	26	16	4	58	234
Heavy Vehicle %	0.00%	4.17%	1.10%	4.49%	25.00%	1.83%	0.00%	3.30%	1.41%	6.45%	11.43%	2.22%	0.00%	3.74%	1.09%	4.46%	11.11%	2.22%	0.00%	5.63%	1.15%	2.85%	9.09%	1.86%	2.04%

**Arrow Hwy & Indian Hill Blvd
Claremont california
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	17	104	13	0	134	0	34	198	23	1	255	0	51	107	31	0	189	0	9	69	33	4	111	689
7:45 AM	0	14	112	6	0	132	0	34	182	22	1	238	1	38	172	61	1	272	0	23	114	35	1	172	814
8:00 AM	0	16	125	13	0	154	0	42	186	28	0	256	0	25	168	33	0	226	1	27	107	35	1	170	806
8:15 AM	0	22	123	9	0	154	0	47	121	15	1	183	0	24	111	30	1	165	3	17	79	34	1	133	635
Peak Hour Total	0	69	464	41	0	574	0	157	687	88	3	932	1	138	558	155	2	852	4	76	369	137	7	586	2944
PHF	0.000	0.784	0.928	0.788	0.000	0.932	0.000	0.835	0.867	0.786	0.750	0.910	0.250	0.676	0.811	0.635	0.500	0.783	0.333	0.704	0.809	0.979	0.438	0.852	0.904

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:30 PM	0	30	130	12	3	172	0	45	98	13	4	156	0	36	109	43	2	188	0	31	212	48	4	291	807
4:45 PM	0	21	121	12	0	154	0	43	121	20	3	184	1	34	107	37	2	179	0	25	224	35	3	284	801
5:00 PM	0	38	156	23	0	217	0	50	131	10	4	191	3	29	138	40	1	210	1	19	192	34	3	246	864
5:15 PM	0	36	120	9	0	165	0	44	125	13	0	182	1	32	115	42	5	190	0	22	217	35	6	274	811
Peak Hour Total	0	125	527	56	3	708	0	182	475	56	11	713	5	131	469	162	10	767	1	97	845	152	16	1095	3283
PHF	0.000	0.822	0.845	0.609	0.250	0.816	0.000	0.910	0.906	0.700	0.688	0.933	0.417	0.910	0.850	0.942	0.500	0.913	0.250	0.782	0.943	0.792	0.667	0.941	0.950

Total Vehicles On Leg 4723

Vehicles Entering Intersection			Vehicles Exiting Intersection		
2349			2374		
Southbound					
Cars	170	1791	345	0	3
Heavy	8	20	15	0	1
Total	178	1811	360	0	4



Total Vehicles on Leg 5945	Vehicles Entering Intersection 3116	Eastbound	Cars	Heavy	Total
			40	4	44
			11	0	11
	Vehicles Exiting Intersection 2829		268	16	284
			2233	26	2259
			546	16	562



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3018	Total Vehicles on Leg 6244
232	16	248			
2102	30	2132			
616	21	637		Vehicles Exiting Intersection 3226	
1	0	1			
31	4	35			



4 Hour Volumes

Cars	24	18	489	1822	579
Heavy	3	0	19	20	27
Total	27	18	508	1842	606
Northbound					
Vehicles Entering Intersection 2974			Vehicles Exiting Intersection 3028		
Total Vehicles On Leg			6002		



**Arrow Hwy & Indian Hill Blvd
Claremont california
Saturday, January 27, 2024**

Time	Southbound Indian Hill Blvd						Westbound Arrow Hwy						Northbound Indian Hill Blvd						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	29	113	11	2	153	0	35	71	15	6	121	1	13	120	75	4	209	4	18	104	36	2	162	645
11:15 AM	0	33	90	13	2	136	0	33	84	13	2	130	5	25	122	85	2	237	1	26	141	43	2	211	714
11:30 AM	0	37	115	12	0	164	1	28	99	16	0	144	0	24	141	89	1	254	2	24	141	37	3	204	766
11:45 AM	0	30	117	24	1	171	0	38	79	15	5	132	3	29	138	83	1	253	1	21	142	34	0	198	754
Hourly Total	0	129	435	60	5	624	1	134	333	59	13	527	9	91	521	332	8	953	8	89	528	150	7	775	2879
12:00 PM	0	21	104	14	0	139	0	39	89	26	0	154	3	30	122	107	0	262	1	26	154	35	0	216	771
12:15 PM	0	22	111	13	2	146	1	39	74	17	3	131	0	25	126	76	0	227	1	20	170	58	2	249	753
12:30 PM	0	39	98	18	1	155	0	34	85	19	1	138	1	34	124	73	0	232	5	13	226	37	1	281	806
12:45 PM	0	24	113	17	0	154	0	22	98	23	2	143	0	27	128	89	1	244	3	40	217	31	3	291	832
Hourly Total	0	106	426	62	3	594	1	134	346	85	6	566	4	116	500	345	1	965	10	99	767	161	6	1037	3162
1:00 PM	0	25	110	15	0	150	0	36	107	17	0	160	1	38	116	95	0	250	1	18	198	28	3	245	805
1:15 PM	0	21	91	21	1	133	0	34	110	27	1	171	2	34	111	101	1	248	2	20	209	28	1	259	811
1:30 PM	0	29	107	15	0	151	0	32	84	20	4	136	0	31	103	85	3	219	3	26	201	37	3	267	773
1:45 PM	0	29	101	14	0	144	2	34	101	26	3	163	2	26	121	98	1	247	2	29	200	41	4	272	826
Hourly Total	0	104	409	65	1	578	2	136	402	90	8	630	5	129	451	379	5	964	8	93	808	134	11	1043	3215
2:00 PM	0	19	115	13	4	147	0	33	103	18	3	154	0	27	113	102	2	242	1	23	196	44	3	264	807
2:15 PM	0	43	92	16	1	151	2	24	110	18	2	154	3	37	82	101	0	223	0	23	234	42	1	299	827
2:30 PM	0	27	85	20	2	132	0	28	98	18	2	144	2	28	109	112	1	251	0	19	215	34	1	268	795
2:45 PM	0	36	92	11	0	139	0	35	109	18	1	162	3	30	124	91	1	248	0	24	247	25	0	296	845
Hourly Total	0	125	384	60	7	569	2	120	420	72	8	614	8	122	428	406	4	964	1	89	892	145	5	1127	3274
4 Hours TOTAL Cars	0	464	1654	247	16	2365	6	524	1501	306	35	2337	26	458	1900	1462	18	3846	27	370	2995	590	29	3982	12530
Heavy Vehicles	0	455	1642	240	14	2337	6	518	1492	293	29	2309	26	456	1894	1440	18	3816	27	364	2974	569	29	3934	12396
Heavy Vehicle %	0.00%	9	12	7	2	28	0	6	9	13	6	28	0	2	6	22	0	30	0	6	21	21	0	48	134
	0.00%	1.94%	0.73%	2.83%	12.50%	1.18%	0.00%	1.15%	0.60%	4.25%	17.14%	1.20%	0.00%	0.44%	0.32%	1.50%	0.00%	0.78%	0.00%	1.62%	0.70%	3.56%	0.00%	1.21%	1.07%

**Arrow Hwy & Indian Hill Blvd
Claremont california
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	29	113	11	2	153	0	35	71	15	6	121	1	13	120	75	4	209	4	18	104	36	2	162	645
11:15 AM	0	33	90	13	2	136	0	33	84	13	2	130	5	25	122	85	2	237	1	26	141	43	2	211	714
11:30 AM	0	37	115	12	0	164	1	28	99	16	0	144	0	24	141	89	1	254	2	24	141	37	3	204	766
11:45 AM	0	30	117	24	1	171	0	38	79	15	5	132	3	29	138	83	1	253	1	21	142	34	0	198	754
Peak Hour Total	0	129	435	60	5	624	1	134	333	59	13	527	9	91	521	332	8	953	8	89	528	150	7	775	2879
PHF	0.000	0.872	0.929	0.625	0.625	0.912	0.250	0.882	0.841	0.922	0.542	0.915	0.450	0.784	0.924	0.933	0.500	0.938	0.500	0.856	0.930	0.872	0.583	0.918	0.940

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
2:00 PM	0	19	115	13	4	147	0	33	103	18	3	154	0	27	113	102	2	242	1	23	196	44	3	264	807
2:15 PM	0	43	92	16	1	151	2	24	110	18	2	154	3	37	82	101	0	223	0	23	234	42	1	299	827
2:30 PM	0	27	85	20	2	132	0	28	98	18	2	144	2	28	109	112	1	251	0	19	215	34	1	268	795
2:45 PM	0	36	92	11	0	139	0	35	109	18	1	162	3	30	124	91	1	248	0	24	247	25	0	296	845
Peak Hour Total	0	125	384	60	7	569	2	120	420	72	8	614	8	122	428	406	4	964	1	89	892	145	5	1127	3274
PHF	0.000	0.727	0.835	0.750	0.438	0.942	0.250	0.857	0.955	1.000	0.667	0.948	0.667	0.824	0.863	0.906	0.500	0.960	0.250	0.927	0.903	0.824	0.417	0.942	0.969

Total Vehicles On Leg 4941

Vehicles Entering Intersection			Vehicles Exiting Intersection		
2365			2576		
Southbound					
Cars	240	1642	455	0	14
Heavy	7	12	9	0	2
Total	247	1654	464	0	16



Total Vehicles on Leg 6215	Vehicles Entering Intersection 3982	Eastbound	Cars	Heavy	Total
			29	0	29
			27	0	27
	Vehicles Exiting Intersection 2233		364	6	370
			2974	21	2995
			569	21	590



4 Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2337	Total Vehicles on Leg 7264
293	13	306			
1492	9	1501			
518	6	524		Vehicles Exiting Intersection 4927	
6	0	6			
29	6	35			



Cars	18	26	456	1894	1440
Heavy	0	0	2	6	22
Total	18	26	458	1900	1462
Northbound					
Vehicles Entering Intersection 3846			Vehicles Exiting Intersection 2794		
Total Vehicles On Leg			6640		



**Arrow Hwy & College Ave
Claremont Clifornia
Thursday, January 25, 2024**

Time	Southbound College Ave						Westbound Arrow Hwy						Northbound College Ave						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	7	2	7	0	16	0	4	163	12	0	179	0	3	4	2	0	9	0	8	76	0	3	84	288
7:15 AM	0	7	8	4	0	19	0	6	184	6	0	196	0	3	14	0	0	17	0	9	86	4	2	99	331
7:30 AM	0	4	6	7	0	17	0	5	237	14	0	256	0	5	23	6	0	34	0	5	116	2	3	123	430
7:45 AM	0	9	25	13	1	47	0	12	235	24	1	271	0	16	42	2	1	60	0	22	159	4	15	185	563
Hourly Total	0	27	41	31	1	99	0	27	819	56	1	902	0	27	83	10	1	120	0	44	437	10	23	491	1612
8:00 AM	0	31	33	28	0	92	0	12	210	23	2	245	0	7	37	4	0	48	0	17	106	15	18	138	523
8:15 AM	0	21	29	17	0	67	0	9	154	10	1	173	0	9	22	3	1	34	0	10	110	12	1	132	406
8:30 AM	0	11	18	7	0	36	0	10	144	12	1	166	0	11	11	7	0	29	0	19	89	7	2	115	346
8:45 AM	0	14	8	10	0	32	0	8	146	17	0	171	0	11	14	6	3	31	0	25	149	8	2	182	416
Hourly Total	0	77	88	62	0	227	0	39	654	62	4	755	0	38	84	20	4	142	0	71	454	42	23	567	1691
4:00 PM	0	20	20	25	0	65	0	4	146	5	2	155	0	6	11	12	2	29	0	22	205	16	2	243	492
4:15 PM	0	24	18	13	0	55	0	8	129	10	1	147	0	3	20	9	0	32	0	19	221	6	5	246	480
4:30 PM	0	25	31	28	1	84	0	5	129	14	4	148	0	4	9	13	0	26	0	22	233	7	4	262	520
4:45 PM	0	21	22	22	0	65	0	8	150	10	1	168	0	7	15	9	0	31	0	23	238	7	3	268	532
Hourly Total	0	90	91	88	1	269	0	25	554	39	8	618	0	20	55	43	2	118	0	86	897	36	14	1019	2024
5:00 PM	0	35	40	30	0	105	0	4	155	8	3	167	0	6	14	13	2	33	0	9	247	8	2	264	569
5:15 PM	0	32	28	31	0	91	0	6	145	13	2	164	0	14	12	12	2	38	0	12	243	7	5	262	555
5:30 PM	0	18	18	20	1	56	0	6	146	8	0	160	0	11	12	18	0	41	0	10	244	5	2	259	516
5:45 PM	0	17	20	13	1	50	0	8	137	7	0	152	0	4	11	9	0	24	0	15	200	12	1	227	453
Hourly Total	0	102	106	94	2	302	0	24	583	36	5	643	0	35	49	52	4	136	0	46	934	32	10	1012	2093
4 Hours TOTAL	0	296	326	275	4	897	0	115	2610	193	18	2918	0	120	271	125	11	516	0	247	2722	120	70	3089	7420
Cars	0	294	325	275	3	894	0	113	2547	193	16	2853	0	120	268	124	11	512	0	244	2659	119	69	3022	7281
Heavy Vehicles	0	2	1	0	1	3	0	2	63	0	2	65	0	0	3	1	0	4	0	3	63	1	1	67	139
Heavy Vehicle %	0.00%	0.68%	0.31%	0.00%	25.00%	0.33%	0.00%	1.74%	2.41%	0.00%	11.11%	2.23%	0.00%	0.00%	1.11%	0.80%	0.00%	0.78%	0.00%	1.21%	2.31%	0.83%	1.43%	2.17%	1.87%

**Arrow Hwy & College Ave
Claremont Clifornia
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	4	6	7	0	17	0	5	237	14	0	256	0	5	23	6	0	34	0	5	116	2	3	123	430
7:45 AM	0	9	25	13	1	47	0	12	235	24	1	271	0	16	42	2	1	60	0	22	159	4	15	185	563
8:00 AM	0	31	33	28	0	92	0	12	210	23	2	245	0	7	37	4	0	48	0	17	106	15	18	138	523
8:15 AM	0	21	29	17	0	67	0	9	154	10	1	173	0	9	22	3	1	34	0	10	110	12	1	132	406
Peak Hour Total	0	65	93	65	1	223	0	38	836	71	4	945	0	37	124	15	2	176	0	54	491	33	37	578	1922
PHF	0.000	0.524	0.705	0.580	0.250	0.606	0.000	0.792	0.882	0.740	0.500	0.872	0.000	0.578	0.738	0.625	0.500	0.733	0.000	0.614	0.772	0.550	0.514	0.781	0.853

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:30 PM	0	25	31	28	1	84	0	5	129	14	4	148	0	4	9	13	0	26	0	22	233	7	4	262	520
4:45 PM	0	21	22	22	0	65	0	8	150	10	1	168	0	7	15	9	0	31	0	23	238	7	3	268	532
5:00 PM	0	35	40	30	0	105	0	4	155	8	3	167	0	6	14	13	2	33	0	9	247	8	2	264	569
5:15 PM	0	32	28	31	0	91	0	6	145	13	2	164	0	14	12	12	2	38	0	12	243	7	5	262	555
Peak Hour Total	0	113	121	111	1	345	0	23	579	45	10	647	0	31	50	47	4	128	0	66	961	29	14	1056	2176
PHF	0.000	0.807	0.756	0.895	0.250	0.821	0.000	0.719	0.934	0.804	0.625	0.963	0.000	0.554	0.833	0.904	0.500	0.842	0.000	0.717	0.973	0.906	0.700	0.985	0.956

Total Vehicles On Leg 1608

Vehicles Entering Intersection 897			Vehicles Exiting Intersection 711		
Southbound					
Cars	275	325	294	0	3
Heavy	0	1	2	0	1
Total	275	326	296	0	4



Total Vehicles on Leg 6094	Vehicles Entering Intersection 3089	Eastbound	Cars	Heavy	Total
			69	1	70
			0	0	0
	Vehicles Exiting Intersection 3005		244	3	247
			2659	63	2722
			119	1	120



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2918	Total Vehicles on Leg 6061
193	0	193			
2547	63	2610			
113	2	115		Vehicles Exiting Intersection 3143	
0	0	0			
16	2	18			



4 Hour Volumes

Cars	11	0	120	268	124
Heavy	0	0	0	3	1
Total	11	0	120	271	125
Northbound					
Vehicles Entering Intersection 516			Vehicles Exiting Intersection 561		
Total Vehicles On Leg			1077		



**Arrow Hwy & College Ave
Claremont Clifornia
Saturday, January 27, 2024**

Time	Southbound College Ave						Westbound Arrow Hwy						Northbound College Ave						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	25	16	17	0	58	0	6	99	17	0	122	0	6	10	5	1	21	0	13	192	9	3	214	415
11:15 AM	0	14	16	22	0	52	0	3	107	16	0	126	0	5	10	5	0	20	0	18	231	3	7	252	450
11:30 AM	0	16	15	23	0	54	0	3	103	20	1	126	0	5	11	10	0	26	0	24	206	6	3	236	442
11:45 AM	0	21	10	17	0	48	0	1	125	22	5	148	0	5	20	5	2	30	0	16	227	8	6	251	477
Hourly Total	0	76	57	79	0	212	0	13	434	75	6	522	0	21	51	25	3	97	0	71	856	26	19	953	1784
12:00 PM	0	12	14	19	1	45	0	1	117	16	0	134	0	6	15	4	0	25	0	27	255	8	1	290	494
12:15 PM	0	20	13	13	0	46	0	5	116	19	2	140	0	7	16	2	0	25	0	14	254	11	5	279	490
12:30 PM	0	21	11	22	0	54	0	6	120	14	2	140	0	9	16	12	0	37	0	19	292	14	4	325	556
12:45 PM	0	25	13	17	0	55	0	6	114	20	4	140	0	6	18	11	1	35	0	18	288	9	4	315	545
Hourly Total	0	78	51	71	1	200	0	18	467	69	8	554	0	28	65	29	1	122	0	78	1089	42	14	1209	2085
1:00 PM	0	22	19	17	0	58	0	3	135	14	0	152	0	5	5	11	0	21	0	17	274	7	2	298	529
1:15 PM	0	29	26	26	0	81	0	1	145	13	0	159	0	6	8	7	0	21	0	30	284	7	4	321	582
1:30 PM	0	21	14	18	0	53	0	8	110	13	0	131	0	5	9	9	0	23	0	25	286	11	1	322	529
1:45 PM	0	22	14	19	0	55	0	7	134	18	1	159	0	2	16	5	0	23	0	8	296	6	1	310	547
Hourly Total	0	94	73	80	0	247	0	19	524	58	1	601	0	18	38	32	0	88	0	80	1140	31	8	1251	2187
2:00 PM	0	26	16	20	1	62	0	8	127	9	2	144	0	2	11	9	0	22	0	16	280	6	4	302	530
2:15 PM	0	21	19	10	0	50	0	5	132	12	2	149	0	3	5	8	0	16	0	13	345	9	2	367	582
2:30 PM	0	24	24	22	2	70	1	7	117	15	1	140	0	9	16	8	1	33	0	10	329	8	4	347	590
2:45 PM	0	13	16	17	0	46	0	4	124	15	3	143	0	6	18	10	2	34	0	18	336	5	4	359	582
Hourly Total	0	84	75	69	3	228	1	24	500	51	8	576	0	20	50	35	3	105	0	57	1290	28	14	1375	2284
4 Hours TOTAL	0	332	256	299	4	887	1	74	1925	253	23	2253	0	87	204	121	7	412	0	286	4375	127	55	4788	8340
Cars	0	331	256	295	4	882	1	74	1900	251	23	2226	0	87	201	119	7	407	0	285	4326	126	52	4737	8252
Heavy Vehicles	0	1	0	4	0	5	0	0	25	2	0	27	0	0	3	2	0	5	0	1	49	1	3	51	88
Heavy Vehicle %	0.00%	0.30%	0.00%	1.34%	0.00%	0.56%	0.00%	0.00%	1.30%	0.79%	0.00%	1.20%	0.00%	0.00%	1.47%	1.65%	0.00%	1.21%	0.00%	0.35%	1.12%	0.79%	5.45%	1.07%	1.06%

**Arrow Hwy & College Ave
Claremont Clifornia
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	25	16	17	0	58	0	6	99	17	0	122	0	6	10	5	1	21	0	13	192	9	3	214	415
11:15 AM	0	14	16	22	0	52	0	3	107	16	0	126	0	5	10	5	0	20	0	18	231	3	7	252	450
11:30 AM	0	16	15	23	0	54	0	3	103	20	1	126	0	5	11	10	0	26	0	24	206	6	3	236	442
11:45 AM	0	21	10	17	0	48	0	1	125	22	5	148	0	5	20	5	2	30	0	16	227	8	6	251	477
Peak Hour Total	0	76	57	79	0	212	0	13	434	75	6	522	0	21	51	25	3	97	0	71	856	26	19	953	1784
PHF	0.000	0.760	0.891	0.859	0.000	0.914	0.000	0.542	0.868	0.852	0.300	0.882	0.000	0.875	0.638	0.625	0.375	0.808	0.000	0.740	0.926	0.722	0.679	0.945	0.935

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
2:00 PM	0	26	16	20	1	62	0	8	127	9	2	144	0	2	11	9	0	22	0	16	280	6	4	302	530
2:15 PM	0	21	19	10	0	50	0	5	132	12	2	149	0	3	5	8	0	16	0	13	345	9	2	367	582
2:30 PM	0	24	24	22	2	70	1	7	117	15	1	140	0	9	16	8	1	33	0	10	329	8	4	347	590
2:45 PM	0	13	16	17	0	46	0	4	124	15	3	143	0	6	18	10	2	34	0	18	336	5	4	359	582
Peak Hour Total	0	84	75	69	3	228	1	24	500	51	8	576	0	20	50	35	3	105	0	57	1290	28	14	1375	2284
PHF	0.000	0.808	0.781	0.784	0.375	0.814	0.250	0.750	0.947	0.850	0.667	0.966	0.000	0.556	0.694	0.875	0.375	0.772	0.000	0.792	0.935	0.778	0.875	0.937	0.968

Total Vehicles On Leg

1630

Vehicles Entering Intersection 887			Vehicles Exiting Intersection 743		
Southbound					
Cars	295	256	331	0	4
Heavy	4	0	1	0	0
Total	299	256	332	0	4



Total Vehicles on Leg 7099	Vehicles Entering Intersection 4788	Eastbound	Cars	Heavy	Total
			52	3	55
			0	0	0
	Vehicles Exiting Intersection 2311		285	1	286
			4326	49	4375
			126	1	127



4 Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2253	Total Vehicles on Leg 7082
251	2	253			
1900	25	1925			
74	0	74		Vehicles Exiting Intersection 4829	
1	0	1			
23	0	23			



Cars	7	0	87	201	119
Heavy	0	0	0	3	2
Total	7	0	87	204	121
Northbound					
Vehicles Entering Intersection 412			Vehicles Exiting Intersection 457		
Total Vehicles On Leg			869		



**Arrow Hwy & Claremont Blvd
Claremont California
Thursday, January 25, 2024**

Time	Southbound Claremont Blvd						Westbound Arrow Hwy						Northbound Mills Ave						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	11	31	36	0	78	0	12	129	9	0	150	0	9	38	10	0	57	0	25	51	4	0	80	365
7:15 AM	0	11	46	44	0	101	0	14	140	15	0	169	0	14	36	12	0	62	0	20	68	7	1	95	427
7:30 AM	0	10	51	45	1	106	0	9	202	14	0	225	0	20	82	12	1	114	0	32	89	12	0	133	578
7:45 AM	1	4	58	55	0	118	0	9	155	22	0	186	0	27	111	8	0	146	0	54	105	5	1	164	614
Hourly Total	1	36	186	180	1	403	0	44	626	60	0	730	0	70	267	42	1	379	0	131	313	28	2	472	1984
8:00 AM	1	16	54	58	1	129	0	5	159	32	1	196	0	23	80	16	0	119	0	27	100	6	0	133	577
8:15 AM	0	20	55	48	0	123	0	10	108	16	0	134	0	21	73	11	0	105	0	26	78	11	0	115	477
8:30 AM	1	17	46	37	0	101	0	11	114	18	1	143	0	11	34	7	0	52	0	27	76	5	0	108	404
8:45 AM	0	10	29	30	0	69	0	9	110	19	0	138	0	14	31	9	0	54	0	36	97	17	0	150	411
Hourly Total	2	63	184	173	1	422	0	35	491	85	2	611	0	69	218	43	0	330	0	116	351	39	0	506	1869
4:00 PM	0	23	58	34	1	115	0	23	112	12	2	147	0	16	62	8	1	86	1	42	177	16	1	236	584
4:15 PM	0	14	48	31	0	93	0	13	95	10	2	118	0	14	65	15	5	94	0	35	201	7	4	243	548
4:30 PM	0	21	60	44	0	125	0	16	94	11	1	121	0	14	61	19	1	94	0	41	207	14	1	262	602
4:45 PM	0	19	54	37	1	110	0	13	119	16	4	148	0	13	74	11	2	98	0	30	216	16	1	262	618
Hourly Total	0	77	220	146	2	443	0	65	420	49	9	534	0	57	262	53	9	372	1	148	801	53	7	1003	2352
5:00 PM	0	26	78	52	3	156	0	10	98	19	4	127	0	16	54	12	0	82	0	36	244	12	1	292	657
5:15 PM	0	15	78	37	0	130	0	22	117	7	1	146	0	20	71	11	0	102	0	40	223	13	1	276	654
5:30 PM	0	24	81	44	0	149	0	18	90	9	0	117	0	24	81	22	0	127	0	48	212	10	1	270	663
5:45 PM	0	20	56	38	0	114	0	16	107	10	1	123	0	16	56	12	1	84	0	41	184	10	2	235	566
Hourly Total	0	85	293	171	3	549	0	66	412	45	6	523	0	76	262	57	1	395	0	165	863	45	5	1073	2540
4 Hours TOTAL	3	261	883	670	7	1817	0	210	1949	239	17	2398	0	272	1009	195	11	1476	1	560	2328	165	14	3054	8745
Cars	3	231	881	656	6	1771	0	209	1897	212	17	2318	0	272	1005	190	8	1467	1	550	2274	164	14	2989	8545
Heavy Vehicles	0	30	2	14	1	46	0	1	52	27	0	80	0	0	4	5	3	9	0	10	54	1	0	65	200
Heavy Vehicle %	0.00%	11.49%	0.23%	2.09%	14.29%	2.53%	0.00%	0.48%	2.67%	11.30%	0.00%	3.34%	0.00%	0.00%	0.40%	2.56%	27.27%	0.61%	0.00%	1.79%	2.32%	0.61%	0.00%	2.13%	2.29%

**Arrow Hwy & Claremont Blvd
Claremont California
Thursday, January 25, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	10	51	45	1	106	0	9	202	14	0	225	0	20	82	12	1	114	0	32	89	12	0	133	578
7:45 AM	1	4	58	55	0	118	0	9	155	22	0	186	0	27	111	8	0	146	0	54	105	5	1	164	614
8:00 AM	1	16	54	58	1	129	0	5	159	32	1	196	0	23	80	16	0	119	0	27	100	6	0	133	577
8:15 AM	0	20	55	48	0	123	0	10	108	16	0	134	0	21	73	11	0	105	0	26	78	11	0	115	477
Peak Hour Total	2	50	218	206	2	476	0	33	624	84	1	741	0	91	346	47	1	484	0	139	372	34	1	545	2246
PHF	0.500	0.625	0.940	0.888	0.500	0.922	0.000	0.825	0.772	0.656	0.250	0.823	0.000	0.843	0.779	0.734	0.250	0.829	0.000	0.644	0.886	0.708	0.250	0.831	0.914

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:45 PM	0	19	54	37	1	110	0	13	119	16	4	148	0	13	74	11	2	98	0	30	216	16	1	262	618
5:00 PM	0	26	78	52	3	156	0	10	98	19	4	127	0	16	54	12	0	82	0	36	244	12	1	292	657
5:15 PM	0	15	78	37	0	130	0	22	117	7	1	146	0	20	71	11	0	102	0	40	223	13	1	276	654
5:30 PM	0	24	81	44	0	149	0	18	90	9	0	117	0	24	81	22	0	127	0	48	212	10	1	270	663
Peak Hour Total	0	84	291	170	4	545	0	63	424	51	9	538	0	73	280	56	2	409	0	154	895	51	4	1100	2592
PHF	0.000	0.808	0.898	0.817	0.333	0.873	0.000	0.716	0.891	0.671	0.563	0.909	0.000	0.760	0.864	0.636	0.250	0.805	0.000	0.802	0.917	0.797	1.000	0.942	0.977

Total Vehicles On Leg

3628

Vehicles Entering Intersection 1817			Vehicles Exiting Intersection 1811		
Southbound					
Cars	656	881	231	3	6
Heavy	14	2	30	0	1
Total	670	883	261	3	7



Total Vehicles on Leg 5946	Vehicles Entering Intersection 3054	Eastbound	Cars	Heavy	Total
			14	0	14
			1	0	1
	Vehicles Exiting Intersection 2892		550	10	560
			2274	54	2328
			164	1	165



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2398	Total Vehicles on Leg 5182
212	27	239			
1897	52	1949			
209	1	210			
0	0	0		Vehicles Exiting Intersection 2784	
17	0	17			



4 Hour Volumes

Cars	8	0	272	1005	190
Heavy	3	0	0	4	5
Total	11	0	272	1009	195
Northbound					
Vehicles Entering Intersection 1476			Vehicles Exiting Intersection 1258		
Total Vehicles On Leg			2734		



**Arrow Hwy & Claremont Blvd
Claremont California
Saturday, January 27, 2024**

Time	Southbound Claremont Blvd						Westbound Arrow Hwy						Northbound Mills Ave						Eastbound Arrow Hwy						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	8	40	26	0	74	0	11	67	10	4	88	0	21	49	12	0	82	0	36	165	14	1	215	459
11:15 AM	0	8	28	18	0	54	0	10	87	9	0	106	0	15	51	8	2	74	0	34	196	8	1	238	472
11:30 AM	0	18	51	23	0	92	0	4	87	10	0	101	0	12	45	25	0	82	0	34	208	4	0	246	521
11:45 AM	0	13	48	28	0	89	0	7	83	14	2	104	0	24	49	16	0	89	0	30	193	11	0	234	516
Hourly Total	0	47	167	95	0	309	0	32	324	43	6	399	0	72	194	61	2	327	0	134	762	37	2	933	1968
12:00 PM	0	16	42	30	2	88	0	16	87	13	3	116	0	18	41	12	0	71	0	44	232	5	0	281	556
12:15 PM	0	19	51	36	0	106	0	5	85	17	0	107	0	15	59	15	0	89	0	36	222	8	2	266	568
12:30 PM	0	18	42	32	3	92	0	17	90	13	3	120	0	15	53	18	3	86	0	33	253	9	0	295	593
12:45 PM	0	17	48	30	0	95	0	15	108	18	1	141	0	28	61	18	0	107	0	48	273	17	0	338	681
Hourly Total	0	70	183	128	5	381	0	53	370	61	7	484	0	76	214	63	3	353	0	161	980	39	2	1180	2398
1:00 PM	0	22	46	21	1	89	0	14	94	17	1	125	0	26	36	11	0	73	0	30	257	11	1	298	585
1:15 PM	1	19	57	31	0	108	0	10	104	14	1	128	0	22	52	8	0	82	0	45	278	15	0	338	656
1:30 PM	0	12	46	30	0	88	0	9	95	17	1	121	0	19	43	18	0	80	1	34	255	9	1	299	588
1:45 PM	1	14	39	28	3	82	0	16	109	12	0	137	0	29	58	8	0	95	1	38	294	14	1	347	661
Hourly Total	2	67	188	110	4	367	0	49	402	60	3	511	0	96	189	45	0	330	2	147	1084	49	3	1282	2490
2:00 PM	1	17	47	28	2	93	0	12	99	17	0	128	0	23	60	13	0	96	0	47	256	4	2	307	624
2:15 PM	0	16	54	29	0	99	0	5	109	14	1	128	0	17	54	17	0	88	0	40	304	15	3	359	674
2:30 PM	0	17	44	26	0	87	0	5	91	18	0	114	0	17	42	16	1	75	0	39	314	13	0	366	642
2:45 PM	1	23	59	26	0	109	0	10	89	17	1	116	0	23	79	11	0	113	0	39	300	10	0	349	687
Hourly Total	2	73	204	109	2	388	0	32	388	66	2	486	0	80	235	57	1	372	0	165	1174	42	5	1381	2627
4 Hours TOTAL	4	257	742	442	11	1445	0	166	1484	230	18	1880	0	324	832	226	6	1382	2	607	4000	167	12	4776	9483
Cars	4	241	738	438	10	1421	0	166	1458	212	16	1836	0	321	829	225	1	1375	2	599	3957	167	9	4725	9357
Heavy Vehicles	0	16	4	4	1	24	0	0	26	18	2	44	0	3	3	1	5	7	0	8	43	0	3	51	126
Heavy Vehicle %	0.00%	6.23%	0.54%	0.90%	9.09%	1.66%	0.00%	0.00%	1.75%	7.83%	11.11%	2.34%	0.00%	0.93%	0.36%	0.44%	83.33%	0.51%	0.00%	1.32%	1.08%	0.00%	25.00%	1.07%	1.33%

**Arrow Hwy & Claremont Blvd
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	8	40	26	0	74	0	11	67	10	4	88	0	21	49	12	0	82	0	36	165	14	1	215	459
11:15 AM	0	8	28	18	0	54	0	10	87	9	0	106	0	15	51	8	2	74	0	34	196	8	1	238	472
11:30 AM	0	18	51	23	0	92	0	4	87	10	0	101	0	12	45	25	0	82	0	34	208	4	0	246	521
11:45 AM	0	13	48	28	0	89	0	7	83	14	2	104	0	24	49	16	0	89	0	30	193	11	0	234	516
Peak Hour Total	0	47	167	95	0	309	0	32	324	43	6	399	0	72	194	61	2	327	0	134	762	37	2	933	1968
PHF	0.000	0.653	0.819	0.848	0.000	0.840	0.000	0.727	0.931	0.768	0.375	0.941	0.000	0.750	0.951	0.610	0.250	0.919	0.000	0.931	0.916	0.661	0.500	0.948	0.944

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
2:00 PM	1	17	47	28	2	93	0	12	99	17	0	128	0	23	60	13	0	96	0	47	256	4	2	307	624
2:15 PM	0	16	54	29	0	99	0	5	109	14	1	128	0	17	54	17	0	88	0	40	304	15	3	359	674
2:30 PM	0	17	44	26	0	87	0	5	91	18	0	114	0	17	42	16	1	75	0	39	314	13	0	366	642
2:45 PM	1	23	59	26	0	109	0	10	89	17	1	116	0	23	79	11	0	113	0	39	300	10	0	349	687
Peak Hour Total	2	73	204	109	2	388	0	32	388	66	2	486	0	80	235	57	1	372	0	165	1174	42	5	1381	2627
PHF	0.500	0.793	0.864	0.940	0.250	0.890	0.000	0.667	0.890	0.917	0.500	0.949	0.000	0.870	0.744	0.838	0.250	0.823	0.000	0.878	0.935	0.700	0.417	0.943	0.956

Total Vehicles On Leg 3118

Vehicles Entering Intersection 1445			Vehicles Exiting Intersection 1673		
Southbound					
Cars	438	738	241	4	10
Heavy	4	4	16	0	1
Total	442	742	257	4	11



Total Vehicles on Leg 7028	Vehicles Entering Intersection 4776	Eastbound	Cars	Heavy	Total
			9	3	12
			2	0	2
	Vehicles Exiting Intersection 2252		599	8	607
			3957	43	4000
			167	0	167



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1880	Total Vehicles on Leg 6363
212	18	230			
1458	26	1484			
166	0	166			
0	0	0			
16	2	18			
				Vehicles Exitng Intersection 4483	



4 Hour Volumes

Cars	1	0	321	829	225
Heavy	5	0	3	3	1
Total	6	0	324	832	226
Northbound					
Vehicles Entering Intersection 1382			Vehicles Exiting Intersection 1075		
Total Vehicles On Leg			2457		



INTERSECTION TURNING MOVEMENT COUNTS

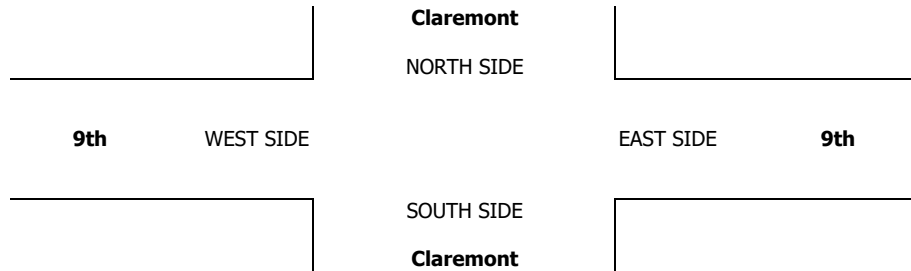
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Oct 11, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Claremont Claremont 9th	PROJECT #: LOCATION #: CONTROL:	SC3668 3 STOP E
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

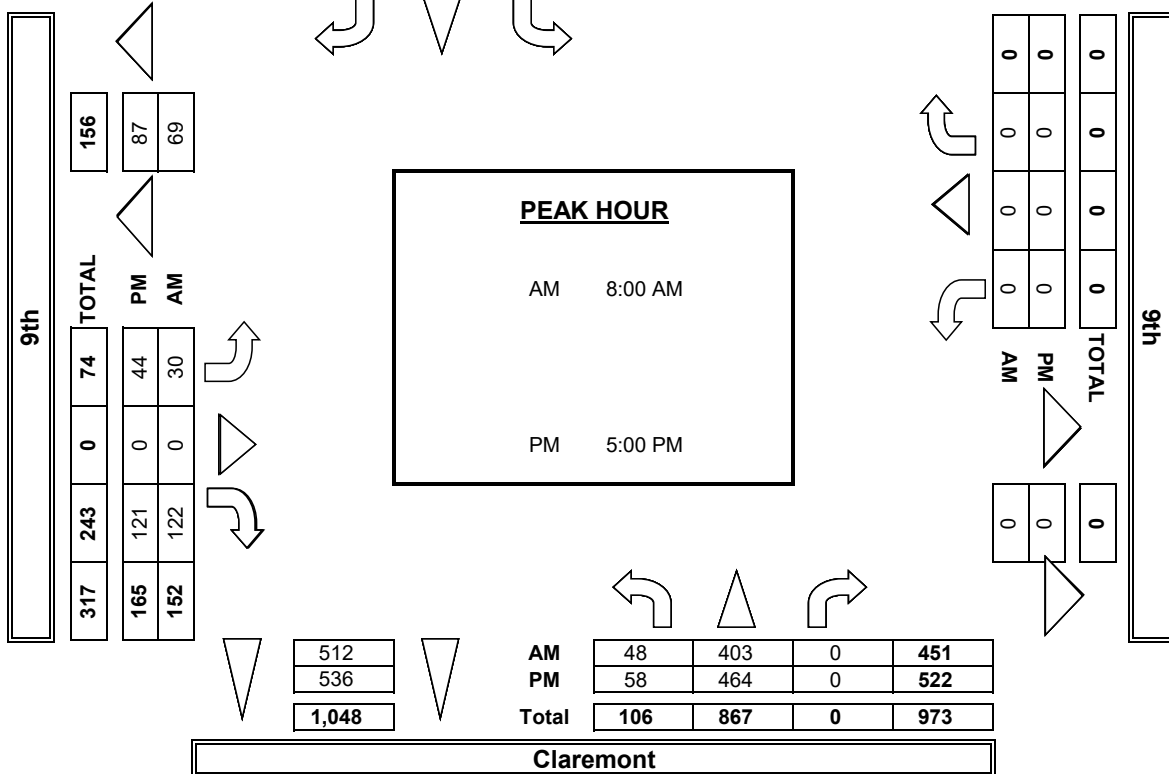
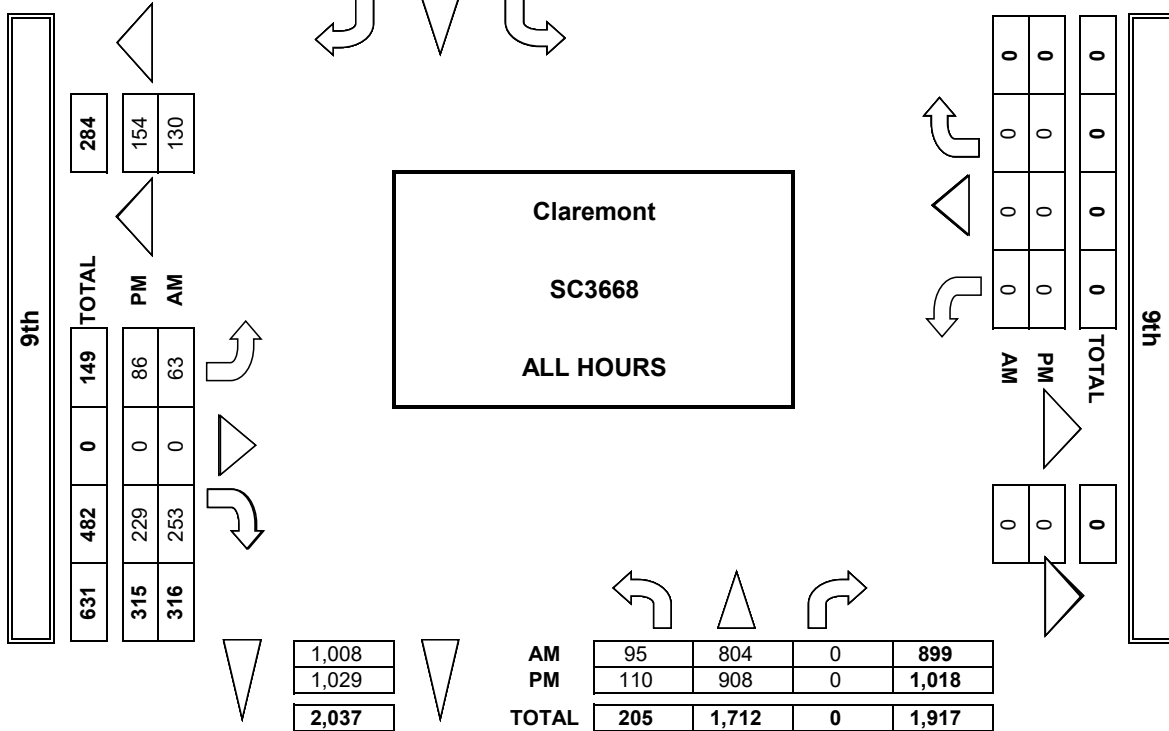
	NORTHBOUND Claremont			SOUTHBOUND Claremont			EASTBOUND 9th			WESTBOUND 9th			
LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL

AM	7:00 AM	19	96	0	0	95	2	9	0	35	0	0	0	256
	7:15 AM	11	99	0	0	81	5	7	0	36	0	0	0	239
	7:30 AM	9	102	0	0	95	4	8	0	35	0	0	0	253
	7:45 AM	8	104	0	0	94	3	9	0	25	0	0	0	243
	8:00 AM	9	102	0	0	98	5	6	0	31	0	0	0	251
	8:15 AM	12	105	0	0	99	4	8	0	31	0	0	0	259
	8:30 AM	15	99	0	0	97	5	9	0	35	0	0	0	260
	8:45 AM	12	97	0	0	95	8	7	0	25	0	0	0	244
	VOLUMES	95	804	0	0	754	36	63	0	253	0	0	0	2,005
	APPROACH %	11%	89%	0%	0%	95%	5%	20%	0%	80%	0%	0%	0%	
APP/DEPART	899	/	867	790	/	1,008	316	/	0	0	/	130	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	48	403	0	0	389	22	30	0	122	0	0	0	1,014	
APPROACH %	11%	89%	0%	0%	95%	5%	20%	0%	80%	0%	0%	0%		
PEAK HR FACTOR	0.964			0.998			0.864			0.000			0.975	
APP/DEPART	451	/	433	411	/	512	152	/	0	0	/	69	0	
PM	4:00 PM	21	97	0	0	91	4	11	0	37	0	0	0	261
	4:15 PM	10	115	0	0	84	4	12	0	25	0	0	0	250
	4:30 PM	9	118	0	0	101	5	15	0	24	0	0	0	272
	4:45 PM	12	114	0	0	107	4	4	0	22	0	0	0	263
	5:00 PM	11	105	0	0	114	6	14	0	43	0	0	0	293
	5:15 PM	15	111	0	0	100	5	9	0	27	0	0	0	267
	5:30 PM	17	123	0	0	104	9	13	0	31	0	0	0	297
	5:45 PM	15	125	0	0	96	10	8	0	20	0	0	0	274
	VOLUMES	110	908	0	0	797	47	86	0	229	0	0	0	2,177
	APPROACH %	11%	89%	0%	0%	94%	6%	27%	0%	73%	0%	0%	0%	
APP/DEPART	1,018	/	994	844	/	1,029	315	/	0	0	/	154	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	58	464	0	0	414	30	44	0	121	0	0	0	1,131	
APPROACH %	11%	89%	0%	0%	93%	7%	27%	0%	73%	0%	0%	0%		
PEAK HR FACTOR	0.932			0.925			0.724			0.000			0.952	
APP/DEPART	522	/	508	444	/	536	165	/	0	0	/	87	0	



		ALL PED AND BIKE					PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	2	1	4	0	0	0	0	0
	7:30 AM	0	0	1	3	4	0	0	0	3	3
	7:45 AM	0	0	0	3	3	0	0	0	2	2
	8:00 AM	1	0	1	2	4	0	0	0	1	1
	8:15 AM	0	0	0	3	3	0	0	0	1	1
	8:30 AM	0	0	1	3	4	0	0	0	2	2
	8:45 AM	0	0	0	2	2	0	0	0	2	2
TOTAL		2	0	5	17	24	0	0	0	11	11
PM	4:00 PM	1	0	1	1	3	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	2	5	7	0	0	0	5	5
	4:45 PM	0	0	2	2	4	0	0	0	0	0
	5:00 PM	0	0	0	2	2	0	0	0	2	2
	5:15 PM	0	0	0	3	3	0	0	0	2	2
	5:30 PM	0	0	0	6	6	0	0	0	5	5
	5:45 PM	0	0	0	1	1	0	0	0	1	1
TOTAL		1	0	5	20	26	0	0	0	15	15

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

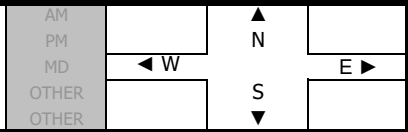
DATE:
Sat, Oct 1, 22

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Claremont
Claremont
9th

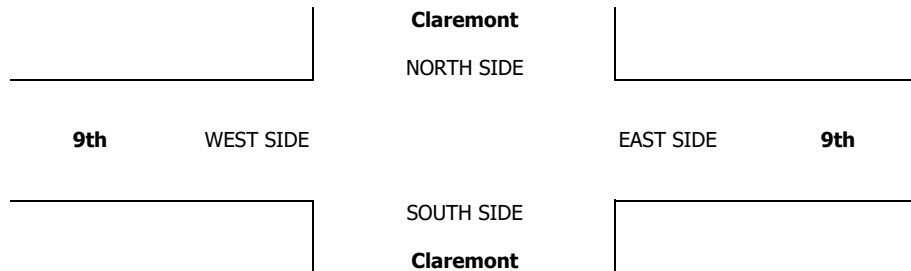
PROJECT #: SC3668
LOCATION #: 3
CONTROL: STOP E

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Claremont			Claremont			9th			9th			
LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL

MD	11:00 AM	17	81	0	0	81	8	10	0	16	0	0	0	213
	11:15 AM	24	79	0	0	89	7	8	0	17	0	0	0	224
	11:30 AM	11	94	0	0	70	8	5	0	20	0	0	0	208
	11:45 AM	16	80	0	0	71	14	5	0	17	0	0	0	203
	12:00 PM	15	92	0	0	86	6	10	0	13	0	0	0	222
	12:15 PM	14	87	0	0	83	8	8	0	19	0	0	0	219
	12:30 PM	7	73	0	0	73	11	5	0	12	0	0	0	181
	12:45 PM	15	68	0	0	79	11	7	0	12	0	0	0	192
	1:00 PM	15	90	0	0	80	12	13	0	40	0	0	0	250
	1:15 PM	18	81	0	0	80	7	13	0	19	0	0	0	218
VOLUMES		152	825	0	0	792	92	84	0	185	0	0	0	2,137
APPROACH %		15%	84%	0%	0%	90%	10%	31%	0%	68%	0%	0%	0%	
APP/DEPART		981	/	909	884	/	981	272	/	0	0	/	247	0
BEGIN PEAK HR		11:15 AM												
VOLUMES		66	345	0	0	316	35	28	0	67	0	0	0	860
APPROACH %		16%	84%	0%	0%	90%	10%	29%	0%	70%	0%	0%	0%	
PEAK HR FACTOR		0.965			0.914			0.960			0.000			0.960
APP/DEPART		413	/	373	351	/	385	96	/	0	0	/	102	0
PM	03:00 PM	24	73	0	0	83	6	9	0	13	0	0	0	208
	3:15 PM	22	73	0	0	72	5	8	0	15	0	0	0	195
	3:30 PM	12	72	0	0	71	9	8	0	11	0	0	0	183
	3:45 PM	10	80	0	0	78	8	6	0	14	0	0	0	196
	4:00 PM	21	66	0	0	88	8	6	0	11	0	0	0	200
	4:15 PM	9	76	0	0	68	12	10	0	28	0	0	0	203
	4:30 PM	14	62	0	0	65	7	6	0	21	0	0	0	175
	4:45 PM	14	75	0	0	62	13	9	0	25	0	0	0	198
	VOLUMES		126	577	0	0	587	68	62	0	138	0	0	1,565
	APPROACH %		18%	81%	0%	0%	89%	10%	31%	0%	69%	0%	0%	0%
APP/DEPART		709	/	640	656	/	731	200	/	0	0	/	194	0
BEGIN PEAK HR		3:00 PM												
VOLUMES		52	294	0	0	305	37	30	0	64	0	0	0	788
APPROACH %		15%	84%	0%	0%	89%	11%	32%	0%	68%	0%	0%	0%	
PEAK HR FACTOR		0.895			0.893			0.618			0.000			0.943
APP/DEPART		351	/	325	343	/	374	94	/	0	0	/	89	0

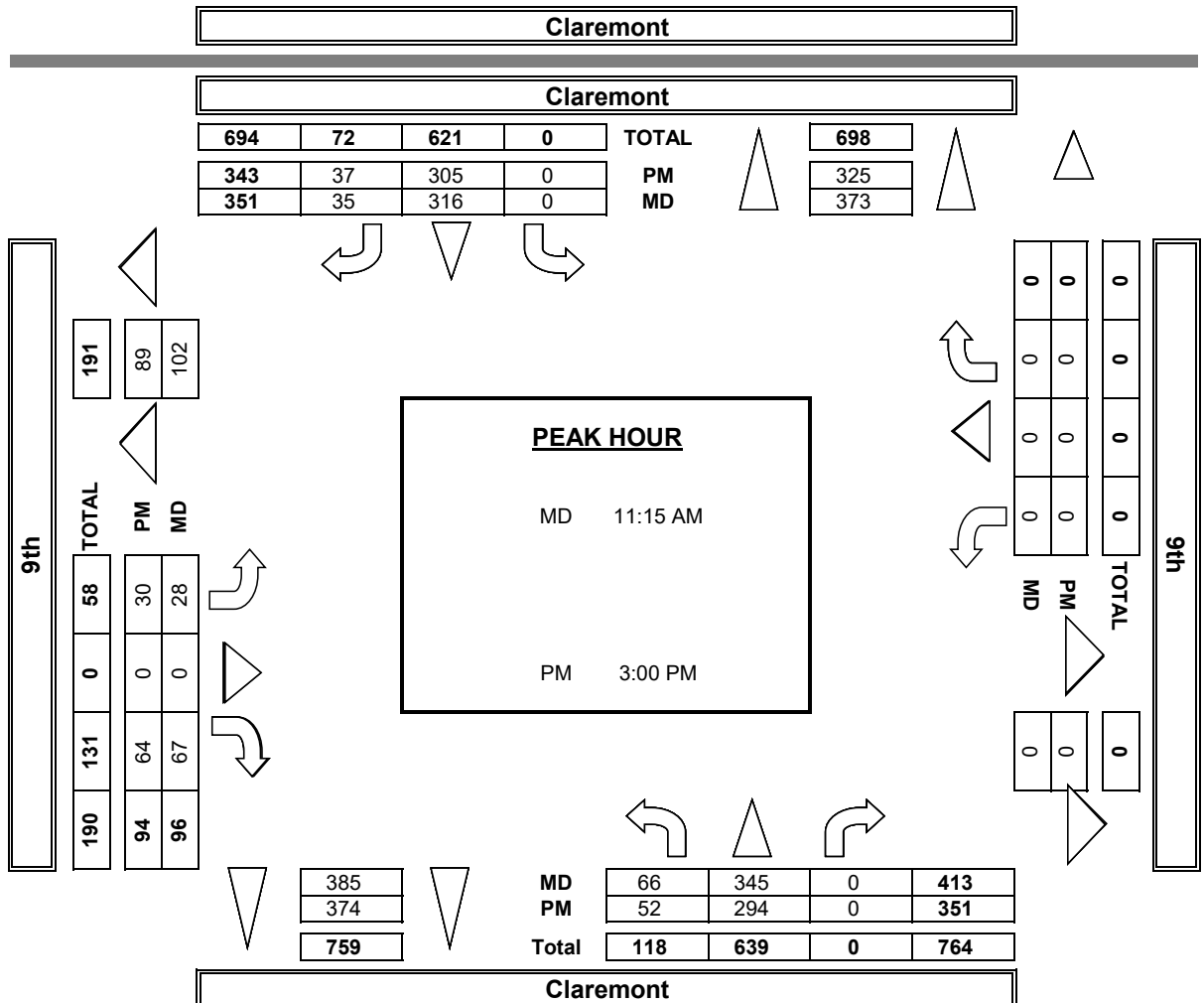
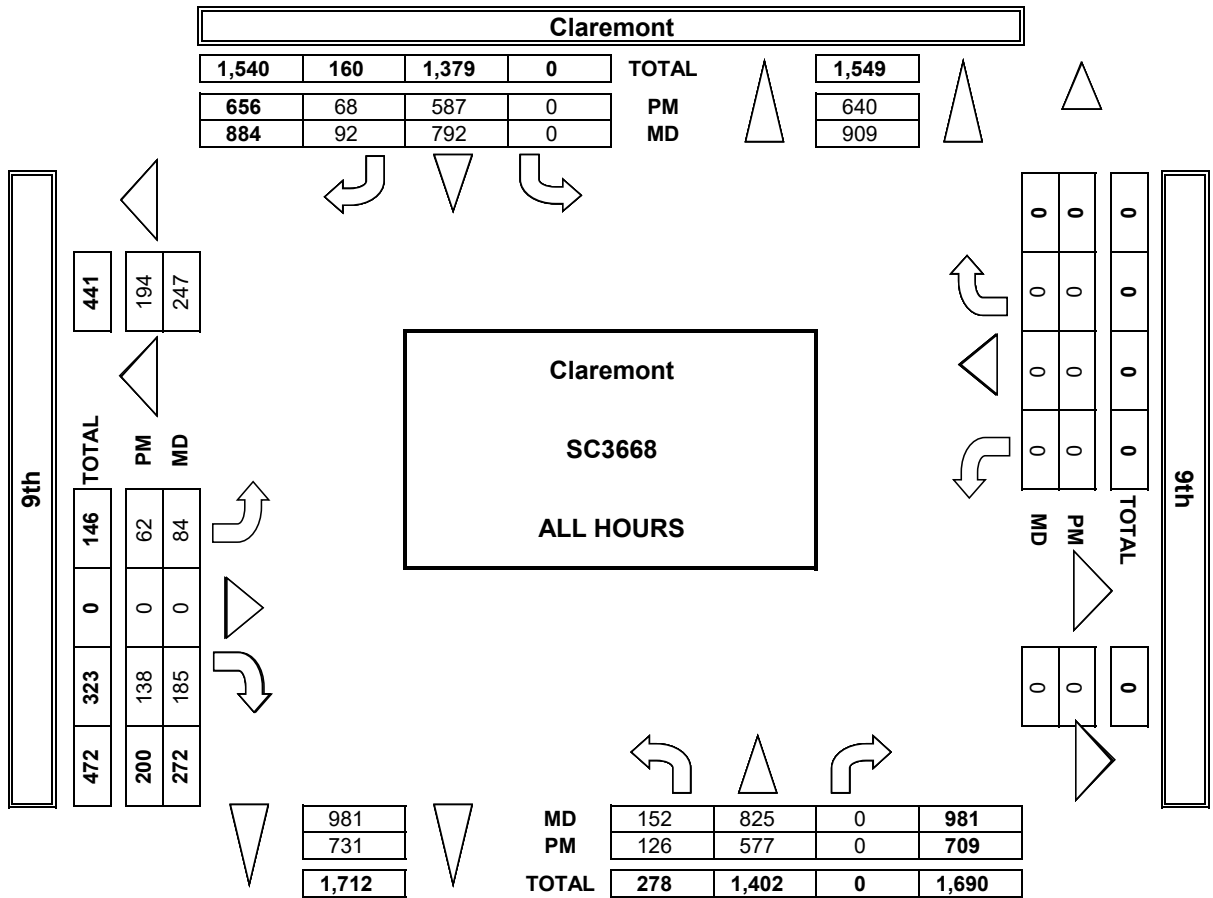


MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	1:00 PM	
	1:15 PM	
PM	TOTAL	
	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
1	0	1	1	3
0	0	0	1	1
0	0	0	2	2
1	0	1	1	3
0	0	0	1	1
0	0	0	5	5
0	0	0	0	0
0	0	0	4	4
0	0	0	1	1
0	0	0	1	1
2	0	2	17	21
1	0	1	2	4
1	0	1	1	3
0	0	0	1	1
1	0	1	2	4
0	0	0	1	1
0	0	1	12	13
1	0	2	0	3
0	0	0	0	0
4	0	6	19	29

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	2	2
0	0	0	0	0
0	0	0	3	3
0	0	0	1	1
0	0	0	1	1
0	0	0	11	11
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	12	12
0	0	0	0	0
0	0	0	0	0
0	0	0	18	18

AimTD LLC
TURNING MOVEMENT COUNTS



**Monte Vista Ave and Richton St
Claremont California
Thursday, January 25, 2024**

Time	Southbound Monte Vista Ave						Westbound Richton St						Northbound Monte Vista Ave						Eastbound Richton St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:00 AM	0	4	108	0	0	112	0	12	0	8	0	20	0	0	58	14	0	72	0	0	0	0	0	0	204
7:15 AM	0	5	123	0	0	128	0	23	0	13	2	36	0	0	82	10	0	92	0	0	0	0	0	0	256
7:30 AM	1	9	126	0	0	136	0	25	0	14	0	39	0	0	93	11	0	104	0	0	0	0	1	0	279
7:45 AM	0	10	128	0	0	138	0	22	0	30	0	52	0	0	121	18	0	139	0	0	0	0	2	0	329
Hourly Total	1	28	485	0	0	514	0	82	0	65	2	147	0	0	354	53	0	407	0	0	0	0	3	0	1068
8:00 AM	0	19	131	1	0	151	0	2	0	16	0	18	0	0	102	12	0	114	0	0	0	0	1	0	283
8:15 AM	0	17	121	0	0	138	0	16	0	13	0	29	0	0	111	10	0	121	0	0	0	0	0	0	288
8:30 AM	0	4	130	0	0	134	0	18	0	17	0	35	1	0	89	4	0	94	0	0	0	0	0	0	263
8:45 AM	0	9	110	0	0	119	0	16	0	11	0	27	0	0	120	9	0	129	0	0	0	0	1	0	275
Hourly Total	0	49	492	1	0	542	0	52	0	57	0	109	1	0	422	35	0	458	0	0	0	0	2	0	1109
4:00 PM	1	12	164	0	0	177	0	20	0	14	1	34	0	0	132	17	0	149	0	0	0	0	0	0	360
4:15 PM	0	13	147	0	0	160	0	17	0	15	1	32	0	0	119	13	1	132	0	0	0	0	2	0	324
4:30 PM	1	17	142	0	0	160	0	30	0	17	0	47	1	0	131	12	0	144	0	0	0	0	0	0	351
4:45 PM	1	16	152	0	0	169	0	21	0	20	0	41	0	0	144	17	0	161	0	0	0	0	0	0	371
Hourly Total	3	58	605	0	0	666	0	88	0	66	2	154	1	0	526	59	1	586	0	0	0	0	2	0	1406
5:00 PM	1	12	150	0	1	163	0	30	0	23	1	53	0	0	125	15	0	140	0	0	0	0	0	0	356
5:15 PM	0	14	163	0	0	177	0	15	0	20	1	35	0	0	129	19	0	148	0	0	0	0	3	0	360
5:30 PM	0	6	168	0	0	174	0	14	0	12	3	26	0	0	142	12	0	154	0	0	0	0	1	0	354
5:45 PM	0	1	153	0	0	154	0	26	0	16	0	42	1	0	154	24	0	179	0	0	0	0	0	0	375
Hourly Total	1	33	634	0	1	668	0	85	0	71	5	156	1	0	550	70	0	621	0	0	0	0	4	0	1445
4 Hours TOTAL	5	168	2216	1	1	2390	0	307	0	259	9	566	3	0	1852	217	1	2072	0	0	0	0	11	0	5028
Cars	5	146	2157	1	1	2309	0	254	0	246	7	500	3	0	1778	172	1	1953	0	0	0	0	9	0	4762
Heavy Vehicles	0	22	59	0	0	81	0	53	0	13	2	66	0	0	74	45	0	119	0	0	0	0	2	0	266
Heavy Vehicle %	0.00%	13.10%	2.66%	0.00%	0.00%	3.39%	0.00%	17.26%	0.00%	5.02%	22.22%	11.66%	0.00%	0.00%	4.00%	20.74%	0.00%	5.74%	0.00%	0.00%	0.00%	0.00%	18.18%	0.00%	5.29%

**Monte Vista Ave and Richton St
Claremont California
Thursday, January 25, 2024**

AM Peak Hour																									
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	1	9	126	0	0	136	0	25	0	14	0	39	0	0	93	11	0	104	0	0	0	0	1	0	279
7:45 AM	0	10	128	0	0	138	0	22	0	30	0	52	0	0	121	18	0	139	0	0	0	0	2	0	329
8:00 AM	0	19	131	1	0	151	0	2	0	16	0	18	0	0	102	12	0	114	0	0	0	0	1	0	283
8:15 AM	0	17	121	0	0	138	0	16	0	13	0	29	0	0	111	10	0	121	0	0	0	0	0	0	288
Peak Hour Total	1	55	506	1	0	563	0	65	0	73	0	138	0	0	427	51	0	478	0	0	0	0	4	0	1179
PHF	0.250	0.724	0.966	0.250	0.000	0.932	0.000	0.650	0.000	0.608	0.000	0.663	0.000	0.000	0.882	0.708	0.000	0.860	0.000	0.000	0.000	0.000	0.500	0.000	0.896

PM Peak Hour																									
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
5:00 PM	1	12	150	0	1	163	0	30	0	23	1	53	0	0	125	15	0	140	0	0	0	0	0	0	356
5:15 PM	0	14	163	0	0	177	0	15	0	20	1	35	0	0	129	19	0	148	0	0	0	0	3	0	360
5:30 PM	0	6	168	0	0	174	0	14	0	12	3	26	0	0	142	12	0	154	0	0	0	0	1	0	354
5:45 PM	0	1	153	0	0	154	0	26	0	16	0	42	1	0	154	24	0	179	0	0	0	0	0	0	375
Peak Hour Total	1	33	634	0	1	668	0	85	0	71	5	156	1	0	550	70	0	621	0	0	0	0	4	0	1445
PHF	0.250	0.589	0.943	0.000	0.250	0.944	0.000	0.708	0.000	0.772	0.417	0.736	0.250	0.000	0.893	0.729	0.000	0.867	0.000	0.000	0.000	0.000	0.333	0.000	0.963

Total Vehicles On Leg 4506

Vehicles Entering Intersection 2390			Vehicles Exiting Intersection 2116		
Southbound					
Cars	1	2157	146	5	1
Heavy	0	59	22	0	0
Total	1	2216	168	5	1



Total Vehicles on Leg 1	Vehicles Entering Intersection 0	Eastbound	Cars	Heavy	Total
			9	2	11
			0	0	0
	Vehicles Exiting Intersection 1		0	0	0
			0	0	0
			0	0	0



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 566	Total Vehicles on Leg 951
246	13	259			
0	0	0			
254	53	307		Vehicles Exiting Intersection 385	
0	0	0			
7	2	9			



4 Hour Volumes

Cars	1	3	0	1778	172
Heavy	0	0	0	74	45
Total	1	3	0	1852	217
Northbound					
Vehicles Entering Intersection 2072			Vehicles Exiting Intersection 2526		
Total Vehicles On Leg			4598		



**Monte Vista Ave and Richton St
Claremont California
Saturday, January 27, 2024**

Time	Southbound Monte Vista Ave						Westbound Richton St						Northbound Monte Vista Ave						Eastbound Richton St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	9	155	0	0	164	0	11	0	4	0	15	0	0	102	12	0	114	0	0	0	0	1	0	293
11:15 AM	1	5	137	0	0	143	0	10	0	13	0	23	0	0	121	10	0	131	0	0	0	0	0	0	297
11:30 AM	0	5	138	0	0	143	0	12	0	9	1	21	2	0	112	6	0	120	0	0	0	0	0	0	284
11:45 AM	0	7	154	0	0	161	0	9	0	11	0	20	0	0	106	7	0	113	0	0	0	0	0	0	294
Hourly Total	1	26	584	0	0	611	0	42	0	37	1	79	2	0	441	35	0	478	0	0	0	0	1	0	1168
12:00 PM	4	8	134	0	0	146	0	17	0	11	0	28	1	0	103	17	0	121	0	0	0	0	0	0	295
12:15 PM	2	3	146	0	0	151	0	13	0	10	1	23	1	0	94	5	0	100	0	0	0	0	0	0	274
12:30 PM	0	9	122	0	0	131	0	17	0	12	0	29	0	0	131	11	0	142	0	0	0	0	0	0	302
12:45 PM	2	8	165	0	0	175	0	8	1	10	0	19	1	0	120	10	0	131	0	0	0	0	0	0	325
Hourly Total	8	28	567	0	0	603	0	55	1	43	1	99	3	0	448	43	0	494	0	0	0	0	0	0	1196
1:00 PM	1	3	177	0	0	181	0	14	0	8	2	22	0	0	120	12	0	132	0	0	0	0	0	0	335
1:15 PM	0	6	154	0	0	160	0	16	0	7	1	23	0	0	114	14	0	128	0	0	0	0	0	0	311
1:30 PM	0	7	165	0	0	172	0	15	1	9	1	25	0	0	117	11	0	128	0	0	0	0	0	0	325
1:45 PM	0	4	162	0	0	166	1	14	0	8	0	23	0	0	139	11	0	150	0	0	1	0	1	1	340
Hourly Total	1	20	658	0	0	679	1	59	1	32	4	93	0	0	490	48	0	538	0	0	1	0	1	1	1311
2:00 PM	1	6	154	0	0	161	0	10	0	9	2	19	0	0	111	14	0	125	0	0	0	0	0	0	305
2:15 PM	0	7	172	0	0	179	0	12	0	8	0	20	0	0	113	11	0	124	0	0	0	0	0	0	323
2:30 PM	0	8	165	0	0	173	0	11	0	12	0	23	0	0	118	14	1	132	0	0	0	0	0	0	328
2:45 PM	2	8	161	0	0	171	0	7	0	5	1	12	1	0	111	11	0	123	0	0	0	0	0	0	306
Hourly Total	3	29	652	0	0	684	0	40	0	34	3	74	1	0	453	50	1	504	0	0	0	0	0	0	1262
4 Hours TOTAL	13	103	2461	0	0	2577	1	196	2	146	9	345	6	0	1832	176	1	2014	0	0	1	0	2	1	4937
Cars	13	99	2440	0	0	2552	1	165	2	144	8	312	6	0	1800	152	1	1958	0	0	1	0	2	1	4823
Heavy Vehicles	0	4	21	0	0	25	0	31	0	2	1	33	0	0	32	24	0	56	0	0	0	0	0	0	114
Heavy Vehicle %	0.00%	3.88%	0.85%	0.00%	0.00%	0.97%	0.00%	15.82%	0.00%	1.37%	11.11%	9.57%	0.00%	0.00%	1.75%	13.64%	0.00%	2.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%

**Monte Vista Ave and Richton St
Claremont California
Saturday, January 27, 2024
AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
11:00 AM	0	9	155	0	0	164	0	11	0	4	0	15	0	0	102	12	0	114	0	0	0	0	1	0	293
11:15 AM	1	5	137	0	0	143	0	10	0	13	0	23	0	0	121	10	0	131	0	0	0	0	0	0	297
11:30 AM	0	5	138	0	0	143	0	12	0	9	1	21	2	0	112	6	0	120	0	0	0	0	0	0	284
11:45 AM	0	7	154	0	0	161	0	9	0	11	0	20	0	0	106	7	0	113	0	0	0	0	0	0	294
Peak Hour Total	1	26	584	0	0	611	0	42	0	37	1	79	2	0	441	35	0	478	0	0	0	0	1	0	1168
PHF	0.250	0.722	0.942	0.000	0.000	0.931	0.000	0.875	0.000	0.712	0.250	0.859	0.250	0.000	0.911	0.729	0.000	0.912	0.000	0.000	0.000	0.000	0.250	0.000	0.983

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
1:00 PM	1	3	177	0	0	181	0	14	0	8	2	22	0	0	120	12	0	132	0	0	0	0	0	0	335
1:15 PM	0	6	154	0	0	160	0	16	0	7	1	23	0	0	114	14	0	128	0	0	0	0	0	0	311
1:30 PM	0	7	165	0	0	172	0	15	1	9	1	25	0	0	117	11	0	128	0	0	0	0	0	0	325
1:45 PM	0	4	162	0	0	166	1	14	0	8	0	23	0	0	139	11	0	150	0	0	1	0	1	1	340
Peak Hour Total	1	20	658	0	0	679	1	59	1	32	4	93	0	0	490	48	0	538	0	0	1	0	1	1	1311
PHF	0.250	0.714	0.929	0.000	0.000	0.938	0.250	0.922	0.250	0.889	0.500	0.930	0.000	0.000	0.881	0.857	0.000	0.897	0.000	0.000	0.250	0.000	0.250	0.250	0.964

Total Vehicles On Leg 4568

Vehicles Entering Intersection 2577			Vehicles Exiting Intersection 1991		
Southbound					
Cars	0	2440	99	13	0
Heavy	0	21	4	0	0
Total	0	2461	103	13	0



Total Vehicles on Leg 3	Vehicles Entering Intersection 1	Eastbound	Cars	Heavy	Total
			2	0	2
			0	0	0
	Vehicles Exiting Intersection 2		0	0	0
			1	0	1
			0	0	0



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 345	Total Vehicles on Leg 626
144	2	146			
2	0	2			
165	31	196		Vehicles Exiting Intersection 281	
1	0	1			
8	1	9			



4 Hour Volumes

Cars	1	6	0	1800	152
Heavy	0	0	0	32	24
Total	1	6	0	1832	176
Northbound					
Vehicles Entering Intersection 2014			Vehicles Exiting Intersection 2663		
Total Vehicles On Leg			4677		



For CITY OF UPLAND
Location Foothill Blvd, East of Monte Vista Ave
Task ADT

Study Volume

Date	Timeslot	EastBound	WestBound	Total
12/14/2023	00:00-00:14	21	18	39
12/14/2023	00:15-00:29	18	17	35
12/14/2023	00:30-00:44	28	19	47
12/14/2023	00:45-00:59	14	21	35
12/14/2023	01:00-01:14	9	16	25
12/14/2023	01:15-01:29	11	9	20
12/14/2023	01:30-01:44	12	17	29
12/14/2023	01:45-01:59	7	12	19
12/14/2023	02:00-02:14	6	16	22
12/14/2023	02:15-02:29	11	9	20
12/14/2023	02:30-02:44	7	8	15
12/14/2023	02:45-02:59	6	5	11
12/14/2023	03:00-03:14	5	6	11
12/14/2023	03:15-03:29	9	8	17
12/14/2023	03:30-03:44	10	10	20
12/14/2023	03:45-03:59	17	11	28
12/14/2023	04:00-04:14	8	8	16
12/14/2023	04:15-04:29	12	12	24
12/14/2023	04:30-04:44	26	24	50
12/14/2023	04:45-04:59	24	28	52
12/14/2023	05:00-05:14	11	24	35
12/14/2023	05:15-05:29	19	36	55
12/14/2023	05:30-05:44	34	61	95
12/14/2023	05:45-05:59	48	91	139
12/14/2023	06:00-06:14	32	105	137
12/14/2023	06:15-06:29	47	125	172
12/14/2023	06:30-06:44	40	168	208
12/14/2023	06:45-06:59	61	167	228
12/14/2023	07:00-07:14	76	173	249
12/14/2023	07:15-07:29	126	166	292
12/14/2023	07:30-07:44	138	250	388
12/14/2023	07:45-07:59	156	313	469
12/14/2023	08:00-08:14	171	237	408
12/14/2023	08:15-08:29	171	178	349
12/14/2023	08:30-08:44	150	215	365
12/14/2023	08:45-08:59	129	199	328

12/14/2023	09:00-09:14	136	157	293
12/14/2023	09:15-09:29	142	133	275
12/14/2023	09:30-09:44	132	150	282
12/14/2023	09:45-09:59	162	134	296
12/14/2023	10:00-10:14	155	159	314
12/14/2023	10:15-10:29	139	153	292
12/14/2023	10:30-10:44	141	146	287
12/14/2023	10:45-10:59	136	170	306
12/14/2023	11:00-11:14	163	148	311
12/14/2023	11:15-11:29	188	166	354
12/14/2023	11:30-11:44	181	187	368
12/14/2023	11:45-11:59	205	178	383
12/14/2023	12:00-12:14	192	151	343
12/14/2023	12:15-12:29	227	184	411
12/14/2023	12:30-12:44	186	193	379
12/14/2023	12:45-12:59	211	189	400
12/14/2023	13:00-13:14	237	197	434
12/14/2023	13:15-13:29	197	177	374
12/14/2023	13:30-13:44	200	169	369
12/14/2023	13:45-13:59	188	203	391
12/14/2023	14:00-14:14	223	179	402
12/14/2023	14:15-14:29	202	208	410
12/14/2023	14:30-14:44	269	207	476
12/14/2023	14:45-14:59	273	192	465
12/14/2023	15:00-15:14	241	187	428
12/14/2023	15:15-15:29	308	189	497
12/14/2023	15:30-15:44	246	180	426
12/14/2023	15:45-15:59	266	221	487
12/14/2023	16:00-16:14	358	179	537
12/14/2023	16:15-16:29	284	183	467
12/14/2023	16:30-16:44	336	211	547
12/14/2023	16:45-16:59	333	186	519
12/14/2023	17:00-17:14	343	198	541
12/14/2023	17:15-17:29	327	207	534
12/14/2023	17:30-17:44	320	208	528
12/14/2023	17:45-17:59	330	218	548
12/14/2023	18:00-18:14	318	154	472
12/14/2023	18:15-18:29	248	152	400
12/14/2023	18:30-18:44	207	174	381
12/14/2023	18:45-18:59	172	134	306
12/14/2023	19:00-19:14	162	135	297
12/14/2023	19:15-19:29	109	130	239
12/14/2023	19:30-19:44	146	143	289
12/14/2023	19:45-19:59	117	106	223
12/14/2023	20:00-20:14	132	105	237
12/14/2023	20:15-20:29	140	116	256
12/14/2023	20:30-20:44	78	83	161

12/14/2023	20:45-20:59	97	96	193
12/14/2023	21:00-21:14	100	71	171
12/14/2023	21:15-21:29	90	103	193
12/14/2023	21:30-21:44	79	80	159
12/14/2023	21:45-21:59	50	63	113
12/14/2023	22:00-22:14	58	45	103
12/14/2023	22:15-22:29	42	50	92
12/14/2023	22:30-22:44	51	42	93
12/14/2023	22:45-22:59	45	58	103
12/14/2023	23:00-23:14	36	43	79
12/14/2023	23:15-23:29	23	30	53
12/14/2023	23:30-23:44	26	26	52
12/14/2023	23:45-23:59	29	25	54

For CITY OF UPLAND
Location Foothill Blvd, East of Monte Vista Ave
Task ADT

Study Volume

Date	Timeslot	EastBound	WestBound	Total
12/16/2023	00:00-00:14	30	29	59
12/16/2023	00:15-00:29	25	17	42
12/16/2023	00:30-00:44	32	34	66
12/16/2023	00:45-00:59	19	25	44
12/16/2023	01:00-01:14	18	23	41
12/16/2023	01:15-01:29	14	21	35
12/16/2023	01:30-01:44	18	14	32
12/16/2023	01:45-01:59	9	22	31
12/16/2023	02:00-02:14	10	15	25
12/16/2023	02:15-02:29	9	11	20
12/16/2023	02:30-02:44	6	10	16
12/16/2023	02:45-02:59	9	11	20
12/16/2023	03:00-03:14	12	11	23
12/16/2023	03:15-03:29	6	12	18
12/16/2023	03:30-03:44	7	9	16
12/16/2023	03:45-03:59	9	17	26
12/16/2023	04:00-04:14	11	13	24
12/16/2023	04:15-04:29	8	10	18
12/16/2023	04:30-04:44	5	10	15
12/16/2023	04:45-04:59	13	12	25
12/16/2023	05:00-05:14	8	11	19
12/16/2023	05:15-05:29	10	7	17
12/16/2023	05:30-05:44	21	19	40
12/16/2023	05:45-05:59	23	36	59
12/16/2023	06:00-06:14	19	24	43
12/16/2023	06:15-06:29	30	29	59
12/16/2023	06:30-06:44	34	38	72
12/16/2023	06:45-06:59	41	49	90
12/16/2023	07:00-07:14	44	55	99
12/16/2023	07:15-07:29	47	64	111
12/16/2023	07:30-07:44	58	85	143
12/16/2023	07:45-07:59	75	80	155
12/16/2023	08:00-08:14	59	79	138
12/16/2023	08:15-08:29	89	97	186
12/16/2023	08:30-08:44	98	113	211
12/16/2023	08:45-08:59	110	114	224

12/16/2023	09:00-09:14	105	108	213
12/16/2023	09:15-09:29	121	110	231
12/16/2023	09:30-09:44	127	146	273
12/16/2023	09:45-09:59	143	147	290
12/16/2023	10:00-10:14	146	142	288
12/16/2023	10:15-10:29	160	147	307
12/16/2023	10:30-10:44	166	150	316
12/16/2023	10:45-10:59	185	155	340
12/16/2023	11:00-11:14	174	191	365
12/16/2023	11:15-11:29	192	158	350
12/16/2023	11:30-11:44	193	177	370
12/16/2023	11:45-11:59	199	191	390
12/16/2023	12:00-12:14	206	169	375
12/16/2023	12:15-12:29	207	182	389
12/16/2023	12:30-12:44	199	198	397
12/16/2023	12:45-12:59	186	177	363
12/16/2023	13:00-13:14	204	215	419
12/16/2023	13:15-13:29	198	212	410
12/16/2023	13:30-13:44	168	167	335
12/16/2023	13:45-13:59	210	180	390
12/16/2023	14:00-14:14	186	213	399
12/16/2023	14:15-14:29	183	164	347
12/16/2023	14:30-14:44	218	155	373
12/16/2023	14:45-14:59	189	150	339
12/16/2023	15:00-15:14	214	185	399
12/16/2023	15:15-15:29	185	169	354
12/16/2023	15:30-15:44	239	159	398
12/16/2023	15:45-15:59	214	154	368
12/16/2023	16:00-16:14	187	204	391
12/16/2023	16:15-16:29	181	176	357
12/16/2023	16:30-16:44	190	163	353
12/16/2023	16:45-16:59	199	191	390
12/16/2023	17:00-17:14	219	183	402
12/16/2023	17:15-17:29	202	168	370
12/16/2023	17:30-17:44	189	180	369
12/16/2023	17:45-17:59	171	139	310
12/16/2023	18:00-18:14	169	152	321
12/16/2023	18:15-18:29	168	142	310
12/16/2023	18:30-18:44	151	136	287
12/16/2023	18:45-18:59	131	141	272
12/16/2023	19:00-19:14	110	137	247
12/16/2023	19:15-19:29	115	109	224
12/16/2023	19:30-19:44	137	105	242
12/16/2023	19:45-19:59	127	93	220
12/16/2023	20:00-20:14	125	82	207
12/16/2023	20:15-20:29	84	90	174
12/16/2023	20:30-20:44	89	70	159

12/16/2023	20:45-20:59	99	73	172
12/16/2023	21:00-21:14	89	74	163
12/16/2023	21:15-21:29	97	72	169
12/16/2023	21:30-21:44	99	78	177
12/16/2023	21:45-21:59	112	81	193
12/16/2023	22:00-22:14	127	88	215
12/16/2023	22:15-22:29	108	58	166
12/16/2023	22:30-22:44	108	51	159
12/16/2023	22:45-22:59	87	45	132
12/16/2023	23:00-23:14	51	44	95
12/16/2023	23:15-23:29	39	43	82
12/16/2023	23:30-23:44	50	46	96
12/16/2023	23:45-23:59	38	33	71

For	CITY OF UPLAND
Location	Monte Vista Ave,South of Foothill Blvd
Task	ADT&Speed Profile

*****	*****			
Study Volume				
Date	Timeslot	SouthBound	NorthBound	Total
12/14/2023	00:00-00:14	18	14	32
12/14/2023	00:15-00:29	11	18	29
12/14/2023	00:30-00:44	19	16	35
12/14/2023	00:45-00:59	10	15	25
12/14/2023	01:00-01:14	6	7	13
12/14/2023	01:15-01:29	5	9	14
12/14/2023	01:30-01:44	14	10	24
12/14/2023	01:45-01:59	8	4	12
12/14/2023	02:00-02:14	7	2	9
12/14/2023	02:15-02:29	4	4	8
12/14/2023	02:30-02:44	5	5	10
12/14/2023	02:45-02:59	8	4	12
12/14/2023	03:00-03:14	10	0	10
12/14/2023	03:15-03:29	8	2	10
12/14/2023	03:30-03:44	11	4	15
12/14/2023	03:45-03:59	13	11	24
12/14/2023	04:00-04:14	8	5	13
12/14/2023	04:15-04:29	16	13	29
12/14/2023	04:30-04:44	17	18	35
12/14/2023	04:45-04:59	28	23	51
12/14/2023	05:00-05:14	23	13	36
12/14/2023	05:15-05:29	25	29	54
12/14/2023	05:30-05:44	30	33	63
12/14/2023	05:45-05:59	40	38	78
12/14/2023	06:00-06:14	57	24	81
12/14/2023	06:15-06:29	67	29	96
12/14/2023	06:30-06:44	98	49	147
12/14/2023	06:45-06:59	102	74	176
12/14/2023	07:00-07:14	84	79	163
12/14/2023	07:15-07:29	104	126	230
12/14/2023	07:30-07:44	111	143	254
12/14/2023	07:45-07:59	130	170	300
12/14/2023	08:00-08:14	121	123	244
12/14/2023	08:15-08:29	143	125	268
12/14/2023	08:30-08:44	117	96	213
12/14/2023	08:45-08:59	135	126	261
12/14/2023	09:00-09:14	95	92	187

12/14/2023	09:15-09:29	107	90	197
12/14/2023	09:30-09:44	104	100	204
12/14/2023	09:45-09:59	93	83	176
12/14/2023	10:00-10:14	114	84	198
12/14/2023	10:15-10:29	95	72	167
12/14/2023	10:30-10:44	137	107	244
12/14/2023	10:45-10:59	105	91	196
12/14/2023	11:00-11:14	136	115	251
12/14/2023	11:15-11:29	111	97	208
12/14/2023	11:30-11:44	118	105	223
12/14/2023	11:45-11:59	132	135	267
12/14/2023	12:00-12:14	123	129	252
12/14/2023	12:15-12:29	134	127	261
12/14/2023	12:30-12:44	113	109	222
12/14/2023	12:45-12:59	133	120	253
12/14/2023	13:00-13:14	111	129	240
12/14/2023	13:15-13:29	135	112	247
12/14/2023	13:30-13:44	141	153	294
12/14/2023	13:45-13:59	132	135	267
12/14/2023	14:00-14:14	123	146	269
12/14/2023	14:15-14:29	143	149	292
12/14/2023	14:30-14:44	187	145	332
12/14/2023	14:45-14:59	146	143	289
12/14/2023	15:00-15:14	124	115	239
12/14/2023	15:15-15:29	141	133	274
12/14/2023	15:30-15:44	174	166	340
12/14/2023	15:45-15:59	165	128	293
12/14/2023	16:00-16:14	155	133	288
12/14/2023	16:15-16:29	177	140	317
12/14/2023	16:30-16:44	173	159	332
12/14/2023	16:45-16:59	151	146	297
12/14/2023	17:00-17:14	175	127	302
12/14/2023	17:15-17:29	198	126	324
12/14/2023	17:30-17:44	161	124	285
12/14/2023	17:45-17:59	165	112	277
12/14/2023	18:00-18:14	146	150	296
12/14/2023	18:15-18:29	157	119	276
12/14/2023	18:30-18:44	100	129	229
12/14/2023	18:45-18:59	89	105	194
12/14/2023	19:00-19:14	120	125	245
12/14/2023	19:15-19:29	97	84	181
12/14/2023	19:30-19:44	99	103	202
12/14/2023	19:45-19:59	107	72	179
12/14/2023	20:00-20:14	80	86	166
12/14/2023	20:15-20:29	72	91	163
12/14/2023	20:30-20:44	49	63	112
12/14/2023	20:45-20:59	62	62	124

12/14/2023	21:00-21:14	58	71	129
12/14/2023	21:15-21:29	66	63	129
12/14/2023	21:30-21:44	48	57	105
12/14/2023	21:45-21:59	46	46	92
12/14/2023	22:00-22:14	39	37	76
12/14/2023	22:15-22:29	46	37	83
12/14/2023	22:30-22:44	31	37	68
12/14/2023	22:45-22:59	28	33	61
12/14/2023	23:00-23:14	22	21	43
12/14/2023	23:15-23:29	25	22	47
12/14/2023	23:30-23:44	15	21	36
12/14/2023	23:45-23:59	20	25	45

For	CITY OF UPLAND
Location	Monte Vista Ave,South of Foothill Blvd
Task	ADT&Speed Profile

*****	*****			
Study Volume				
Date	Timeslot	SouthBound	NorthBound	Total
12/16/2023	00:00-00:14	12	14	26
12/16/2023	00:15-00:29	19	13	32
12/16/2023	00:30-00:44	18	18	36
12/16/2023	00:45-00:59	15	9	24
12/16/2023	01:00-01:14	21	9	30
12/16/2023	01:15-01:29	8	9	17
12/16/2023	01:30-01:44	10	8	18
12/16/2023	01:45-01:59	13	3	16
12/16/2023	02:00-02:14	9	7	16
12/16/2023	02:15-02:29	7	4	11
12/16/2023	02:30-02:44	11	7	18
12/16/2023	02:45-02:59	17	2	19
12/16/2023	03:00-03:14	11	4	15
12/16/2023	03:15-03:29	7	3	10
12/16/2023	03:30-03:44	11	4	15
12/16/2023	03:45-03:59	6	4	10
12/16/2023	04:00-04:14	14	2	16
12/16/2023	04:15-04:29	12	2	14
12/16/2023	04:30-04:44	18	4	22
12/16/2023	04:45-04:59	21	13	34
12/16/2023	05:00-05:14	16	12	28
12/16/2023	05:15-05:29	7	8	15
12/16/2023	05:30-05:44	22	19	41
12/16/2023	05:45-05:59	15	20	35
12/16/2023	06:00-06:14	18	25	43
12/16/2023	06:15-06:29	34	22	56
12/16/2023	06:30-06:44	22	27	49
12/16/2023	06:45-06:59	30	32	62
12/16/2023	07:00-07:14	41	43	84
12/16/2023	07:15-07:29	46	51	97
12/16/2023	07:30-07:44	46	37	83
12/16/2023	07:45-07:59	52	78	130
12/16/2023	08:00-08:14	53	55	108
12/16/2023	08:15-08:29	63	65	128
12/16/2023	08:30-08:44	71	74	145
12/16/2023	08:45-08:59	71	81	152
12/16/2023	09:00-09:14	102	77	179

12/16/2023	09:15-09:29	115	74	189
12/16/2023	09:30-09:44	106	86	192
12/16/2023	09:45-09:59	111	87	198
12/16/2023	10:00-10:14	109	91	200
12/16/2023	10:15-10:29	112	91	203
12/16/2023	10:30-10:44	138	109	247
12/16/2023	10:45-10:59	111	90	201
12/16/2023	11:00-11:14	116	103	219
12/16/2023	11:15-11:29	118	131	249
12/16/2023	11:30-11:44	113	101	214
12/16/2023	11:45-11:59	171	132	303
12/16/2023	12:00-12:14	152	137	289
12/16/2023	12:15-12:29	139	119	258
12/16/2023	12:30-12:44	136	141	277
12/16/2023	12:45-12:59	135	139	274
12/16/2023	13:00-13:14	126	116	242
12/16/2023	13:15-13:29	133	137	270
12/16/2023	13:30-13:44	129	117	246
12/16/2023	13:45-13:59	142	138	280
12/16/2023	14:00-14:14	116	117	233
12/16/2023	14:15-14:29	130	129	259
12/16/2023	14:30-14:44	120	143	263
12/16/2023	14:45-14:59	133	105	238
12/16/2023	15:00-15:14	196	117	313
12/16/2023	15:15-15:29	122	111	233
12/16/2023	15:30-15:44	118	125	243
12/16/2023	15:45-15:59	124	116	240
12/16/2023	16:00-16:14	119	102	221
12/16/2023	16:15-16:29	132	107	239
12/16/2023	16:30-16:44	120	110	230
12/16/2023	16:45-16:59	120	119	239
12/16/2023	17:00-17:14	126	160	286
12/16/2023	17:15-17:29	114	121	235
12/16/2023	17:30-17:44	97	116	213
12/16/2023	17:45-17:59	80	87	167
12/16/2023	18:00-18:14	104	114	218
12/16/2023	18:15-18:29	90	105	195
12/16/2023	18:30-18:44	93	108	201
12/16/2023	18:45-18:59	91	123	214
12/16/2023	19:00-19:14	84	87	171
12/16/2023	19:15-19:29	68	78	146
12/16/2023	19:30-19:44	71	83	154
12/16/2023	19:45-19:59	66	65	131
12/16/2023	20:00-20:14	69	78	147
12/16/2023	20:15-20:29	63	77	140
12/16/2023	20:30-20:44	56	69	125
12/16/2023	20:45-20:59	69	63	132

12/16/2023	21:00-21:14	50	50	100
12/16/2023	21:15-21:29	57	68	125
12/16/2023	21:30-21:44	40	60	100
12/16/2023	21:45-21:59	64	56	120
12/16/2023	22:00-22:14	45	45	90
12/16/2023	22:15-22:29	52	45	97
12/16/2023	22:30-22:44	54	62	116
12/16/2023	22:45-22:59	40	46	86
12/16/2023	23:00-23:14	43	32	75
12/16/2023	23:15-23:29	26	23	49
12/16/2023	23:30-23:44	22	32	54
12/16/2023	23:45-23:59	34	20	54

For	CITY OF CLAREMONT
Location	Claremont Blvd, Between Arrow Route and Foothill Blvd
Task	ADT Profile

Study Volume

Date	Timeslot	SouthBound	NorthBound	Total
1/25/2024	00:00-00:14	15	10	25
1/25/2024	00:15-00:29	10	5	15
1/25/2024	00:30-00:44	4	4	8
1/25/2024	00:45-00:59	5	6	11
1/25/2024	01:00-01:14	4	4	8
1/25/2024	01:15-01:29	3	10	13
1/25/2024	01:30-01:44	4	2	6
1/25/2024	01:45-01:59	4	2	6
1/25/2024	02:00-02:14	5	6	11
1/25/2024	02:15-02:29	5	4	9
1/25/2024	02:30-02:44	1	3	4
1/25/2024	02:45-02:59	6	3	9
1/25/2024	03:00-03:14	1	0	1
1/25/2024	03:15-03:29	7	4	11
1/25/2024	03:30-03:44	5	2	7
1/25/2024	03:45-03:59	8	1	9
1/25/2024	04:00-04:14	4	0	4
1/25/2024	04:15-04:29	10	0	10
1/25/2024	04:30-04:44	11	9	20
1/25/2024	04:45-04:59	30	5	35
1/25/2024	05:00-05:14	19	13	32
1/25/2024	05:15-05:29	26	12	38
1/25/2024	05:30-05:44	21	26	47
1/25/2024	05:45-05:59	47	42	89
1/25/2024	06:00-06:14	34	56	90
1/25/2024	06:15-06:29	44	45	89
1/25/2024	06:30-06:44	45	50	95
1/25/2024	06:45-06:59	75	59	134
1/25/2024	07:00-07:14	60	71	131
1/25/2024	07:15-07:29	64	105	169
1/25/2024	07:30-07:44	110	106	216
1/25/2024	07:45-07:59	183	126	309

1/25/2024	08:00-08:14	140	141	281
1/25/2024	08:15-08:29	104	119	223
1/25/2024	08:30-08:44	75	119	194
1/25/2024	08:45-08:59	90	73	163
1/25/2024	09:00-09:14	82	70	152
1/25/2024	09:15-09:29	101	74	175
1/25/2024	09:30-09:44	81	76	157
1/25/2024	09:45-09:59	68	75	143
1/25/2024	10:00-10:14	71	84	155
1/25/2024	10:15-10:29	55	63	118
1/25/2024	10:30-10:44	69	61	130
1/25/2024	10:45-10:59	80	66	146
1/25/2024	11:00-11:14	65	76	141
1/25/2024	11:15-11:29	47	65	112
1/25/2024	11:30-11:44	88	72	160
1/25/2024	11:45-11:59	85	84	169
1/25/2024	12:00-12:14	78	106	184
1/25/2024	12:15-12:29	92	91	183
1/25/2024	12:30-12:44	81	84	165
1/25/2024	12:45-12:59	103	80	183
1/25/2024	13:00-13:14	122	89	211
1/25/2024	13:15-13:29	86	101	187
1/25/2024	13:30-13:44	77	78	155
1/25/2024	13:45-13:59	95	94	189
1/25/2024	14:00-14:14	85	99	184
1/25/2024	14:15-14:29	107	100	207
1/25/2024	14:30-14:44	105	143	248
1/25/2024	14:45-14:59	120	126	246
1/25/2024	15:00-15:14	104	118	222
1/25/2024	15:15-15:29	113	122	235
1/25/2024	15:30-15:44	117	115	232
1/25/2024	15:45-15:59	110	141	251
1/25/2024	16:00-16:14	141	129	270
1/25/2024	16:15-16:29	94	114	208
1/25/2024	16:30-16:44	122	137	259
1/25/2024	16:45-16:59	103	117	220
1/25/2024	17:00-17:14	127	169	296
1/25/2024	17:15-17:29	126	136	262
1/25/2024	17:30-17:44	134	133	267
1/25/2024	17:45-17:59	122	131	253
1/25/2024	18:00-18:14	103	105	208
1/25/2024	18:15-18:29	121	109	230
1/25/2024	18:30-18:44	91	88	179
1/25/2024	18:45-18:59	93	83	176
1/25/2024	19:00-19:14	76	88	164
1/25/2024	19:15-19:29	86	64	150
1/25/2024	19:30-19:44	64	67	131

1/25/2024	19:45-19:59	48	57	105
1/25/2024	20:00-20:14	43	74	117
1/25/2024	20:15-20:29	53	56	109
1/25/2024	20:30-20:44	35	44	79
1/25/2024	20:45-20:59	37	58	95
1/25/2024	21:00-21:14	67	45	112
1/25/2024	21:15-21:29	62	47	109
1/25/2024	21:30-21:44	31	37	68
1/25/2024	21:45-21:59	33	38	71
1/25/2024	22:00-22:14	27	44	71
1/25/2024	22:15-22:29	26	29	55
1/25/2024	22:30-22:44	20	24	44
1/25/2024	22:45-22:59	21	27	48
1/25/2024	23:00-23:14	24	29	53
1/25/2024	23:15-23:29	20	17	37
1/25/2024	23:30-23:44	20	18	38
1/25/2024	23:45-23:59	26	23	49

For	CITY OF CLAREMONT
Location	Claremont Blvd, Between Arrow Route and Foothill Blvd
Task	ADT Profile

Study Volume

Date	Timeslot	SouthBound	NorthBound	Total
1/27/2024	00:00-00:14	22	15	37
1/27/2024	00:15-00:29	12	16	28
1/27/2024	00:30-00:44	10	16	26
1/27/2024	00:45-00:59	12	10	22
1/27/2024	01:00-01:14	16	11	27
1/27/2024	01:15-01:29	9	9	18
1/27/2024	01:30-01:44	8	7	15
1/27/2024	01:45-01:59	6	11	17
1/27/2024	02:00-02:14	5	6	11
1/27/2024	02:15-02:29	6	4	10
1/27/2024	02:30-02:44	3	9	12
1/27/2024	02:45-02:59	6	4	10
1/27/2024	03:00-03:14	4	5	9
1/27/2024	03:15-03:29	5	7	12
1/27/2024	03:30-03:44	2	4	6
1/27/2024	03:45-03:59	5	3	8
1/27/2024	04:00-04:14	2	2	4
1/27/2024	04:15-04:29	4	9	13
1/27/2024	04:30-04:44	2	3	5
1/27/2024	04:45-04:59	8	7	15
1/27/2024	05:00-05:14	6	2	8
1/27/2024	05:15-05:29	10	6	16
1/27/2024	05:30-05:44	8	14	22
1/27/2024	05:45-05:59	17	12	29
1/27/2024	06:00-06:14	10	8	18
1/27/2024	06:15-06:29	19	15	34
1/27/2024	06:30-06:44	16	13	29
1/27/2024	06:45-06:59	36	25	61
1/27/2024	07:00-07:14	30	23	53
1/27/2024	07:15-07:29	36	17	53
1/27/2024	07:30-07:44	50	41	91
1/27/2024	07:45-07:59	51	40	91

1/27/2024	08:00-08:14	53	40	93
1/27/2024	08:15-08:29	57	41	98
1/27/2024	08:30-08:44	58	75	133
1/27/2024	08:45-08:59	98	75	173
1/27/2024	09:00-09:14	89	62	151
1/27/2024	09:15-09:29	102	61	163
1/27/2024	09:30-09:44	76	57	133
1/27/2024	09:45-09:59	84	80	164
1/27/2024	10:00-10:14	78	75	153
1/27/2024	10:15-10:29	77	76	153
1/27/2024	10:30-10:44	81	76	157
1/27/2024	10:45-10:59	96	116	212
1/27/2024	11:00-11:14	88	83	171
1/27/2024	11:15-11:29	86	72	158
1/27/2024	11:30-11:44	82	90	172
1/27/2024	11:45-11:59	86	98	184
1/27/2024	12:00-12:14	97	97	194
1/27/2024	12:15-12:29	102	110	212
1/27/2024	12:30-12:44	88	108	196
1/27/2024	12:45-12:59	112	94	206
1/27/2024	13:00-13:14	91	105	196
1/27/2024	13:15-13:29	95	127	222
1/27/2024	13:30-13:44	98	89	187
1/27/2024	13:45-13:59	83	95	178
1/27/2024	14:00-14:14	122	85	207
1/27/2024	14:15-14:29	91	91	182
1/27/2024	14:30-14:44	83	84	167
1/27/2024	14:45-14:59	124	106	230
1/27/2024	15:00-15:14	83	102	185
1/27/2024	15:15-15:29	85	85	170
1/27/2024	15:30-15:44	86	85	171
1/27/2024	15:45-15:59	101	86	187
1/27/2024	16:00-16:14	89	92	181
1/27/2024	16:15-16:29	63	95	158
1/27/2024	16:30-16:44	85	83	168
1/27/2024	16:45-16:59	90	108	198
1/27/2024	17:00-17:14	97	105	202
1/27/2024	17:15-17:29	88	81	169
1/27/2024	17:30-17:44	82	79	161
1/27/2024	17:45-17:59	82	77	159
1/27/2024	18:00-18:14	73	83	156
1/27/2024	18:15-18:29	79	73	152
1/27/2024	18:30-18:44	69	59	128
1/27/2024	18:45-18:59	53	63	116
1/27/2024	19:00-19:14	77	62	139
1/27/2024	19:15-19:29	72	68	140
1/27/2024	19:30-19:44	76	54	130

1/27/2024	19:45-19:59	78	57	135
1/27/2024	20:00-20:14	63	50	113
1/27/2024	20:15-20:29	64	49	113
1/27/2024	20:30-20:44	41	46	87
1/27/2024	20:45-20:59	48	38	86
1/27/2024	21:00-21:14	39	35	74
1/27/2024	21:15-21:29	60	48	108
1/27/2024	21:30-21:44	39	40	79
1/27/2024	21:45-21:59	38	45	83
1/27/2024	22:00-22:14	29	45	74
1/27/2024	22:15-22:29	38	38	76
1/27/2024	22:30-22:44	27	28	55
1/27/2024	22:45-22:59	29	43	72
1/27/2024	23:00-23:14	28	26	54
1/27/2024	23:15-23:29	19	18	37
1/27/2024	23:30-23:44	22	17	39
1/27/2024	23:45-23:59	17	16	33

For	CITY OF CLAREMONT
Location	Arrow Route, Between College Park Dr and Monte Vista Ave
Task	ADT Profile

Study Volume

Date	Timeslot	EastBound	WestBound	Total
1/25/2024	00:00-00:14	5	4	9
1/25/2024	00:15-00:29	5	3	8
1/25/2024	00:30-00:44	2	1	3
1/25/2024	00:45-00:59	3	2	5
1/25/2024	01:00-01:14	3	2	5
1/25/2024	01:15-01:29	6	1	7
1/25/2024	01:30-01:44	4	2	6
1/25/2024	01:45-01:59	4	3	7
1/25/2024	02:00-02:14	3	3	6
1/25/2024	02:15-02:29	0	4	4
1/25/2024	02:30-02:44	0	0	0
1/25/2024	02:45-02:59	1	0	1
1/25/2024	03:00-03:14	1	0	1
1/25/2024	03:15-03:29	0	0	0
1/25/2024	03:30-03:44	0	4	4
1/25/2024	03:45-03:59	3	4	7
1/25/2024	04:00-04:14	0	4	4
1/25/2024	04:15-04:29	2	2	4
1/25/2024	04:30-04:44	8	5	13
1/25/2024	04:45-04:59	1	8	9
1/25/2024	05:00-05:14	4	1	5
1/25/2024	05:15-05:29	6	8	14
1/25/2024	05:30-05:44	6	14	20
1/25/2024	05:45-05:59	7	21	28
1/25/2024	06:00-06:14	16	15	31
1/25/2024	06:15-06:29	12	25	37
1/25/2024	06:30-06:44	14	35	49
1/25/2024	06:45-06:59	22	47	69
1/25/2024	07:00-07:14	14	31	45
1/25/2024	07:15-07:29	32	36	68
1/25/2024	07:30-07:44	35	45	80
1/25/2024	07:45-07:59	42	61	103

1/25/2024	08:00-08:14	42	45	87
1/25/2024	08:15-08:29	50	47	97
1/25/2024	08:30-08:44	23	39	62
1/25/2024	08:45-08:59	34	53	87
1/25/2024	09:00-09:14	28	46	74
1/25/2024	09:15-09:29	28	35	63
1/25/2024	09:30-09:44	30	34	64
1/25/2024	09:45-09:59	25	36	61
1/25/2024	10:00-10:14	38	34	72
1/25/2024	10:15-10:29	24	28	52
1/25/2024	10:30-10:44	35	28	63
1/25/2024	10:45-10:59	32	39	71
1/25/2024	11:00-11:14	37	32	69
1/25/2024	11:15-11:29	46	31	77
1/25/2024	11:30-11:44	33	41	74
1/25/2024	11:45-11:59	39	37	76
1/25/2024	12:00-12:14	62	56	118
1/25/2024	12:15-12:29	48	39	87
1/25/2024	12:30-12:44	53	40	93
1/25/2024	12:45-12:59	56	38	94
1/25/2024	13:00-13:14	36	34	70
1/25/2024	13:15-13:29	63	36	99
1/25/2024	13:30-13:44	46	35	81
1/25/2024	13:45-13:59	49	48	97
1/25/2024	14:00-14:14	49	40	89
1/25/2024	14:15-14:29	69	41	110
1/25/2024	14:30-14:44	77	35	112
1/25/2024	14:45-14:59	59	43	102
1/25/2024	15:00-15:14	66	44	110
1/25/2024	15:15-15:29	72	39	111
1/25/2024	15:30-15:44	86	53	139
1/25/2024	15:45-15:59	82	44	126
1/25/2024	16:00-16:14	72	40	112
1/25/2024	16:15-16:29	82	37	119
1/25/2024	16:30-16:44	86	54	140
1/25/2024	16:45-16:59	90	52	142
1/25/2024	17:00-17:14	115	50	165
1/25/2024	17:15-17:29	97	57	154
1/25/2024	17:30-17:44	72	38	110
1/25/2024	17:45-17:59	79	44	123
1/25/2024	18:00-18:14	69	49	118
1/25/2024	18:15-18:29	73	45	118
1/25/2024	18:30-18:44	59	29	88
1/25/2024	18:45-18:59	45	40	85
1/25/2024	19:00-19:14	38	23	61
1/25/2024	19:15-19:29	33	19	52
1/25/2024	19:30-19:44	33	29	62

1/25/2024	19:45-19:59	40	18	58
1/25/2024	20:00-20:14	30	25	55
1/25/2024	20:15-20:29	28	14	42
1/25/2024	20:30-20:44	26	14	40
1/25/2024	20:45-20:59	28	17	45
1/25/2024	21:00-21:14	19	17	36
1/25/2024	21:15-21:29	31	18	49
1/25/2024	21:30-21:44	23	27	50
1/25/2024	21:45-21:59	17	12	29
1/25/2024	22:00-22:14	27	18	45
1/25/2024	22:15-22:29	26	15	41
1/25/2024	22:30-22:44	18	14	32
1/25/2024	22:45-22:59	12	9	21
1/25/2024	23:00-23:14	19	9	28
1/25/2024	23:15-23:29	14	10	24
1/25/2024	23:30-23:44	13	9	22
1/25/2024	23:45-23:59	15	14	29
1/27/2024	00:00-00:14	19	5	24
1/27/2024	00:15-00:29	10	5	15
1/27/2024	00:30-00:44	11	6	17
1/27/2024	00:45-00:59	12	5	17
1/27/2024	01:00-01:14	11	4	15
1/27/2024	01:15-01:29	5	4	9
1/27/2024	01:30-01:44	7	7	14
1/27/2024	01:45-01:59	4	1	5
1/27/2024	02:00-02:14	3	4	7
1/27/2024	02:15-02:29	4	4	8
1/27/2024	02:30-02:44	5	8	13
1/27/2024	02:45-02:59	0	1	1
1/27/2024	03:00-03:14	3	0	3
1/27/2024	03:15-03:29	2	1	3
1/27/2024	03:30-03:44	6	3	9
1/27/2024	03:45-03:59	1	0	1
1/27/2024	04:00-04:14	1	1	2
1/27/2024	04:15-04:29	0	1	1
1/27/2024	04:30-04:44	2	0	2
1/27/2024	04:45-04:59	2	3	5
1/27/2024	05:00-05:14	1	2	3
1/27/2024	05:15-05:29	5	3	8
1/27/2024	05:30-05:44	1	4	5
1/27/2024	05:45-05:59	4	12	16
1/27/2024	06:00-06:14	4	2	6
1/27/2024	06:15-06:29	8	7	15
1/27/2024	06:30-06:44	4	9	13
1/27/2024	06:45-06:59	7	20	27
1/27/2024	07:00-07:14	12	17	29
1/27/2024	07:15-07:29	12	12	24

1/27/2024	07:30-07:44	13	22	35
1/27/2024	07:45-07:59	20	16	36
1/27/2024	08:00-08:14	16	16	32
1/27/2024	08:15-08:29	23	21	44
1/27/2024	08:30-08:44	26	18	44
1/27/2024	08:45-08:59	33	29	62
1/27/2024	09:00-09:14	37	37	74
1/27/2024	09:15-09:29	39	31	70
1/27/2024	09:30-09:44	32	53	85
1/27/2024	09:45-09:59	52	51	103
1/27/2024	10:00-10:14	45	39	84
1/27/2024	10:15-10:29	41	45	86
1/27/2024	10:30-10:44	38	46	84
1/27/2024	10:45-10:59	51	47	98
1/27/2024	11:00-11:14	57	40	97
1/27/2024	11:15-11:29	57	47	104
1/27/2024	11:30-11:44	66	55	121
1/27/2024	11:45-11:59	61	44	105
1/27/2024	12:00-12:14	52	40	92
1/27/2024	12:15-12:29	54	55	109
1/27/2024	12:30-12:44	42	61	103
1/27/2024	12:45-12:59	60	52	112
1/27/2024	13:00-13:14	54	48	102
1/27/2024	13:15-13:29	66	46	112
1/27/2024	13:30-13:44	59	58	117
1/27/2024	13:45-13:59	48	40	88
1/27/2024	14:00-14:14	71	52	123
1/27/2024	14:15-14:29	74	39	113
1/27/2024	14:30-14:44	61	50	111
1/27/2024	14:45-14:59	85	55	140
1/27/2024	15:00-15:14	75	48	123
1/27/2024	15:15-15:29	68	50	118
1/27/2024	15:30-15:44	72	38	110
1/27/2024	15:45-15:59	69	54	123
1/27/2024	16:00-16:14	67	40	107
1/27/2024	16:15-16:29	70	51	121
1/27/2024	16:30-16:44	66	46	112
1/27/2024	16:45-16:59	53	36	89
1/27/2024	17:00-17:14	77	42	119
1/27/2024	17:15-17:29	73	37	110
1/27/2024	17:30-17:44	46	51	97
1/27/2024	17:45-17:59	63	37	100
1/27/2024	18:00-18:14	61	45	106
1/27/2024	18:15-18:29	62	37	99
1/27/2024	18:30-18:44	57	43	100
1/27/2024	18:45-18:59	57	39	96
1/27/2024	19:00-19:14	34	37	71

1/27/2024	19:15-19:29	43	38	81
1/27/2024	19:30-19:44	34	30	64
1/27/2024	19:45-19:59	39	22	61
1/27/2024	20:00-20:14	40	33	73
1/27/2024	20:15-20:29	41	25	66
1/27/2024	20:30-20:44	31	22	53
1/27/2024	20:45-20:59	39	24	63
1/27/2024	21:00-21:14	32	22	54
1/27/2024	21:15-21:29	33	21	54
1/27/2024	21:30-21:44	23	25	48
1/27/2024	21:45-21:59	28	18	46
1/27/2024	22:00-22:14	32	20	52
1/27/2024	22:15-22:29	31	7	38
1/27/2024	22:30-22:44	18	19	37
1/27/2024	22:45-22:59	13	8	21
1/27/2024	23:00-23:14	15	15	30
1/27/2024	23:15-23:29	17	15	32
1/27/2024	23:30-23:44	14	8	22
1/27/2024	23:45-23:59	16	8	24

For	CITY OF CLAREMONT
Location	Arrow Route, Between College Park Dr and Monte Vista Ave
Task	ADT Profile

Study Volume

Date	Timeslot	EastBound	WestBound	Total
1/27/2024	00:00-00:14	19	5	24
1/27/2024	00:15-00:29	10	5	15
1/27/2024	00:30-00:44	11	6	17
1/27/2024	00:45-00:59	12	5	17
1/27/2024	01:00-01:14	11	4	15
1/27/2024	01:15-01:29	5	4	9
1/27/2024	01:30-01:44	7	7	14
1/27/2024	01:45-01:59	4	1	5
1/27/2024	02:00-02:14	3	4	7
1/27/2024	02:15-02:29	4	4	8
1/27/2024	02:30-02:44	5	8	13
1/27/2024	02:45-02:59	0	1	1
1/27/2024	03:00-03:14	3	0	3
1/27/2024	03:15-03:29	2	1	3
1/27/2024	03:30-03:44	6	3	9
1/27/2024	03:45-03:59	1	0	1
1/27/2024	04:00-04:14	1	1	2
1/27/2024	04:15-04:29	0	1	1
1/27/2024	04:30-04:44	2	0	2
1/27/2024	04:45-04:59	2	3	5
1/27/2024	05:00-05:14	1	2	3
1/27/2024	05:15-05:29	5	3	8
1/27/2024	05:30-05:44	1	4	5
1/27/2024	05:45-05:59	4	12	16
1/27/2024	06:00-06:14	4	2	6
1/27/2024	06:15-06:29	8	7	15
1/27/2024	06:30-06:44	4	9	13
1/27/2024	06:45-06:59	7	20	27
1/27/2024	07:00-07:14	12	17	29
1/27/2024	07:15-07:29	12	12	24
1/27/2024	07:30-07:44	13	22	35
1/27/2024	07:45-07:59	20	16	36

1/27/2024	08:00-08:14	16	16	32
1/27/2024	08:15-08:29	23	21	44
1/27/2024	08:30-08:44	26	18	44
1/27/2024	08:45-08:59	33	29	62
1/27/2024	09:00-09:14	37	37	74
1/27/2024	09:15-09:29	39	31	70
1/27/2024	09:30-09:44	32	53	85
1/27/2024	09:45-09:59	52	51	103
1/27/2024	10:00-10:14	45	39	84
1/27/2024	10:15-10:29	41	45	86
1/27/2024	10:30-10:44	38	46	84
1/27/2024	10:45-10:59	51	47	98
1/27/2024	11:00-11:14	57	40	97
1/27/2024	11:15-11:29	57	47	104
1/27/2024	11:30-11:44	66	55	121
1/27/2024	11:45-11:59	61	44	105
1/27/2024	12:00-12:14	52	40	92
1/27/2024	12:15-12:29	54	55	109
1/27/2024	12:30-12:44	42	61	103
1/27/2024	12:45-12:59	60	52	112
1/27/2024	13:00-13:14	54	48	102
1/27/2024	13:15-13:29	66	46	112
1/27/2024	13:30-13:44	59	58	117
1/27/2024	13:45-13:59	48	40	88
1/27/2024	14:00-14:14	71	52	123
1/27/2024	14:15-14:29	74	39	113
1/27/2024	14:30-14:44	61	50	111
1/27/2024	14:45-14:59	85	55	140
1/27/2024	15:00-15:14	75	48	123
1/27/2024	15:15-15:29	68	50	118
1/27/2024	15:30-15:44	72	38	110
1/27/2024	15:45-15:59	69	54	123
1/27/2024	16:00-16:14	67	40	107
1/27/2024	16:15-16:29	70	51	121
1/27/2024	16:30-16:44	66	46	112
1/27/2024	16:45-16:59	53	36	89
1/27/2024	17:00-17:14	77	42	119
1/27/2024	17:15-17:29	73	37	110
1/27/2024	17:30-17:44	46	51	97
1/27/2024	17:45-17:59	63	37	100
1/27/2024	18:00-18:14	61	45	106
1/27/2024	18:15-18:29	62	37	99
1/27/2024	18:30-18:44	57	43	100
1/27/2024	18:45-18:59	57	39	96
1/27/2024	19:00-19:14	34	37	71
1/27/2024	19:15-19:29	43	38	81
1/27/2024	19:30-19:44	34	30	64

1/27/2024	19:45-19:59	39	22	61
1/27/2024	20:00-20:14	40	33	73
1/27/2024	20:15-20:29	41	25	66
1/27/2024	20:30-20:44	31	22	53
1/27/2024	20:45-20:59	39	24	63
1/27/2024	21:00-21:14	32	22	54
1/27/2024	21:15-21:29	33	21	54
1/27/2024	21:30-21:44	23	25	48
1/27/2024	21:45-21:59	28	18	46
1/27/2024	22:00-22:14	32	20	52
1/27/2024	22:15-22:29	31	7	38
1/27/2024	22:30-22:44	18	19	37
1/27/2024	22:45-22:59	13	8	21
1/27/2024	23:00-23:14	15	15	30
1/27/2024	23:15-23:29	17	15	32
1/27/2024	23:30-23:44	14	8	22
1/27/2024	23:45-23:59	16	8	24

For	CITY OF CLAREMONT
Location	Huntington Dr, East of Claremont Blvd
Task	ADT Profile

Study Volume

Date	Timeslot	EastBound	WestBound	Total
1/25/2024	00:00-00:14	0	0	0
1/25/2024	00:15-00:29	0	0	0
1/25/2024	00:30-00:44	0	0	0
1/25/2024	00:45-00:59	0	1	1
1/25/2024	01:00-01:14	0	0	0
1/25/2024	01:15-01:29	0	0	0
1/25/2024	01:30-01:44	0	0	0
1/25/2024	01:45-01:59	0	0	0
1/25/2024	02:00-02:14	1	0	1
1/25/2024	02:15-02:29	1	2	3
1/25/2024	02:30-02:44	0	0	0
1/25/2024	02:45-02:59	0	0	0
1/25/2024	03:00-03:14	0	1	1
1/25/2024	03:15-03:29	0	0	0
1/25/2024	03:30-03:44	0	0	0
1/25/2024	03:45-03:59	0	0	0
1/25/2024	04:00-04:14	0	0	0
1/25/2024	04:15-04:29	0	1	1
1/25/2024	04:30-04:44	1	1	2
1/25/2024	04:45-04:59	0	0	0
1/25/2024	05:00-05:14	0	0	0
1/25/2024	05:15-05:29	0	0	0
1/25/2024	05:30-05:44	0	2	2
1/25/2024	05:45-05:59	1	4	5
1/25/2024	06:00-06:14	1	1	2
1/25/2024	06:15-06:29	0	3	3
1/25/2024	06:30-06:44	0	0	0
1/25/2024	06:45-06:59	0	0	0
1/25/2024	07:00-07:14	2	0	2
1/25/2024	07:15-07:29	2	3	5
1/25/2024	07:30-07:44	2	3	5
1/25/2024	07:45-07:59	0	0	0

1/25/2024	08:00-08:14	1	3	4
1/25/2024	08:15-08:29	2	6	8
1/25/2024	08:30-08:44	2	1	3
1/25/2024	08:45-08:59	3	2	5
1/25/2024	09:00-09:14	1	4	5
1/25/2024	09:15-09:29	2	1	3
1/25/2024	09:30-09:44	2	2	4
1/25/2024	09:45-09:59	1	3	4
1/25/2024	10:00-10:14	2	1	3
1/25/2024	10:15-10:29	0	0	0
1/25/2024	10:30-10:44	3	3	6
1/25/2024	10:45-10:59	1	1	2
1/25/2024	11:00-11:14	3	4	7
1/25/2024	11:15-11:29	2	2	4
1/25/2024	11:30-11:44	3	1	4
1/25/2024	11:45-11:59	2	7	9
1/25/2024	12:00-12:14	1	3	4
1/25/2024	12:15-12:29	2	1	3
1/25/2024	12:30-12:44	0	2	2
1/25/2024	12:45-12:59	1	2	3
1/25/2024	13:00-13:14	2	3	5
1/25/2024	13:15-13:29	2	1	3
1/25/2024	13:30-13:44	2	0	2
1/25/2024	13:45-13:59	2	0	2
1/25/2024	14:00-14:14	1	2	3
1/25/2024	14:15-14:29	6	2	8
1/25/2024	14:30-14:44	6	5	11
1/25/2024	14:45-14:59	3	3	6
1/25/2024	15:00-15:14	2	3	5
1/25/2024	15:15-15:29	2	4	6
1/25/2024	15:30-15:44	1	0	1
1/25/2024	15:45-15:59	2	5	7
1/25/2024	16:00-16:14	1	0	1
1/25/2024	16:15-16:29	4	2	6
1/25/2024	16:30-16:44	3	4	7
1/25/2024	16:45-16:59	1	6	7
1/25/2024	17:00-17:14	1	3	4
1/25/2024	17:15-17:29	5	1	6
1/25/2024	17:30-17:44	1	1	2
1/25/2024	17:45-17:59	1	1	2
1/25/2024	18:00-18:14	2	3	5
1/25/2024	18:15-18:29	1	1	2
1/25/2024	18:30-18:44	1	2	3
1/25/2024	18:45-18:59	0	0	0
1/25/2024	19:00-19:14	1	1	2
1/25/2024	19:15-19:29	3	2	5
1/25/2024	19:30-19:44	3	1	4

1/25/2024	19:45-19:59	0	1	1
1/25/2024	20:00-20:14	1	0	1
1/25/2024	20:15-20:29	4	2	6
1/25/2024	20:30-20:44	1	0	1
1/25/2024	20:45-20:59	0	2	2
1/25/2024	21:00-21:14	1	0	1
1/25/2024	21:15-21:29	1	2	3
1/25/2024	21:30-21:44	2	0	2
1/25/2024	21:45-21:59	3	3	6
1/25/2024	22:00-22:14	1	0	1
1/25/2024	22:15-22:29	0	1	1
1/25/2024	22:30-22:44	1	0	1
1/25/2024	22:45-22:59	0	0	0
1/25/2024	23:00-23:14	1	1	2
1/25/2024	23:15-23:29	0	0	0
1/25/2024	23:30-23:44	0	0	0
1/25/2024	23:45-23:59	0	0	0

For	CITY OF CLAREMONT
Location	Huntington Dr, East of Claremont Blvd
Task	ADT Profile

Study Volume

Date	Timeslot	EastBound	WestBound	Total
1/27/2024	00:00-00:14	0	0	0
1/27/2024	00:15-00:29	1	0	1
1/27/2024	00:30-00:44	3	0	3
1/27/2024	00:45-00:59	1	1	2
1/27/2024	01:00-01:14	0	0	0
1/27/2024	01:15-01:29	1	0	1
1/27/2024	01:30-01:44	0	1	1
1/27/2024	01:45-01:59	0	1	1
1/27/2024	02:00-02:14	0	0	0
1/27/2024	02:15-02:29	0	0	0
1/27/2024	02:30-02:44	0	0	0
1/27/2024	02:45-02:59	0	1	1
1/27/2024	03:00-03:14	0	0	0
1/27/2024	03:15-03:29	0	0	0
1/27/2024	03:30-03:44	0	0	0
1/27/2024	03:45-03:59	0	0	0
1/27/2024	04:00-04:14	0	0	0
1/27/2024	04:15-04:29	0	0	0
1/27/2024	04:30-04:44	0	0	0
1/27/2024	04:45-04:59	0	0	0
1/27/2024	05:00-05:14	0	0	0
1/27/2024	05:15-05:29	1	0	1
1/27/2024	05:30-05:44	1	0	1
1/27/2024	05:45-05:59	0	0	0
1/27/2024	06:00-06:14	1	0	1
1/27/2024	06:15-06:29	1	2	3
1/27/2024	06:30-06:44	1	2	3
1/27/2024	06:45-06:59	1	1	2
1/27/2024	07:00-07:14	1	1	2
1/27/2024	07:15-07:29	0	1	1
1/27/2024	07:30-07:44	1	2	3
1/27/2024	07:45-07:59	0	1	1

1/27/2024	08:00-08:14	1	4	5
1/27/2024	08:15-08:29	2	3	5
1/27/2024	08:30-08:44	3	2	5
1/27/2024	08:45-08:59	0	0	0
1/27/2024	09:00-09:14	1	1	2
1/27/2024	09:15-09:29	1	2	3
1/27/2024	09:30-09:44	4	0	4
1/27/2024	09:45-09:59	4	2	6
1/27/2024	10:00-10:14	7	9	16
1/27/2024	10:15-10:29	3	3	6
1/27/2024	10:30-10:44	1	2	3
1/27/2024	10:45-10:59	2	2	4
1/27/2024	11:00-11:14	1	3	4
1/27/2024	11:15-11:29	5	5	10
1/27/2024	11:30-11:44	5	5	10
1/27/2024	11:45-11:59	3	0	3
1/27/2024	12:00-12:14	1	3	4
1/27/2024	12:15-12:29	1	3	4
1/27/2024	12:30-12:44	3	2	5
1/27/2024	12:45-12:59	2	1	3
1/27/2024	13:00-13:14	1	1	2
1/27/2024	13:15-13:29	3	0	3
1/27/2024	13:30-13:44	0	2	2
1/27/2024	13:45-13:59	1	5	6
1/27/2024	14:00-14:14	3	3	6
1/27/2024	14:15-14:29	1	2	3
1/27/2024	14:30-14:44	0	1	1
1/27/2024	14:45-14:59	0	5	5
1/27/2024	15:00-15:14	4	6	10
1/27/2024	15:15-15:29	3	0	3
1/27/2024	15:30-15:44	3	5	8
1/27/2024	15:45-15:59	3	2	5
1/27/2024	16:00-16:14	3	3	6
1/27/2024	16:15-16:29	1	2	3
1/27/2024	16:30-16:44	5	3	8
1/27/2024	16:45-16:59	6	3	9
1/27/2024	17:00-17:14	4	0	4
1/27/2024	17:15-17:29	2	3	5
1/27/2024	17:30-17:44	5	2	7
1/27/2024	17:45-17:59	1	1	2
1/27/2024	18:00-18:14	0	0	0
1/27/2024	18:15-18:29	2	3	5
1/27/2024	18:30-18:44	2	5	7
1/27/2024	18:45-18:59	5	3	8
1/27/2024	19:00-19:14	3	1	4
1/27/2024	19:15-19:29	7	2	9
1/27/2024	19:30-19:44	7	6	13

1/27/2024	19:45-19:59	5	4	9
1/27/2024	20:00-20:14	2	0	2
1/27/2024	20:15-20:29	2	1	3
1/27/2024	20:30-20:44	0	1	1
1/27/2024	20:45-20:59	1	1	2
1/27/2024	21:00-21:14	1	1	2
1/27/2024	21:15-21:29	2	1	3
1/27/2024	21:30-21:44	2	3	5
1/27/2024	21:45-21:59	0	1	1
1/27/2024	22:00-22:14	3	5	8
1/27/2024	22:15-22:29	0	6	6
1/27/2024	22:30-22:44	0	2	2
1/27/2024	22:45-22:59	2	4	6
1/27/2024	23:00-23:14	1	1	2
1/27/2024	23:15-23:29	1	1	2
1/27/2024	23:30-23:44	1	0	1
1/27/2024	23:45-23:59	0	3	3

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thursday, April 13, 2023
JOB #: SC3943

CITY# Claremont
CLASS1 6th west of Mills

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13	12:00	0	63	7	0	3	1	0	0	0	0	0	0	0	74
0:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9	12:15	0	48	16	0	3	0	0	0	0	0	0	0	0	67
0:30	0	10	0	0	1	0	0	0	0	0	0	0	0	11	12:30	0	85	11	0	2	0	0	0	0	0	0	0	0	98
0:45	0	12	0	0	1	0	0	0	0	0	0	0	0	13	12:45	0	78	7	0	4	0	0	0	0	0	0	0	0	89
1:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10	13:00	0	101	14	0	5	0	0	0	0	0	0	0	0	120
1:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	13:15	0	67	8	0	2	0	0	0	0	0	0	0	0	77
1:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7	13:30	0	66	8	0	3	0	0	0	0	0	0	0	0	77
1:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:45	0	64	7	0	2	0	0	0	0	0	0	0	0	73
2:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:00	0	67	6	1	6	0	0	0	0	0	0	0	0	80
2:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:15	0	81	5	0	6	0	0	0	0	0	0	0	0	92
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:30	0	78	10	0	2	0	0	0	0	0	0	0	0	90
2:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:45	0	76	10	0	4	0	0	0	0	0	0	0	0	90
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:00	0	54	9	0	4	0	0	0	0	0	0	0	0	67
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:15	0	89	10	0	6	0	0	0	0	0	0	0	0	105
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:30	0	55	17	0	4	0	0	0	0	0	0	0	0	76
3:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:45	0	93	12	0	4	0	0	0	0	0	0	0	0	109
4:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	16:00	0	97	8	1	1	0	0	0	0	0	0	0	0	107
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	16:15	0	113	11	0	4	0	0	0	0	0	0	0	0	128
4:30	0	1	1	0	1	0	0	0	0	0	0	0	0	3	16:30	0	106	6	0	2	0	0	0	0	0	0	0	0	114
4:45	0	6	1	0	0	1	0	0	0	0	0	0	0	8	16:45	0	95	6	0	3	0	0	0	0	0	0	0	0	104
5:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	17:00	0	131	6	0	3	0	0	0	0	0	0	0	0	140
5:15	0	20	1	0	0	0	0	0	0	0	0	0	0	21	17:15	0	101	7	0	1	0	0	0	0	0	0	0	0	109
5:30	0	11	5	0	3	1	0	0	0	0	0	0	0	20	17:30	0	89	7	0	4	0	0	0	0	0	0	0	0	100
5:45	0	20	2	0	4	0	0	0	0	0	0	0	0	26	17:45	0	82	8	0	4	0	0	0	0	0	0	0	0	94
6:00	0	12	1	0	1	1	0	0	0	0	0	0	0	15	18:00	0	102	6	0	4	0	0	0	0	0	0	0	0	112
6:15	0	11	1	0	2	0	0	0	0	0	0	0	0	14	18:15	0	89	4	0	0	0	0	0	0	0	0	0	0	93
6:30	0	16	3	0	4	0	0	0	0	0	0	0	0	23	18:30	0	85	2	0	3	0	0	0	0	0	0	0	0	90
6:45	0	21	6	0	3	0	0	0	0	0	0	0	0	30	18:45	0	67	4	0	1	0	0	0	0	0	0	0	0	72
7:00	0	32	5	0	3	0	0	0	0	0	0	0	0	40	19:00	1	66	2	0	3	0	0	0	0	0	0	0	0	72
7:15	0	30	7	0	2	0	0	0	0	0	0	0	0	39	19:15	0	55	4	0	0	0	0	0	0	0	0	0	0	59
7:30	0	39	6	0	4	0	0	0	0	0	0	0	0	49	19:30	0	56	2	0	1	0	0	0	0	0	0	0	0	59
7:45	0	72	8	0	4	0	0	0	1	0	0	0	0	85	19:45	0	47	3	0	2	0	0	0	0	0	0	0	0	52
8:00	0	69	6	0	6	0	0	0	0	0	0	0	0	81	20:00	0	39	3	0	3	0	0	0	0	0	0	0	0	45
8:15	0	52	6	0	3	0	0	0	0	0	0	0	0	61	20:15	0	53	1	0	3	0	0	0	0	0	0	0	0	57
8:30	0	54	6	0	5	0	0	0	0	0	0	0	0	65	20:30	0	38	5	0	1	0	0	0	0	0	0	0	0	44
8:45	0	52	7	0	6	1	0	0	0	0	0	0	0	66	20:45	0	45	2	0	1	0	0	0	0	0	0	0	0	48
9:00	0	46	5	0	4	0	0	0	0	0	0	0	0	55	21:00	0	55	1	0	2	0	0	0	0	0	0	0	0	58
9:15	0	51	10	0	5	0	0	0	0	0	0	0	0	66	21:15	0	64	1	0	1	0	0	0	0	0	0	0	0	66
9:30	0	52	8	0	5	0	0	1	0	0	0	0	0	66	21:30	0	44	1	0	1	0	0	0	0	0	0	0	0	46
9:45	0	58	11	0	6	0	0	0	0	0	0	0	0	75	21:45	0	29	0	0	2	0	0	0	0	0	0	0	0	31
10:00	0	54	10	0	6	0	0	0	0	0	0	0	0	70	22:00	0	29	0	0	2	0	0	0	0	0	0	0	0	31
10:15	0	32	9	0	6	0	0	0	0	0	0	0	0	47	22:15	0	23	1	0	1	0	0	0	0	0	0	0	0	25
10:30	2	39	8	0	5	0	0	0	0	0	0	0	0	54	22:30	0	27	1	0	1	0	0	0	0	0	0	0	0	29
10:45	0	62	7	0	1	0	0	0	0	0	0	0	0	70	22:45	0	24	0	0	2	0	0	0	0	0	0	0	0	26
11:00	0	47	14	0	6	0	0	0	0	0	0	0	0	67	23:00	0	24	2	0	2	0	0	0	0	0	0	0	0	28
11:15	0	50	9	0	4	0	0	0	0	0	0	0	0	63	23:15	0	22	1	0	0	0	0	0	0	0	0	0	0	23
11:30	0	57	8	0	3	1	0	0	0	0	0	0	0	69	23:30	0	15	1	0	2	0	0	0	0	0	0	0	0	18
11:45	0	56	11	0	5	0	0	0	0	0	0	0	0	72	23:45	0	13	0	0	1	0	0	0	0	0	0	0	0	14
TOTAL	2	1,218	183	0	110	5	0	1	1	0	0	0	0	1,520	TOTAL	1	3,090	263	2	121	1	0	0	0	0	0	0	0	3,478
AM PEAK HOUR														7:45 AM	PM PEAK HOUR														4:15 PM
AM PEAK VOLUME														292	PM PEAK VOLUME														486

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	3	4,308	446	2	231	6	0	1	1	0	0	0	0	4,998
% OF TOTAL	0.1%	86.2%	8.9%	0.0%	4.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13
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24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023
JOB #: SC3943

CITY# Claremont
CLASS1 6th west of Mills_SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13	12:00	0	69	9	0	4	0	0	0	0	0	0	0	0	82
0:15	0	16	0	0	2	0	0	0	0	0	0	0	0	18	12:15	0	76	6	0	2	0	0	0	0	0	0	0	0	84
0:30	0	10	0	0	1	0	0	0	0	0	0	0	0	11	12:30	0	72	6	0	1	0	0	0	0	0	0	0	0	79
0:45	0	18	2	0	1	0	0	0	0	0	0	0	0	21	12:45	0	68	10	0	4	0	0	0	0	0	0	0	0	82
1:00	0	20	0	0	1	0	0	0	0	0	0	0	0	21	13:00	0	76	9	0	2	0	0	0	0	0	0	0	0	87
1:15	0	21	3	0	1	0	0	0	0	0	0	0	0	25	13:15	1	77	8	0	1	0	0	0	0	0	0	0	0	87
1:30	0	14	0	0	0	0	0	0	0	0	0	0	0	14	13:30	0	69	4	1	2	0	0	0	0	0	0	0	0	76
1:45	0	12	1	0	2	0	0	0	0	0	0	0	0	15	13:45	0	76	7	0	2	0	0	0	0	0	0	0	0	85
2:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11	14:00	0	73	7	0	2	0	0	0	0	0	0	0	0	82
2:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	14:15	1	76	4	0	3	0	0	0	0	0	0	0	0	84
2:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8	14:30	0	69	9	1	1	0	0	0	0	0	0	0	0	80
2:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:45	0	85	5	0	3	0	0	0	0	0	0	0	0	93
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	66	7	2	3	0	0	0	0	0	0	0	0	78
3:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:15	0	64	4	1	2	0	0	0	0	0	0	0	0	71
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:30	1	67	8	3	2	0	0	0	0	0	0	0	0	81
3:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	15:45	0	56	10	0	3	0	0	0	0	0	0	0	0	69
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:00	0	75	7	0	3	0	0	0	0	0	0	0	0	85
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	16:15	0	58	10	0	3	0	0	0	0	0	0	0	0	71
4:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:30	0	57	3	1	2	0	0	0	0	0	0	0	0	63
4:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	16:45	1	60	2	0	2	0	0	0	0	0	0	0	0	65
5:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	17:00	0	57	5	0	3	0	0	0	0	0	0	0	0	65
5:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	17:15	1	53	4	0	1	0	0	0	0	0	0	0	0	59
5:30	0	10	0	0	0	0	0	0	0	0	0	0	0	10	17:30	0	60	4	1	4	0	0	0	0	0	0	0	0	69
5:45	0	13	0	0	0	0	0	0	0	0	0	0	0	13	17:45	0	61	4	0	1	0	0	0	0	0	0	0	0	66
6:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	18:00	0	68	4	1	3	0	0	0	0	0	0	0	0	76
6:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7	18:15	0	52	7	0	1	0	0	0	0	0	0	0	0	60
6:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11	18:30	0	62	3	0	1	0	0	0	0	0	0	0	0	66
6:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12	18:45	1	70	0	0	2	0	0	0	0	0	0	0	0	73
7:00	0	11	2	0	2	0	0	0	0	0	0	0	0	15	19:00	0	54	5	0	2	0	0	0	0	0	0	0	0	61
7:15	0	8	2	0	0	0	0	0	0	0	0	0	0	10	19:15	0	56	3	0	0	0	0	0	0	0	0	0	0	59
7:30	0	17	3	0	3	0	0	0	0	0	0	0	0	23	19:30	1	50	2	0	2	0	0	0	0	0	0	0	0	55
7:45	0	24	5	0	0	0	0	0	0	0	0	0	0	29	19:45	0	54	0	0	2	0	0	0	0	0	0	0	0	56
8:00	0	27	4	0	1	0	0	0	0	0	0	0	0	32	20:00	0	45	1	0	3	0	0	0	0	0	0	0	0	49
8:15	0	22	3	1	1	0	0	0	0	0	0	0	0	27	20:15	0	39	2	0	0	0	0	0	0	0	0	0	0	41
8:30	0	35	2	3	1	0	0	0	0	0	0	0	0	41	20:30	0	48	4	0	1	0	0	0	0	0	0	0	0	53
8:45	0	44	7	0	2	0	0	0	0	0	0	0	0	53	20:45	1	54	6	0	2	0	0	0	0	0	0	0	0	63
9:00	1	37	6	0	1	0	0	0	0	0	0	0	0	45	21:00	1	46	7	0	2	0	0	0	0	0	0	0	0	56
9:15	0	43	6	0	4	0	0	0	0	0	0	0	0	53	21:15	0	44	2	0	1	0	0	0	0	0	0	0	0	47
9:30	1	42	5	0	3	0	0	0	0	0	0	0	0	51	21:30	0	44	1	2	1	0	0	0	0	0	0	0	0	48
9:45	0	43	2	0	1	0	0	0	0	0	0	0	0	46	21:45	1	35	1	0	4	0	0	0	0	0	0	0	0	41
10:00	0	45	5	0	1	0	0	0	0	0	0	0	0	51	22:00	0	43	1	0	2	0	0	0	0	0	0	0	0	46
10:15	1	52	7	0	2	0	0	0	0	0	0	0	0	62	22:15	0	23	1	0	2	0	0	0	0	0	0	0	0	26
10:30	0	49	6	0	1	0	0	0	0	0	0	0	0	56	22:30	0	28	2	0	2	0	0	0	0	0	0	0	0	32
10:45	0	58	5	0	4	0	0	0	0	0	0	0	0	67	22:45	0	18	1	0	2	0	0	0	0	0	0	0	0	21
11:00	0	56	1	0	5	0	0	0	0	0	0	0	0	62	23:00	0	16	0	0	3	0	0	0	0	0	0	0	0	19
11:15	0	76	8	0	1	0	0	0	0	0	0	0	0	85	23:15	0	16	0	0	1	0	0	0	0	0	0	0	0	17
11:30	0	54	2	0	2	0	0	0	0	0	0	0	0	58	23:30	0	11	1	0	2	0	0	0	0	0	0	0	0	14
11:45	0	60	4	0	3	0	0	0	0	0	0	0	0	67	23:45	0	19	0	0	3	0	0	0	0	0	0	0	0	22
TOTAL	3	1,038	94	4	46	0	0	0	0	0	0	0	0	1,185	TOTAL	10	2,615	206	13	100	0	0	0	0	0	0	0	0	2,944
AM PEAK HOUR														11:00 AM	PM PEAK HOUR														2:00 PM
AM PEAK VOLUME														272	PM PEAK VOLUME														339

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	13	3,653	300	17	146	0	0	0	0	0	0	0	0	4,129
% OF TOTAL	0.3%	88.5%	7.3%	0.4%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thursday, April 13, 2023
JOB #: SC3943

CITY# Claremont
CLASS2 Arrow between Claremont and Apartment Dwy

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	14	2	0	1	0	0	0	0	0	0	0	0	17	12:00	0	95	16	0	4	1	0	0	0	0	0	0	0	116
0:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9	12:15	0	113	22	0	3	0	0	0	0	0	0	0	0	138
0:30	0	9	0	0	1	0	0	0	0	0	0	0	0	10	12:30	0	113	19	0	3	0	0	0	0	0	0	0	0	135
0:45	0	11	0	0	1	0	0	0	0	0	0	0	0	12	12:45	0	113	19	0	6	0	0	0	0	0	0	0	0	138
1:00	1	6	1	0	0	0	0	0	0	0	0	0	0	8	13:00	0	139	12	1	6	0	0	0	0	0	0	0	0	158
1:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:15	0	94	10	0	1	0	0	0	0	0	0	0	0	105
1:30	0	5	2	0	1	0	0	0	0	0	0	0	0	8	13:30	0	103	9	0	3	0	0	0	0	0	0	0	0	115
1:45	0	8	1	0	0	0	0	0	0	0	0	0	0	9	13:45	0	113	12	0	4	0	0	0	0	0	0	0	0	129
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	0	115	16	0	4	0	0	0	0	0	0	0	0	135
2:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:15	0	110	15	0	4	0	0	0	0	0	0	0	0	129
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:30	1	126	28	0	3	0	0	0	0	0	0	0	0	158
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:45	0	125	19	0	4	0	0	0	0	0	0	0	0	148
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:00	0	108	21	0	6	0	0	0	0	0	0	0	0	135
3:15	0	3	1	0	0	0	0	0	0	1	0	0	0	5	15:15	0	123	17	0	4	0	0	0	0	0	0	0	0	144
3:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:30	0	132	22	0	1	0	0	0	0	0	0	0	0	155
3:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:45	0	173	17	0	2	0	0	0	0	0	0	0	0	192
4:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5	16:00	0	152	22	0	3	0	0	0	0	0	0	0	0	177
4:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2	16:15	0	165	22	0	1	0	0	0	0	0	0	0	0	188
4:30	0	4	4	0	0	0	0	0	0	0	0	0	0	8	16:30	0	160	20	0	2	0	0	0	0	0	0	0	0	182
4:45	0	13	1	0	1	1	0	0	0	0	0	0	0	16	16:45	0	164	10	0	3	0	0	0	0	0	0	0	0	177
5:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10	17:00	0	184	18	0	2	0	0	0	0	0	0	0	0	204
5:15	0	25	3	0	0	0	0	0	0	0	0	0	0	28	17:15	0	176	14	0	3	0	0	0	0	0	0	0	0	193
5:30	0	20	7	0	1	0	0	0	0	0	0	0	0	28	17:30	0	151	26	0	2	0	0	0	0	0	0	0	0	179
5:45	0	30	15	0	0	1	0	0	0	0	0	0	0	46	17:45	0	162	16	0	2	0	0	0	0	0	0	0	0	180
6:00	0	20	12	0	1	0	0	0	0	0	0	0	0	33	18:00	0	151	20	0	2	0	0	0	0	0	0	0	0	173
6:15	0	35	7	0	2	0	0	0	0	0	0	0	0	44	18:15	0	138	9	0	0	0	0	0	0	0	0	0	0	147
6:30	2	62	11	0	5	0	0	0	0	0	0	0	0	80	18:30	0	118	7	0	1	0	0	0	0	0	0	0	0	126
6:45	0	76	26	0	3	0	0	0	0	0	0	0	0	105	18:45	0	107	10	0	1	0	0	0	0	0	0	0	0	118
7:00	0	57	16	0	9	0	0	0	0	0	0	0	0	82	19:00	1	91	6	0	2	0	0	0	0	0	0	0	0	100
7:15	0	77	15	1	3	0	0	0	0	0	0	0	0	96	19:15	0	86	8	0	0	0	0	0	0	0	0	0	0	94
7:30	0	113	18	0	2	0	0	0	0	0	0	0	0	133	19:30	0	96	2	0	1	0	0	0	0	0	0	0	0	99
7:45	0	153	15	0	4	0	0	0	0	1	0	0	0	173	19:45	0	84	4	0	1	0	0	0	0	0	0	0	0	89
8:00	0	128	11	0	6	0	0	0	0	0	0	0	0	145	20:00	0	70	14	0	2	0	0	0	0	0	0	0	0	86
8:15	0	84	8	0	4	0	0	0	0	0	0	0	0	96	20:15	0	62	16	0	0	0	0	0	0	0	0	0	0	78
8:30	0	91	9	0	5	1	0	0	0	0	0	0	0	106	20:30	0	70	6	0	1	0	0	0	0	0	0	0	0	77
8:45	0	112	16	0	5	1	0	1	0	0	0	0	0	135	20:45	0	67	6	0	1	0	0	0	0	0	0	0	0	74
9:00	0	89	9	0	3	0	0	0	0	0	0	0	0	101	21:00	0	57	7	0	3	0	0	0	0	0	0	0	0	67
9:15	0	83	14	0	4	0	0	0	0	0	0	0	0	101	21:15	0	60	12	0	0	0	0	0	0	0	0	0	0	72
9:30	0	83	14	0	3	0	0	0	0	0	0	0	0	100	21:30	0	61	7	0	1	0	0	0	0	0	0	0	0	69
9:45	0	102	16	0	2	0	0	0	0	0	0	0	0	120	21:45	0	40	4	0	1	0	0	0	0	0	0	0	0	45
10:00	0	67	15	0	6	0	0	0	0	0	0	0	0	88	22:00	0	41	7	0	2	0	0	0	0	0	0	0	0	50
10:15	0	76	10	0	5	0	0	0	0	0	0	0	0	91	22:15	0	44	4	0	1	0	0	0	0	0	0	0	0	49
10:30	0	59	11	0	2	0	0	0	0	0	0	0	0	72	22:30	0	39	6	0	1	0	0	0	0	0	0	0	0	46
10:45	0	81	10	0	7	0	0	0	0	0	0	0	0	98	22:45	0	34	2	0	2	0	0	0	0	0	0	0	0	38
11:00	0	91	15	0	7	0	0	0	0	0	0	0	0	113	23:00	0	34	3	0	1	0	0	0	0	0	0	0	0	38
11:15	0	91	14	0	2	1	0	0	0	0	0	0	0	108	23:15	0	21	2	0	0	0	0	0	0	0	0	0	0	23
11:30	0	102	13	0	6	0	0	0	0	0	0	0	0	121	23:30	0	29	6	0	1	0	0	0	0	0	0	0	0	36
11:45	0	115	12	0	6	0	0	0	0	0	0	0	0	133	23:45	0	24	3	0	2	0	0	0	0	0	0	0	0	29
TOTAL	3	2,245	359	1	108	5	0	1	2	0	0	0	0	2,724	TOTAL	2	4,833	593	1	103	1	0	0	0	0	0	0	0	5,533

AM PEAK HOUR 7:30 AM
AM PEAK VOLUME 547

PM PEAK HOUR 5:00 PM
PM PEAK VOLUME 756

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	5	7,078	952	2	211	6	0	1	2	0	0	0	0	8,257
% OF TOTAL	0.1%	85.7%	11.5%	0.0%	2.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class 1 2 3 4 5 6 7 8 9 10 11 12 13

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023
JOB #: SC3943

CITY# Claremont
CLASS2 Arrow between Claremont and Apartment Dwy_SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	30	2	0	1	0	0	0	0	0	0	0	0	33	12:00	0	115	17	0	3	0	0	0	0	0	0	0	0	135
0:15	0	23	0	0	3	0	0	0	0	0	0	0	0	26	12:15	0	117	9	0	1	0	0	0	0	0	0	0	0	127
0:30	0	17	1	0	1	0	0	0	0	0	0	0	0	19	12:30	0	128	15	0	1	0	0	0	0	0	0	0	0	144
0:45	0	21	2	0	1	0	0	0	0	0	0	0	0	24	12:45	0	133	13	0	3	0	0	0	0	0	0	0	0	149
1:00	0	16	0	0	1	0	0	0	0	0	0	0	0	17	13:00	0	121	12	1	2	0	0	0	0	0	0	0	0	136
1:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15	13:15	1	107	22	0	1	0	0	0	0	0	0	0	0	131
1:30	0	10	0	0	0	0	0	0	0	0	0	0	0	10	13:30	0	105	11	0	1	0	0	0	0	0	0	0	0	117
1:45	0	12	4	0	1	0	0	0	0	0	0	0	0	17	13:45	0	106	17	0	2	0	0	0	0	0	0	0	0	125
2:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14	14:00	1	106	16	0	2	0	0	0	0	0	0	0	0	125
2:15	0	15	1	0	0	0	0	0	0	0	0	0	0	16	14:15	0	108	12	0	3	0	0	0	0	0	0	0	0	123
2:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11	14:30	0	101	11	0	1	0	0	0	0	0	0	0	0	113
2:45	0	8	0	0	1	0	0	0	0	0	0	0	0	9	14:45	0	120	15	0	3	0	0	0	0	0	0	0	0	138
3:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	15:00	0	110	10	0	2	0	0	0	0	0	0	0	0	122
3:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8	15:15	0	77	13	0	1	0	0	1	0	0	0	0	0	92
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:30	0	89	18	0	3	0	0	0	0	0	0	0	0	110
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:45	0	96	15	0	3	0	0	0	0	0	0	0	0	114
4:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16:00	0	127	14	0	1	0	0	0	0	0	0	0	0	142
4:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1	16:15	0	107	10	0	2	0	0	0	0	0	0	0	0	119
4:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4	16:30	0	106	10	0	1	0	0	0	0	0	0	0	0	117
4:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4	16:45	1	116	5	0	2	0	0	0	0	0	0	0	0	124
5:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	17:00	1	96	8	0	4	0	0	0	0	0	0	0	0	109
5:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	17:15	0	90	10	0	1	0	0	0	0	0	0	0	0	101
5:30	0	9	2	0	0	0	0	0	0	0	0	0	0	11	17:30	0	102	6	2	2	0	0	0	0	0	0	0	0	112
5:45	0	17	0	0	0	0	0	0	0	0	0	0	0	17	17:45	0	100	11	0	2	0	0	0	0	0	0	0	0	113
6:00	0	21	1	0	0	0	0	0	0	0	0	0	0	22	18:00	0	80	10	1	3	0	0	0	0	0	0	0	0	94
6:15	0	16	0	0	0	0	0	0	0	0	0	0	0	16	18:15	0	91	11	0	1	0	0	0	0	0	0	0	0	103
6:30	0	18	1	0	0	0	0	0	0	0	0	0	0	19	18:30	0	99	6	0	1	0	0	0	0	0	0	0	0	106
6:45	0	25	0	0	1	0	0	0	0	1	0	0	0	27	18:45	1	104	5	0	1	0	0	0	0	0	0	0	0	111
7:00	0	25	5	0	2	0	0	0	0	0	0	0	0	32	19:00	2	98	11	0	2	0	0	0	0	0	0	0	0	113
7:15	0	20	4	0	0	0	0	0	0	0	0	0	0	24	19:15	0	79	8	0	1	0	0	0	0	0	0	0	0	88
7:30	0	32	7	0	1	0	0	0	0	0	0	0	0	40	19:30	1	82	4	0	1	0	0	0	0	0	0	0	0	88
7:45	0	34	7	0	0	0	0	0	0	0	0	0	0	41	19:45	0	86	4	0	2	0	0	0	0	0	0	0	0	92
8:00	0	51	7	0	1	0	0	0	0	1	0	0	0	60	20:00	1	71	8	0	2	0	0	0	0	0	0	0	0	82
8:15	0	25	6	0	2	0	0	0	0	0	0	0	0	33	20:15	0	68	12	0	0	0	0	0	0	0	0	0	0	80
8:30	0	52	6	2	2	0	0	0	0	0	0	0	0	62	20:30	0	55	7	0	1	0	0	0	0	0	0	0	0	63
8:45	0	67	9	1	1	0	0	0	0	0	0	0	0	78	20:45	1	61	10	0	1	0	0	0	0	0	0	0	0	73
9:00	2	53	9	0	3	0	0	0	0	0	0	0	0	67	21:00	1	65	5	0	2	0	0	0	0	0	0	0	0	73
9:15	0	60	4	0	1	0	0	0	0	0	0	0	0	65	21:15	0	51	8	0	0	0	0	0	0	0	0	0	0	59
9:30	0	78	11	0	2	0	0	0	0	0	0	0	0	91	21:30	0	54	8	0	1	0	0	0	0	0	0	0	0	63
9:45	1	84	8	0	2	0	0	0	0	0	0	0	0	95	21:45	0	50	5	0	2	0	0	0	0	0	0	0	0	57
10:00	0	78	11	0	2	0	0	0	0	0	0	0	0	91	22:00	0	43	9	0	2	0	0	0	0	0	0	0	0	54
10:15	2	68	6	0	2	0	0	0	0	0	0	0	0	78	22:15	0	41	2	0	1	0	0	0	0	0	0	0	0	44
10:30	0	76	7	0	3	0	0	0	0	0	0	0	0	86	22:30	0	36	4	0	1	0	0	0	0	0	0	0	0	41
10:45	0	90	13	0	4	0	0	0	0	0	0	0	0	107	22:45	0	31	3	1	2	0	0	0	0	0	0	0	0	37
11:00	1	110	4	0	4	0	0	0	0	0	0	0	0	119	23:00	0	34	5	0	2	0	0	0	0	0	0	0	0	41
11:15	0	109	11	0	2	0	0	0	0	0	0	0	0	122	23:15	0	25	3	0	1	0	0	0	0	0	0	0	0	29
11:30	0	93	11	0	2	0	0	0	0	0	0	0	0	106	23:30	0	18	2	0	1	0	0	0	0	0	0	0	0	21
11:45	0	104	9	0	2	0	0	0	0	0	0	0	0	115	23:45	0	21	2	0	2	0	0	0	0	0	0	0	0	25
TOTAL	6	1,643	176	3	49	0	0	0	2	0	0	0	0	1,879	TOTAL	11	4,026	452	5	80	0	0	1	0	0	0	0	0	4,575
AM PEAK HOUR														11:00 AM	PM PEAK HOUR														12:30 PM
AM PEAK VOLUME														462	PM PEAK VOLUME														560

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	17	5,669	628	8	129	0	0	1	2	0	0	0	0	6,454
% OF TOTAL	0.3%	87.8%	9.7%	0.1%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13
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24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thursday, April 13, 2023
JOB #: SC3943

CITY# Claremont
CLASS3 9th east of Mills

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:00	0	41	2	0	1	0	0	0	0	0	0	0	0	44
0:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:15	0	39	3	0	0	0	0	0	0	0	0	0	0	42
0:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:30	0	36	2	0	3	0	0	0	0	0	0	0	0	41
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12:45	0	28	6	0	0	0	0	0	0	0	0	0	0	34
1:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	13:00	0	42	3	0	1	0	0	0	0	0	0	0	0	46
1:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	13:15	0	36	1	0	1	0	0	0	0	0	0	0	0	38
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:30	0	27	0	0	0	0	0	0	0	0	0	0	0	27
1:45	0	4	4	0	0	0	0	0	0	0	0	0	0	8	13:45	0	25	3	0	0	0	0	0	0	0	0	0	0	28
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:15	0	24	4	0	0	0	0	0	0	0	0	0	0	28
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:30	2	35	4	0	0	1	0	0	0	0	0	0	0	42
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	29	2	0	2	0	0	0	0	0	0	0	0	33
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	20	3	0	1	0	0	0	0	0	0	0	0	24
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:15	0	28	5	0	2	0	0	0	0	0	0	0	0	35
3:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1	15:30	0	19	4	0	2	0	0	0	0	0	0	0	0	25
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:45	0	20	6	0	1	0	0	0	0	0	0	0	0	27
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:00	0	39	5	0	3	0	0	0	0	0	0	0	0	47
4:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3	16:15	0	36	1	0	0	0	0	0	0	0	0	0	0	37
4:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:30	0	35	1	0	0	0	0	0	0	0	0	0	0	36
4:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16:45	0	29	1	0	0	0	0	0	0	0	0	0	0	30
5:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	17:00	0	54	2	0	1	0	0	0	0	0	0	0	0	57
5:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	17:15	0	30	3	0	0	0	0	0	0	0	0	0	0	33
5:30	0	4	1	0	0	1	0	0	0	0	0	0	0	6	17:30	1	27	0	0	0	0	0	0	0	0	0	0	0	28
5:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8	17:45	0	31	0	0	1	0	0	0	0	0	0	0	0	32
6:00	0	1	2	0	1	0	0	0	0	0	0	0	0	4	18:00	0	34	3	0	1	0	0	0	0	0	0	0	0	38
6:15	0	0	3	0	0	0	0	0	0	0	0	0	0	3	18:15	0	29	2	0	1	0	0	0	0	0	0	0	0	32
6:30	0	2	0	0	1	0	0	0	0	0	0	0	0	3	18:30	0	24	2	0	0	0	0	0	0	0	0	0	0	26
6:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	18:45	0	33	0	0	0	0	0	0	0	0	0	0	0	33
7:00	0	9	2	0	2	0	0	0	0	0	0	0	0	13	19:00	0	20	2	0	0	0	0	0	0	0	0	0	0	22
7:15	0	6	8	0	4	0	0	0	0	0	0	0	0	18	19:15	0	20	1	0	0	0	0	0	0	0	0	0	0	21
7:30	0	16	4	0	2	0	0	0	0	0	0	0	0	22	19:30	0	24	1	0	0	0	0	0	0	0	0	0	0	25
7:45	0	23	4	0	2	0	0	0	0	0	0	0	0	29	19:45	0	28	2	0	0	0	0	0	0	0	0	0	0	30
8:00	0	31	2	0	4	0	0	0	0	0	0	0	0	37	20:00	0	20	2	0	0	0	0	0	0	0	0	0	0	22
8:15	0	19	1	0	1	0	0	0	0	0	0	0	0	21	20:15	0	24	3	0	0	0	0	0	0	0	0	0	0	27
8:30	0	33	5	0	1	1	0	0	0	0	0	0	0	40	20:30	0	28	1	0	0	0	0	0	0	0	0	0	0	29
8:45	0	30	2	0	2	0	0	0	0	0	0	0	0	34	20:45	0	26	4	0	0	0	0	0	0	0	0	0	0	30
9:00	0	29	1	0	0	0	0	0	0	0	0	0	0	30	21:00	0	22	0	0	0	0	0	0	0	0	0	0	0	22
9:15	0	35	6	0	1	0	0	0	0	0	0	0	0	42	21:15	0	23	0	0	0	0	0	0	0	0	0	0	0	23
9:30	0	29	5	0	2	0	0	0	0	0	0	0	0	36	21:30	0	16	0	0	0	0	0	0	0	0	0	0	0	16
9:45	0	26	0	0	1	0	0	0	0	0	0	0	0	27	21:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12
10:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17	22:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
10:15	0	14	3	0	0	0	0	0	0	0	0	0	0	17	22:15	0	27	1	0	0	0	0	0	0	0	0	0	0	28
10:30	0	11	3	0	0	0	0	0	0	0	0	0	0	14	22:30	0	22	1	0	0	0	0	0	0	0	0	0	0	23
10:45	0	37	3	0	0	0	0	0	0	0	0	1	0	41	22:45	0	21	1	0	0	0	0	0	0	0	0	0	0	22
11:00	0	29	2	0	3	0	0	0	0	0	0	0	0	34	23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
11:15	0	26	3	0	3	0	0	0	0	0	0	0	0	32	23:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9
11:30	0	29	6	0	4	0	0	0	0	0	0	0	0	39	23:30	1	14	3	0	0	0	0	0	0	0	0	0	0	18
11:45	0	26	7	1	1	0	0	0	0	0	0	0	0	35	23:45	0	10	3	0	0	0	0	0	0	0	0	0	0	13
TOTAL	0	527	85	1	35	2	0	0	0	0	1	0	0	651	TOTAL	4	1,262	94	0	21	1	0	0	0	0	0	0	0	1,382
AM PEAK HOUR														10:45 AM	PM PEAK HOUR														12:15 PM
AM PEAK VOLUME														146	PM PEAK VOLUME														163

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	4	1,789	179	1	56	3	0	0	0	0	1	0	0	2,033
% OF TOTAL	0.2%	88.0%	8.8%	0.0%	2.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13
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24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023
JOB #: SC3943

CITY# Claremont
CLASS3 9th east of Mills_SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14	12:00	0	19	3	0	0	0	0	0	0	0	0	0	0	22
0:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:15	0	18	4	0	0	0	0	0	0	0	0	0	0	22
0:30	0	2	2	0	0	0	0	0	0	0	0	0	0	4	12:30	0	28	3	0	1	0	0	0	0	0	0	0	0	32
0:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:45	0	25	5	0	0	0	0	0	0	0	0	0	0	30
1:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:00	0	34	3	0	0	0	0	0	0	0	0	0	0	37
1:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	13:15	0	19	1	0	0	0	0	0	0	0	0	0	0	20
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:30	0	31	1	0	0	0	0	0	0	0	0	0	0	32
1:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:45	0	27	1	0	0	0	0	0	0	0	0	0	0	28
2:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4	14:00	0	33	4	0	0	0	0	0	0	0	0	0	0	37
2:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:15	0	41	3	0	0	0	0	0	0	0	0	0	0	44
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:30	0	27	3	0	0	0	0	0	0	0	0	0	0	30
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:45	0	17	3	0	0	0	0	0	0	0	0	0	0	20
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:00	0	30	4	0	0	0	0	0	0	0	0	0	0	34
3:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:15	0	29	4	0	0	0	0	0	0	0	0	0	0	33
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:30	0	30	3	0	0	0	0	0	0	0	0	0	0	33
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:45	0	19	1	0	0	0	0	0	0	0	0	0	0	20
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:00	0	28	0	0	0	0	0	0	0	0	0	0	0	28
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:15	0	18	2	0	0	0	0	0	0	0	0	0	0	20
4:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:30	0	17	1	0	0	0	0	0	0	0	0	0	0	18
4:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	16:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12
5:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2	17:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
5:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	17:15	0	22	2	0	0	0	0	0	0	0	0	0	0	24
5:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	17:30	0	29	1	0	0	0	0	0	0	0	0	0	0	30
5:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7	17:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
6:15	0	0	3	0	0	0	0	0	0	0	0	0	0	3	18:15	0	25	2	0	0	0	0	0	0	0	0	0	0	27
6:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18:30	0	25	1	0	0	0	0	0	0	0	0	0	0	26
6:45	0	4	0	0	0	1	0	0	0	0	0	0	0	5	18:45	0	23	0	0	0	0	0	0	0	0	0	0	0	23
7:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	19:00	0	23	1	0	0	0	0	0	0	0	0	0	0	24
7:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5	19:15	0	21	0	0	0	0	0	0	0	0	0	0	0	21
7:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4	19:30	0	26	3	0	0	0	0	0	0	0	0	0	0	29
7:45	0	17	3	0	0	0	0	0	0	0	0	0	0	20	19:45	0	14	2	0	0	0	0	0	0	0	0	0	0	16
8:00	0	20	1	0	0	0	0	0	0	0	0	0	0	21	20:00	0	17	4	0	0	0	0	0	0	0	0	0	0	21
8:15	0	12	1	2	0	0	0	0	0	0	0	0	0	15	20:15	0	24	2	0	0	0	0	0	0	0	0	0	0	26
8:30	0	26	3	0	0	0	0	0	0	0	0	0	0	29	20:30	0	35	4	0	0	0	0	0	0	0	0	0	0	39
8:45	0	21	1	0	0	0	0	0	0	0	0	0	0	22	20:45	0	26	1	0	0	0	0	0	0	0	0	0	0	27
9:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25	21:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
9:15	0	14	0	0	0	0	0	0	0	0	0	0	0	14	21:15	0	21	2	0	0	0	0	0	0	0	0	0	0	23
9:30	0	17	1	0	0	0	0	0	0	0	0	0	0	18	21:30	0	20	1	0	0	0	0	0	0	0	0	0	0	21
9:45	0	30	6	0	0	0	0	0	0	0	0	0	0	36	21:45	0	20	2	0	0	0	0	0	0	0	0	0	0	22
10:00	0	32	5	0	0	0	0	0	0	0	0	0	0	37	22:00	1	26	1	0	0	0	0	0	0	0	0	0	0	28
10:15	0	18	2	0	0	0	0	0	0	0	0	0	0	20	22:15	0	15	0	0	0	0	0	0	0	0	0	0	0	15
10:30	0	12	1	0	0	0	0	0	0	0	0	0	0	13	22:30	1	14	0	0	0	0	0	0	0	0	0	0	0	15
10:45	0	25	3	0	0	1	0	0	0	0	0	0	0	29	22:45	1	16	0	0	0	0	0	0	0	0	0	0	0	17
11:00	0	36	2	0	0	0	0	0	0	0	0	0	0	38	23:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
11:15	0	16	1	0	0	0	0	0	0	0	0	0	0	17	23:15	0	12	0	0	0	0	0	0	0	0	0	0	0	12
11:30	0	31	1	0	0	0	0	0	0	0	0	0	0	32	23:30	1	7	0	0	0	0	0	0	0	0	0	0	0	8
11:45	0	31	5	0	0	0	0	0	0	0	0	0	0	36	23:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11
TOTAL	0	468	48	2	0	3	0	0	0	0	0	0	0	521	TOTAL	4	1,054	85	0	1	0	0	0	0	0	0	0	0	1,144

AM PEAK HOUR 11:00 AM
AM PEAK VOLUME 123

PM PEAK HOUR 1:30 PM
PM PEAK VOLUME 141

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	4	1,522	133	2	1	3	0	0	0	0	0	0	0	1,665
% OF TOTAL	0.2%	91.4%	8.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Class 1 2 3 4 5 6 7 8 9 10 11 12 13

DATE: Thursday, April 13, 2023

CITY# Claremont

JOB #: SC3943

CLASS4 9th west of Claremont

[illegible]

AM PEAK HOUR	10:45 AM
AM PEAK VOLUME	239

PM PEAK HOUR	12:15 PM
PM PEAK VOLUME	309

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

A32223

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023

CITY# Claremont

JOB #: SC3943

CLASS4 9th west of Claremont SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	16	0	0	1	0	0	0	0	0	0	0	0	17	12:00	0	38	4	0	3	0	0	0	0	0	0	0	45	
0:15	0	16	0	0	0	0	0	0	0	0	0	0	0	16	12:15	0	38	3	0	1	0	0	0	0	0	0	0	42	
0:30	0	10	2	0	0	0	0	0	0	0	0	0	0	12	12:30	0	45	3	0	0	0	0	0	0	0	0	0	48	
0:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10	12:45	0	41	5	0	4	0	0	0	0	0	0	0	50	
1:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11	13:00	0	65	3	0	0	0	0	0	0	0	0	0	68	
1:15	0	15	0	0	0	0	0	0	0	0	0	0	0	15	13:15	0	41	3	0	1	0	0	0	0	0	0	0	45	
1:30	0	12	0	0	0	0	0	0	0	0	0	0	0	12	13:30	0	58	3	1	0	0	0	0	0	0	0	0	62	
1:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:45	0	61	3	1	0	0	0	0	0	0	0	0	65	
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	0	54	8	0	0	0	0	0	0	0	0	0	62	
2:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:15	0	49	5	2	0	0	0	0	0	0	0	0	56	
2:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:30	0	57	3	1	0	0	0	0	0	0	0	0	61	
2:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7	14:45	0	33	3	0	2	0	0	0	0	0	0	0	38	
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:00	0	65	3	0	3	0	0	0	0	0	0	0	71	
3:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:15	0	43	4	0	0	0	0	0	0	0	0	0	47	
3:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2	15:30	0	61	3	0	2	0	0	0	0	0	0	0	66	
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:45	1	48	3	0	1	0	0	0	0	0	0	0	53	
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:00	0	42	0	0	0	0	0	0	0	0	0	0	42	
4:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2	16:15	0	39	5	0	2	0	0	0	0	0	0	0	46	
4:30	0	4	4	0	0	0	0	0	0	0	0	0	0	8	16:30	0	33	4	0	0	0	0	0	0	0	0	0	37	
4:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10	16:45	0	20	1	0	1	0	0	0	0	0	0	0	22	
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	17:00	0	42	3	0	1	0	0	0	0	0	0	0	46	
5:15	0	2	0	0	1	0	0	0	0	0	0	0	0	3	17:15	0	33	3	1	0	0	0	0	0	0	0	0	37	
5:30	0	2	0	0	1	0	0	0	0	0	0	0	0	3	17:30	0	44	5	0	2	0	0	0	0	0	0	0	51	
5:45	0	12	1	0	0	0	0	0	0	0	0	0	0	13	17:45	0	40	1	1	0	0	0	0	0	0	0	0	42	
6:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	18:00	0	32	1	0	1	0	0	0	0	0	0	0	34	
6:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	18:15	0	42	3	0	1	0	0	0	0	0	0	0	46	
6:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	18:30	0	41	1	0	1	0	0	0	0	0	0	0	43	
6:45	1	18	0	0	0	1	0	0	0	0	0	0	0	20	18:45	0	39	1	0	1	0	0	0	0	0	0	0	41	
7:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	19:00	0	41	1	0	0	0	0	0	0	0	0	0	42	
7:15	0	10	0	0	0	0	0	0	0	0	0	0	0	10	19:15	0	35	2	0	1	0	0	0	0	0	0	0	38	
7:30	0	26	2	0	2	0	0	0	0	0	0	0	0	30	19:30	0	43	2	0	1	0	0	0	0	0	0	0	46	
7:45	0	43	2	0	1	0	0	0	0	0	0	0	0	46	19:45	0	27	1	0	0	0	0	0	0	0	0	0	28	
8:00	0	59	1	0	0	0	0	0	0	0	0	0	0	60	20:00	0	40	3	0	1	0	0	0	0	0	0	0	44	
8:15	0	31	1	2	0	0	0	0	0	0	0	0	0	34	20:15	0	32	5	0	0	0	0	0	0	0	0	0	37	
8:30	0	58	1	0	0	0	0	0	0	0	0	0	0	59	20:30	0	44	4	0	1	0	0	0	0	0	0	0	49	
8:45	0	38	2	0	0	0	0	0	0	0	0	0	0	40	20:45	0	38	1	0	1	0	0	0	0	0	0	0	40	
9:00	0	31	2	0	0	0	0	0	0	0	0	0	0	33	21:00	0	40	2	0	0	0	0	0	0	0	0	0	42	
9:15	0	30	0	0	0	0	0	0	0	0	0	0	0	30	21:15	0	41	3	1	2	0	0	0	0	0	0	0	47	
9:30	0	27	4	0	1	0	0	0	0	0	0	0	0	32	21:30	0	45	2	0	0	0	0	0	0	0	0	0	47	
9:45	0	50	6	0	0	0	0	0	0	0	0	0	0	56	21:45	1	36	1	0	1	0	0	0	0	0	0	0	39	
10:00	0	59	7	0	0	0	0	0	0	0	0	0	0	66	22:00	0	39	1	1	0	0	0	0	0	0	0	0	41	
10:15	0	35	1	0	0	0	0	0	0	0	0	0	0	36	22:15	0	22	2	0	1	0	0	0	0	0	0	0	25	
10:30	0	27	2	0	0	1	0	0	0	0	0	0	0	30	22:30	1	22	1	0	1	0	0	0	0	0	0	0	25	
10:45	0	53	2	0	0	0	0	0	0	0	0	0	0	55	22:45	0	18	0	2	0	0	0	0	0	0	0	0	20	
11:00	0	55	0	0	2	0	0	0	0	0	0	0	0	57	23:00	1	22	1	0	2	0	0	0	0	0	0	0	26	
11:15	0	39	1	0	1	0	0	0	0	0	0	0	0	41	23:15	0	10	1	0	0	0	0	0	0	0	0	0	11	
11:30	0	50	4	0	1	0	0	0	0	0	0	0	0	55	23:30	0	16	0	0	2	0	0	0	0	0	0	0	18	
11:45	0	42	4	0	3	0	0	0	0	0	0	0	0	49	23:45	0	13	0	0	0	0	0	0	0	0	0	0	13	
TOTAL	1	963	53	2	14	3	0	0	0	0	0	0	0	1,036	TOTAL	4	1,868	120	11	41	0	0	0	0	0	0	0	2,044	
AM PEAK HOUR										10:45 AM				PM PEAK HOUR										1:30 PM					
AM PEAK VOLUME										208				PM PEAK VOLUME										241					

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

A32223

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Thursday, April 13, 2023

CITY# Claremont

JOB #: SC3943

CLASS5 Claremont north of 9th

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	1	27	3	0	0	0	0	0	0	0	0	0	0	31	12:00	0	118	15	2	5	0	0	0	0	0	0	0	140	
0:15	0	22	3	2	0	0	0	0	0	0	0	0	0	27	12:15	0	139	23	0	5	2	0	0	0	0	0	0	169	
0:30	0	13	0	0	0	0	0	0	0	0	0	0	0	13	12:30	0	141	20	2	5	0	0	0	0	0	0	0	168	
0:45	0	11	2	0	0	0	0	0	0	0	0	0	0	13	12:45	0	173	24	0	7	1	0	0	0	0	0	0	205	
1:00	1	2	1	0	0	0	0	0	0	0	0	0	0	4	13:00	0	150	12	3	4	1	0	0	0	0	0	0	170	
1:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8	13:15	0	125	23	0	5	1	0	0	1	0	0	0	155	
1:30	1	5	1	0	0	0	0	0	0	0	0	0	0	7	13:30	0	157	27	0	8	2	0	0	0	0	0	0	194	
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:45	0	164	10	4	8	1	0	0	0	0	0	0	187	
2:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6	14:00	0	149	18	3	6	0	0	0	0	0	0	0	176	
2:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	14:15	0	116	19	0	7	0	0	0	0	0	0	0	142	
2:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:30	1	162	25	1	8	1	0	0	0	0	0	0	198	
2:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:45	0	177	20	2	5	0	0	0	0	0	0	0	204	
3:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	15:00	0	154	22	1	9	0	0	0	0	0	0	0	186	
3:15	1	5	1	0	0	0	0	0	0	0	0	0	0	7	15:15	0	184	31	1	6	0	0	0	0	0	0	0	222	
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:30	0	214	29	2	6	0	0	1	0	0	0	0	252	
3:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:45	0	216	34	1	3	1	0	0	0	0	0	0	255	
4:00	0	8	2	1	0	0	0	0	0	0	0	0	0	11	16:00	0	215	19	3	3	0	0	0	0	0	0	0	240	
4:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8	16:15	0	203	26	1	1	0	0	0	0	0	0	0	231	
4:30	0	11	3	1	1	0	0	0	0	0	0	0	0	16	16:30	0	195	33	1	1	0	0	0	0	0	0	0	230	
4:45	0	24	10	0	2	0	0	0	0	0	0	0	0	36	16:45	3	206	24	2	3	0	0	0	0	0	0	0	238	
5:00	0	17	7	1	0	0	0	0	0	0	0	0	0	25	17:00	0	243	16	2	2	0	0	0	0	0	0	0	263	
5:15	0	16	8	0	1	0	0	0	0	0	0	0	0	25	17:15	0	257	25	0	3	0	0	0	0	0	0	0	285	
5:30	0	25	17	1	0	1	0	0	0	0	0	0	0	44	17:30	0	203	25	2	2	0	0	0	0	0	0	0	232	
5:45	0	50	20	3	2	1	0	0	0	0	0	0	0	76	17:45	0	195	18	0	3	0	0	0	0	0	0	0	216	
6:00	0	58	7	1	1	1	0	0	0	0	0	0	0	68	18:00	0	217	12	3	3	1	0	0	0	0	0	0	236	
6:15	0	48	16	1	1	0	0	0	0	0	0	0	0	66	18:15	0	151	14	3	0	0	0	0	0	0	0	0	168	
6:30	1	59	10	3	3	0	0	0	0	0	0	0	0	76	18:30	1	148	18	2	0	0	0	0	0	0	0	0	169	
6:45	0	112	27	1	1	0	0	0	0	0	0	0	0	141	18:45	0	148	14	2	0	0	0	0	0	0	0	0	164	
7:00	0	104	20	3	3	0	0	1	0	0	0	0	0	131	19:00	1	126	6	2	0	0	0	0	0	0	0	0	135	
7:15	0	136	23	3	4	1	0	0	0	0	0	0	0	167	19:15	0	114	7	2	0	0	0	0	0	0	0	0	123	
7:30	1	178	32	3	5	0	0	0	0	0	0	0	0	219	19:30	0	116	12	3	0	0	0	0	0	0	0	0	131	
7:45	3	234	37	4	3	0	0	0	0	0	0	0	0	281	19:45	0	98	6	1	0	0	0	0	0	0	0	0	105	
8:00	0	182	24	0	5	2	0	0	0	0	0	0	0	213	20:00	0	83	10	4	1	0	0	0	0	0	0	0	98	
8:15	0	186	25	0	3	2	0	0	0	0	0	0	0	216	20:15	0	96	13	1	1	0	0	0	0	0	0	0	111	
8:30	0	174	20	5	4	1	0	0	0	0	0	0	0	204	20:30	0	100	7	1	0	0	0	0	0	0	0	0	108	
8:45	0	155	19	2	4	0	0	0	0	0	0	0	0	180	20:45	0	78	4	1	1	0	0	0	0	0	0	0	84	
9:00	0	124	28	3	7	1	0	0	0	0	0	0	0	163	21:00	0	88	2	3	0	0	0	0	0	0	0	0	93	
9:15	0	127	18	3	5	1	0	0	0	0	0	0	0	154	21:15	0	86	10	1	0	0	0	0	0	0	0	0	97	
9:30	0	122	19	1	6	3	0	0	0	0	0	0	0	151	21:30	1	70	2	1	0	0	0	0	0	0	0	0	74	
9:45	0	135	23	1	8	0	0	0	0	0	0	0	0	167	21:45	0	72	7	1	1	0	0	0	0	0	0	0	81	
10:00	0	99	18	4	7	1	0	0	0	0	0	0	0	129	22:00	0	52	3	1	0	0	0	0	0	0	0	0	56	
10:15	0	97	15	0	7	0	0	0	0	0	0	0	0	119	22:15	0	57	3	2	2	0	0	0	0	0	0	0	64	
10:30	0	79	14	1	6	2	0	0	1	0	0	0	0	103	22:30	0	53	6	1	0	0	0	0	0	0	0	0	60	
10:45	0	123	15	2	4	2	0	0	0	0	0	0	0	146	22:45	0	47	8	1	1	0	0	0	0	0	0	0	57	
11:00	0	109	15	4	4	0	0	0	0	0	0	0	0	132	23:00	0	38	6	0	0	0	0	0	0	0	0	0	44	
11:15	0	114	13	1	4	1	0	0	0	0	0	0	0	133	23:15	1	26	8	0	2	0	0	0	0	0	0	0	37	
11:30	0	108	21	2	6	0	0	0	0	0	0	0	0	137	23:30	0	18	5	1	0	0	0	0	0	0	0	0	24	
11:45	0	111	16	2	1	0	0	0	0	0	0	0	0	130	23:45	0	24	1	1	1	0	0	0	0	0	0	0	27	
TOTAL	9	3,254	563	59	108	20	0	1	1	0	0	0	0	4,015	TOTAL	8	6,362	722	71	128	11	0	1	1	0	0	0	7,304	
AM PEAK HOUR										7:30 AM				PM PEAK HOUR										4:45 PM					
AM PEAK VOLUME										929				PM PEAK VOLUME										1,011					

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

A32223

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023

CITY# Claremont

JOB #: SC3943

CLASS5 Claremont north of 9th SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32	12:00	0	182	15	0	1	0	0	0	0	0	0	0	198	
0:15	0	33	0	1	0	0	0	0	0	0	0	0	0	34	12:15	0	160	14	2	3	1	0	0	0	0	0	0	180	
0:30	0	27	3	0	0	0	0	0	0	0	0	0	0	30	12:30	0	192	17	0	0	0	0	0	0	0	0	0	209	
0:45	0	23	0	0	0	0	0	0	0	0	0	0	0	23	12:45	0	138	20	2	5	0	0	0	0	0	0	0	165	
1:00	0	19	1	0	0	0	0	0	0	0	0	0	0	20	13:00	0	151	15	2	1	0	0	0	0	0	0	0	169	
1:15	0	26	0	0	0	0	0	0	0	0	0	0	0	26	13:15	0	150	17	1	4	0	0	0	0	0	0	0	172	
1:30	0	16	0	0	0	0	0	0	0	0	0	0	0	16	13:30	0	153	18	2	2	0	0	0	0	0	0	0	175	
1:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11	13:45	0	154	15	1	2	0	0	0	0	0	0	0	172	
2:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13	14:00	0	140	25	1	0	0	0	0	1	0	0	0	167	
2:15	0	15	1	0	0	0	0	0	0	0	0	0	0	16	14:15	2	164	20	2	0	0	0	0	0	0	0	0	188	
2:30	0	12	0	0	0	0	0	0	0	0	0	0	0	12	14:30	0	177	14	0	1	0	0	0	0	0	0	0	192	
2:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10	14:45	1	153	22	1	4	0	0	0	0	0	0	0	181	
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:00	0	157	12	1	1	0	0	0	0	0	0	0	171	
3:15	0	10	0	0	0	0	0	0	0	0	0	0	0	10	15:15	0	175	20	1	0	0	0	0	0	0	0	0	196	
3:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	15:30	1	144	12	1	3	0	0	0	0	0	0	0	161	
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:45	2	157	17	0	1	0	0	0	0	0	0	0	177	
4:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16:00	0	161	12	1	0	0	0	0	0	0	0	0	174	
4:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16:15	0	151	19	1	1	0	0	0	0	0	0	0	172	
4:30	0	11	2	0	0	0	0	0	0	0	0	0	0	13	16:30	0	123	19	1	2	0	0	0	0	0	0	0	145	
4:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12	16:45	0	111	12	2	2	0	0	0	0	0	0	0	127	
5:00	0	12	3	0	0	1	0	0	0	0	0	0	0	16	17:00	1	126	23	1	0	0	0	0	0	0	0	0	151	
5:15	0	12	0	1	1	1	0	0	0	0	0	0	0	15	17:15	2	145	12	2	1	0	0	0	0	0	0	0	162	
5:30	0	17	5	0	0	0	0	0	0	0	0	0	0	22	17:30	0	149	13	0	2	0	0	0	0	0	0	0	164	
5:45	0	34	4	1	0	0	0	0	0	0	0	0	0	39	17:45	2	142	9	3	1	0	0	0	0	0	0	0	157	
6:00	0	32	4	0	0	0	0	0	0	0	0	0	0	36	18:00	0	130	15	0	3	0	0	0	0	0	0	0	148	
6:15	0	27	2	1	0	0	0	0	0	0	0	0	0	30	18:15	0	131	12	2	1	0	0	0	0	0	0	0	146	
6:30	0	22	4	0	0	0	0	0	0	0	0	0	0	26	18:30	0	122	11	0	3	0	0	0	0	0	0	0	136	
6:45	1	47	8	1	0	1	0	0	0	0	0	0	0	58	18:45	1	134	10	2	0	0	0	0	0	0	0	0	147	
7:00	0	44	12	0	0	0	0	0	0	1	0	0	0	57	19:00	3	113	12	1	0	0	0	0	0	0	0	0	129	
7:15	1	60	10	2	0	0	0	0	0	0	0	0	0	73	19:15	0	98	13	1	2	0	0	0	0	0	0	0	114	
7:30	1	60	24	0	2	0	0	0	0	0	0	0	0	87	19:30	0	107	12	1	0	0	0	0	0	0	0	0	120	
7:45	0	92	18	1	3	0	0	0	0	0	0	0	0	114	19:45	0	83	7	0	0	0	0	0	0	0	0	0	90	
8:00	0	104	8	3	0	0	0	0	0	1	0	0	0	116	20:00	1	96	10	1	1	0	0	0	0	0	0	0	109	
8:15	0	90	9	2	0	1	0	0	0	0	0	0	0	102	20:15	0	101	12	2	1	0	0	0	0	0	0	0	116	
8:30	0	106	10	0	2	0	0	0	0	0	0	0	0	118	20:30	2	86	10	0	2	0	0	0	0	0	0	0	100	
8:45	0	139	24	2	1	0	0	0	0	0	0	0	0	166	20:45	0	87	13	3	0	0	0	0	0	0	0	0	103	
9:00	1	104	13	0	0	0	0	0	0	0	0	0	0	118	21:00	0	85	13	0	0	0	0	0	0	0	0	0	98	
9:15	0	132	16	2	0	0	0	0	0	0	0	0	0	150	21:15	0	93	9	2	1	0	0	0	0	0	0	0	105	
9:30	0	132	16	0	3	0	0	0	0	0	0	0	0	151	21:30	0	89	10	0	0	0	0	0	0	0	0	0	99	
9:45	0	146	5	2	3	0	0	0	0	0	0	0	0	156	21:45	1	73	3	1	4	0	0	0	0	0	0	0	82	
10:00	0	139	14	0	5	0	0	0	0	0	0	0	0	158	22:00	0	73	5	1	0	0	0	0	0	0	0	0	79	
10:15	1	134	12	3	2	1	0	0	0	0	0	0	0	153	22:15	1	55	6	1	2	0	0	0	0	0	0	0	65	
10:30	0	105	18	0	0	1	0	0	0	0	0	0	0	124	22:30	1	55	1	0	0	0	0	0	0	0	0	0	57	
10:45	0	146	16	2	3	0	0	0	0	0	0	0	0	167	22:45	0	39	2	1	0	0	0	0	0	0	0	0	42	
11:00	0	165	19	0	3	0	0	0	0	0	0	0	0	187	23:00	0	40	1	0	2	0	0	0	0	0	0	0	43	
11:15	0	171	20	3	5	0	0	0	0	0	0	0	0	199	23:15	0	36	2	0	0	0	0	0	0	0	0	0	38	
11:30	0	147	21	1	1	0	0	0	0	0	0	0	0	170	23:30	0	33	2	1	1	0	0	0	0	0	0	0	37	
11:45	0	156	17	3	3	0	0	0	0	0	0	0	0	179	23:45	0	42	4	1	1	0	0	0	0	0	0	0	48	
TOTAL	5	2,865	342	31	38	6	0	0	2	0	0	0	0	3,289	TOTAL	21	5,656	587	49	61	1	0	0	1	0	0	0	6,376	
AM PEAK HOUR													11:00 AM	PM PEAK HOUR													12:00 PM		
AM PEAK VOLUME													735	PM PEAK VOLUME													751		

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Thursday, April 13, 2023

CITY# Claremont

JOB #: SC3943

CLASS6 Claremont south of 9th

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	1	31	3	0	0	0	0	0	0	0	0	0	0	35	12:00	0	149	20	2	8	0	0	0	0	0	0	0	179	
0:15	0	25	3	2	0	0	0	0	0	0	0	0	0	30	12:15	0	161	25	0	5	2	0	0	0	0	0	0	193	
0:30	0	17	0	0	0	0	0	0	0	0	0	0	0	17	12:30	0	174	19	3	6	0	0	0	0	0	0	0	202	
0:45	0	12	2	0	0	0	0	0	0	0	0	0	0	14	12:45	0	198	27	0	8	1	0	0	0	0	0	0	234	
1:00	1	3	1	0	0	0	0	0	0	0	0	0	0	5	13:00	0	187	15	3	5	1	0	0	0	0	0	0	211	
1:15	0	11	2	0	0	0	0	0	0	0	0	0	0	13	13:15	0	147	23	0	5	1	0	0	1	0	0	0	177	
1:30	1	5	1	0	0	0	0	0	0	0	0	0	0	7	13:30	0	180	29	0	8	2	0	0	0	0	0	0	219	
1:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10	13:45	0	177	11	4	8	1	0	0	0	0	0	0	201	
2:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6	14:00	0	179	21	3	6	0	0	0	0	0	0	0	209	
2:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:15	0	141	23	0	6	0	0	0	0	0	0	0	170	
2:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:30	1	194	32	1	8	0	0	0	0	0	0	0	236	
2:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:45	0	198	25	2	5	0	0	0	0	0	0	0	230	
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:00	0	183	22	1	13	0	0	0	0	0	0	0	219	
3:15	1	5	1	0	0	0	0	0	0	0	0	0	0	7	15:15	0	200	33	1	5	0	0	0	0	0	0	0	239	
3:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:30	0	234	32	2	6	0	0	1	0	0	0	0	275	
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:45	0	231	34	2	4	1	0	0	0	0	0	0	272	
4:00	0	8	2	1	0	0	0	0	0	0	0	0	0	11	16:00	0	257	23	3	3	0	0	0	0	0	0	0	286	
4:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9	16:15	0	223	25	1	3	0	0	0	0	0	0	0	252	
4:30	0	12	3	1	1	0	0	0	0	0	0	0	0	17	16:30	0	223	35	1	1	0	0	0	0	0	0	0	260	
4:45	0	30	10	0	2	0	0	0	0	0	0	0	0	42	16:45	3	229	27	3	2	0	0	0	0	0	0	0	264	
5:00	0	20	9	1	1	0	0	0	0	0	0	0	0	31	17:00	0	261	16	2	2	0	0	0	0	0	0	0	281	
5:15	0	18	10	0	1	0	0	0	0	0	0	0	0	29	17:15	0	282	29	0	2	0	0	0	0	0	0	0	313	
5:30	0	32	16	1	0	0	0	0	0	0	0	0	0	49	17:30	0	226	26	2	3	0	0	0	0	0	0	0	257	
5:45	0	70	20	3	2	1	0	0	0	0	0	0	0	96	17:45	0	221	18	0	2	0	0	0	0	0	0	0	241	
6:00	0	57	14	1	1	1	0	0	0	0	0	0	0	74	18:00	0	235	12	3	3	1	0	0	0	0	0	0	254	
6:15	0	47	16	1	1	0	0	0	0	0	0	0	0	65	18:15	0	182	13	2	0	0	0	0	0	0	0	0	197	
6:30	1	66	12	3	3	0	0	0	0	0	0	0	0	85	18:30	1	171	19	3	0	0	0	0	0	0	0	0	194	
6:45	0	118	30	1	1	0	0	0	0	0	0	0	0	150	18:45	0	178	17	2	0	0	0	0	0	0	0	0	197	
7:00	0	106	22	3	3	0	0	1	0	0	0	0	0	135	19:00	1	141	5	2	0	0	0	0	0	0	0	0	149	
7:15	0	140	24	3	5	1	0	0	0	0	0	0	0	173	19:15	0	124	6	2	0	0	0	0	0	0	0	0	132	
7:30	1	197	34	3	4	0	0	0	0	0	0	0	0	239	19:30	0	127	13	2	0	0	0	0	0	0	0	0	142	
7:45	3	257	36	5	3	0	0	0	0	0	0	0	0	304	19:45	0	116	4	2	0	0	0	0	0	0	0	0	102	
8:00	0	196	23	0	5	1	0	0	0	0	0	0	0	225	20:00	0	90	11	3	1	0	0	0	0	0	0	0	105	
8:15	0	202	24	0	2	1	0	0	0	0	0	0	0	229	20:15	0	117	13	2	1	0	0	0	0	0	0	0	133	
8:30	0	181	22	6	5	1	0	0	0	0	0	0	0	215	20:30	0	117	9	1	0	0	0	0	0	0	0	0	127	
8:45	0	175	19	2	3	0	0	0	0	0	0	0	0	199	20:45	0	90	5	1	1	0	0	0	0	0	0	0	97	
9:00	0	131	26	3	6	0	0	0	0	0	0	0	0	166	21:00	0	110	2	2	0	0	0	0	0	0	0	0	114	
9:15	0	151	23	4	5	0	0	0	0	0	0	0	0	183	21:15	0	105	8	1	1	0	0	0	0	0	0	0	115	
9:30	0	154	20	1	7	1	0	0	0	0	0	0	0	183	21:30	1	78	3	1	0	0	0	0	0	0	0	0	83	
9:45	0	160	22	2	8	0	0	0	0	0	0	0	0	192	21:45	0	79	6	1	2	0	0	0	0	0	0	0	88	
10:00	0	106	20	4	7	1	0	0	0	0	0	0	0	138	22:00	0	63	4	1	0	0	0	0	0	0	0	0	68	
10:15	0	105	20	0	4	0	0	0	0	0	0	0	0	129	22:15	0	73	5	3	1	0	0	0	0	0	0	0	82	
10:30	0	89	15	2	6	2	0	0	1	0	0	0	0	115	22:30	0	60	8	1	0	0	0	0	0	0	0	0	69	
10:45	0	153	19	2	5	1	0	0	0	0	0	0	0	180	22:45	0	69	8	1	0	0	0	0	0	0	0	0	78	
11:00	0	141	18	5	3	0	0	0	0	0	0	0	0	167	23:00	0	47	8	0	1	0	0	0	0	0	0	0	56	
11:15	0	134	20	1	5	1	0	0	0	0	0	0	0	161	23:15	1	29	8	0	1	0	0	0	0	0	0	0	39	
11:30	0	131	24	2	2	0	0	0	0	0	0	0	0	159	23:30	0	18	4	1	1	0	0	0	0	0	0	0	24	
11:45	0	142	21	2	3	0	0	0	0	0	0	0	0	168	23:45	0	36	1	1	0	0	0	0	0	0	0	0	38	
TOTAL	9	3,686	614	65	104	12	0	1	1	0	0	0	0	4,492	TOTAL	8	7,310	782	74	137	10	0	1	1	0	0	0	8,323	
AM PEAK HOUR										7:30 AM				PM PEAK HOUR										4:30 PM					
AM PEAK VOLUME										997				PM PEAK VOLUME										1,111					

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

A32223

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Saturday, April 15, 2023

CITY# Claremont

JOB #: SC3943

CLASS6 Claremont south of 9th SAT

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37	12:00	0	188	15	0	2	0	0	0	0	0	0	0	205	
0:15	0	35	0	1	0	0	0	0	0	0	0	0	0	36	12:15	0	176	15	2	2	1	0	0	0	0	0	196		
0:30	0	31	1	0	0	0	0	0	0	0	0	0	0	32	12:30	0	207	18	0	0	0	0	0	0	0	0	225		
0:45	0	33	0	0	0	0	0	0	0	0	0	0	0	33	12:45	0	159	25	2	3	0	0	0	0	0	0	189		
1:00	0	26	1	0	0	0	0	0	0	0	0	0	0	27	13:00	0	168	16	2	1	0	0	0	0	0	0	187		
1:15	0	35	0	0	0	0	0	0	0	0	0	0	0	35	13:15	0	173	20	1	3	0	0	0	0	0	0	197		
1:30	0	22	2	0	0	0	0	0	0	0	0	0	0	24	13:30	0	173	21	3	2	0	0	0	0	0	0	199		
1:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11	13:45	0	189	18	2	2	0	0	0	0	0	0	211		
2:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14	14:00	0	158	27	1	0	0	0	0	1	0	0	187		
2:15	0	18	1	0	0	0	0	0	0	0	0	0	0	19	14:15	2	189	21	4	0	0	0	0	0	0	0	216		
2:30	0	18	0	0	0	0	0	0	0	0	0	0	0	18	14:30	0	188	15	1	1	0	0	0	0	0	0	205		
2:45	0	15	0	0	0	0	0	0	0	0	0	0	0	15	14:45	1	166	23	1	6	0	0	0	0	0	0	197		
3:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6	15:00	0	176	15	1	2	0	0	0	0	0	0	194		
3:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:15	0	192	24	1	0	0	0	0	0	0	0	217		
3:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9	15:30	1	163	13	1	3	0	0	0	0	0	0	181		
3:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	15:45	1	179	18	0	2	0	0	0	0	0	0	200		
4:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:00	0	179	12	1	0	0	0	0	0	0	0	192		
4:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3	16:15	0	168	20	1	1	0	0	0	0	0	0	190		
4:30	0	13	2	0	0	0	0	0	0	0	0	0	0	15	16:30	0	140	19	1	2	0	0	0	0	0	0	162		
4:45	0	15	3	0	0	0	0	0	0	0	0	0	0	18	16:45	0	121	13	2	1	0	0	0	0	0	0	137		
5:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15	17:00	1	140	26	1	1	0	0	0	0	0	0	169		
5:15	0	12	0	1	0	1	0	0	0	0	0	0	0	14	17:15	2	158	13	1	1	0	0	0	0	0	0	175		
5:30	0	19	5	0	1	0	0	0	0	0	0	0	0	25	17:30	0	169	16	0	2	0	0	0	0	0	0	187		
5:45	0	44	5	1	0	0	0	0	0	0	0	0	0	50	17:45	2	164	10	4	1	0	0	0	0	0	0	181		
6:00	0	33	4	0	0	0	0	0	0	0	0	0	0	37	18:00	0	148	16	0	2	0	0	0	0	0	0	166		
6:15	0	30	2	1	0	0	0	0	0	0	0	0	0	33	18:15	0	159	15	2	2	0	0	0	0	0	0	178		
6:30	0	25	4	0	0	0	0	0	0	0	0	0	0	29	18:30	0	141	10	0	2	0	0	0	0	0	0	153		
6:45	0	53	8	1	0	0	0	0	0	0	0	0	0	62	18:45	1	149	11	2	0	0	0	0	0	0	0	163		
7:00	0	49	12	0	0	0	0	0	0	1	0	0	0	62	19:00	3	128	13	1	0	0	0	0	0	0	0	145		
7:15	1	64	10	2	0	0	0	0	0	0	0	0	0	77	19:15	0	107	15	1	1	0	0	0	0	0	0	124		
7:30	1	76	24	0	4	0	0	0	0	0	0	0	0	105	19:30	0	120	12	1	1	0	0	0	0	0	0	134		
7:45	0	107	20	1	2	0	0	0	0	0	0	0	0	130	19:45	0	90	8	0	0	0	0	0	0	0	0	98		
8:00	0	133	9	3	0	0	0	0	0	1	0	0	0	146	20:00	1	106	11	1	2	0	0	0	0	0	0	121		
8:15	0	103	8	4	0	1	0	0	0	0	0	0	0	116	20:15	0	109	15	2	1	0	0	0	0	0	0	127		
8:30	0	126	11	0	2	0	0	0	0	0	0	0	0	139	20:30	2	100	14	0	1	0	0	0	0	0	0	117		
8:45	0	153	26	2	1	0	0	0	0	0	0	0	0	182	20:45	0	97	12	3	1	0	0	0	0	0	0	113		
9:00	1	107	13	0	0	0	0	0	0	0	0	0	0	121	21:00	0	101	13	0	0	0	0	0	0	0	0	114		
9:15	0	130	16	2	0	0	0	0	0	0	0	0	0	148	21:15	0	116	8	3	1	0	0	0	0	0	0	128		
9:30	0	145	16	0	4	0	0	0	0	0	0	0	0	165	21:30	0	96	10	0	0	0	0	0	0	0	0	106		
9:45	0	164	11	2	3	2	0	0	0	0	0	0	0	182	21:45	2	79	4	1	3	0	0	0	0	0	0	89		
10:00	0	150	17	0	5	0	0	0	0	0	0	0	0	172	22:00	0	96	6	2	0	0	0	0	0	0	0	104		
10:15	1	147	11	3	2	1	0	0	0	0	0	0	0	165	22:15	1	69	8	1	1	0	0	0	0	0	0	80		
10:30	0	110	18	0	0	0	0	0	0	0	0	0	0	128	22:30	0	59	2	0	1	0	0	0	0	0	0	62		
10:45	0	149	18	2	3	0	0	0	0	0	0	0	0	172	22:45	0	49	2	3	0	0	0	0	0	0	0	54		
11:00	0	180	19	0	3	0	0	0	0	0	0	0	0	202	23:00	1	46	2	0	2	0	0	0	0	0	0	51		
11:15	0	172	21	3	4	0	0	0	0	0	0	0	0	200	23:15	0	42	3	0	0	0	0	0	0	0	0	45		
11:30	0	169	25	1	2	0	0	0	0	0	0	0	0	197	23:30	0	45	2	1	1	0	0	0	0	0	0	49		
11:45	0	160	15	3	4	0	0	0	0	0	0	0	0	182	23:45	0	49	4	1	1	0	0	0	0	0	0	55		
TOTAL	4	3,174	365	33	40	5	0	0	2	0	0	0	0	3,623	TOTAL	21	6,384	649	58	61	1	0	0	1	0	0	0	7,175	
AM PEAK HOUR													11:00 AM	PM PEAK HOUR													1:45 PM		
AM PEAK VOLUME													781	PM PEAK VOLUME													819		

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

[illegible]

APPENDIX B

EXISTING YEAR LEVEL-OF-SERVICE WORKSHEET

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	432	219	351	738	64	125	45	264	35	160	53
Future Volume (veh/h)	32	432	219	351	738	64	125	45	264	35	160	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	470	238	382	802	70	136	49	287	38	174	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	766	342	434	1501	669	420	549	490	287	816	263
Arrive On Green	0.04	0.22	0.22	0.24	0.42	0.42	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1148	1777	1585	1044	2641	852
Grp Volume(v), veh/h	35	470	238	382	802	70	136	49	287	38	115	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1148	1777	1585	1044	1777	1717
Q Serve(g_s), s	1.1	7.0	8.1	12.0	9.8	1.6	5.8	1.1	8.9	1.9	2.8	2.9
Cycle Q Clear(g_c), s	1.1	7.0	8.1	12.0	9.8	1.6	8.7	1.1	8.9	10.8	2.8	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	66	766	342	434	1501	669	420	549	490	287	549	530
V/C Ratio(X)	0.53	0.61	0.70	0.88	0.53	0.10	0.32	0.09	0.59	0.13	0.21	0.22
Avail Cap(c_a), veh/h	171	1098	490	474	1701	759	420	549	490	287	549	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	20.7	21.1	21.2	12.6	10.2	18.2	14.3	17.0	21.5	14.9	14.9
Incr Delay (d2), s/veh	6.4	0.8	2.6	16.2	0.3	0.1	2.0	0.3	5.1	1.0	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	3.0	6.5	3.4	0.5	1.6	0.5	3.6	0.5	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	21.5	23.7	37.4	12.9	10.2	20.2	14.6	22.1	22.5	15.7	15.9
LnGrp LOS	C	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		743			1254			472			270	
Approach Delay, s/veh		22.8			20.2			20.8			16.8	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	18.7	17.1		22.5	6.7	29.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	15.5	18.0		18.0	5.6	27.9				
Max Q Clear Time (g_c+I1), s		10.9	14.0	10.1		12.8	3.1	11.8				
Green Ext Time (p_c), s		1.6	0.2	2.5		0.6	0.0	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	691	96	156	425	47	168	65	219	46	49	35
Future Volume (veh/h)	58	691	96	156	425	47	168	65	219	46	49	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	751	104	170	462	51	183	71	238	50	53	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1015	453	174	1157	516	576	626	558	396	727	473
Arrive On Green	0.06	0.29	0.29	0.10	0.33	0.33	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1306	1777	1585	1070	2062	1343
Grp Volume(v), veh/h	63	751	104	170	462	51	183	71	238	50	45	46
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1306	1777	1585	1070	1777	1629
Q Serve(g_s), s	1.8	9.8	2.6	4.9	5.1	1.1	5.6	1.4	5.8	1.9	0.9	1.0
Cycle Q Clear(g_c), s	1.8	9.8	2.6	4.9	5.1	1.1	6.5	1.4	5.8	7.8	0.9	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	103	1015	453	174	1157	516	576	626	558	396	626	574
V/C Ratio(X)	0.61	0.74	0.23	0.98	0.40	0.10	0.32	0.11	0.43	0.13	0.07	0.08
Avail Cap(c_a), veh/h	174	1252	558	174	1252	558	576	626	558	396	626	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	16.5	14.0	23.0	13.4	12.0	13.2	11.2	12.6	15.6	11.0	11.0
Incr Delay (d2), s/veh	5.8	1.9	0.3	60.6	0.2	0.1	1.4	0.4	2.4	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.7	0.8	4.8	1.8	0.4	1.6	0.5	2.1	0.5	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	18.4	14.2	83.6	13.6	12.1	14.6	11.5	15.0	16.2	11.2	11.3
LnGrp LOS	C	B	B	F	B	B	B	B	B	B	B	B
Approach Vol, veh/h		918			683			492			141	
Approach Delay, s/veh		18.7			30.9			14.4			13.0	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.5	19.1		22.5	7.5	21.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		8.5	6.9	11.8		9.8	3.8	7.1				
Green Ext Time (p_c), s		1.8	0.0	2.8		0.4	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	391	137	151	892	23	124	105	100	72	174	166
Future Volume (veh/h)	63	391	137	151	892	23	124	105	100	72	174	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	425	149	164	970	25	135	114	109	78	189	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1031	460	173	1162	518	421	655	555	496	655	555
Arrive On Green	0.06	0.29	0.29	0.10	0.33	0.33	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1013	1870	1585	1158	1870	1585
Grp Volume(v), veh/h	68	425	149	164	970	25	135	114	109	78	189	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1013	1870	1585	1158	1870	1585
Q Serve(g_s), s	1.9	5.0	3.8	4.7	13.0	0.6	5.7	2.2	2.5	2.6	3.8	4.3
Cycle Q Clear(g_c), s	1.9	5.0	3.8	4.7	13.0	0.6	9.5	2.2	2.5	4.7	3.8	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	1031	460	173	1162	518	421	655	555	496	655	555
V/C Ratio(X)	0.63	0.41	0.32	0.95	0.83	0.05	0.32	0.17	0.20	0.16	0.29	0.32
Avail Cap(c_a), veh/h	173	1244	555	173	1244	555	421	655	555	496	655	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	14.7	14.3	23.1	16.0	11.8	15.5	11.6	11.7	13.2	12.1	12.3
Incr Delay (d2), s/veh	6.0	0.3	0.4	52.9	4.8	0.0	2.0	0.6	0.8	0.7	1.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.8	1.2	4.4	5.3	0.2	1.4	0.9	0.9	0.6	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	15.0	14.7	76.0	20.8	11.9	17.5	12.1	12.5	13.9	13.2	13.8
LnGrp LOS	C	B	B	E	C	B	B	B	B	B	B	B
Approach Vol, veh/h		642			1159			358			447	
Approach Delay, s/veh		16.5			28.4			14.3			13.6	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.5	19.4		22.5	7.6	21.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		11.5	6.7	7.0		6.7	3.9	15.0				
Green Ext Time (p_c), s		0.9	0.0	2.5		1.5	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				21.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	728	82	92	456	46	128	95	109	60	72	85
Future Volume (veh/h)	92	728	82	92	456	46	128	95	109	60	72	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	791	89	100	496	50	139	103	118	65	78	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1055	471	133	1055	471	581	671	569	559	671	569
Arrive On Green	0.07	0.30	0.30	0.07	0.30	0.30	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1321	1870	1585	1291	1870	1585
Grp Volume(v), veh/h	100	791	89	100	496	50	139	103	118	65	78	92
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1321	1870	1585	1291	1870	1585
Q Serve(g_s), s	2.8	10.1	2.1	2.8	5.7	1.1	3.9	1.9	2.6	1.8	1.4	2.0
Cycle Q Clear(g_c), s	2.8	10.1	2.1	2.8	5.7	1.1	5.3	1.9	2.6	3.7	1.4	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	1055	471	133	1055	471	581	671	569	559	671	569
V/C Ratio(X)	0.75	0.75	0.19	0.75	0.47	0.11	0.24	0.15	0.21	0.12	0.12	0.16
Avail Cap(c_a), veh/h	178	1275	569	178	1275	569	581	671	569	559	671	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	15.9	13.1	22.7	14.4	12.8	12.5	10.9	11.1	12.2	10.8	10.9
Incr Delay (d2), s/veh	11.5	2.0	0.2	11.5	0.3	0.1	1.0	0.5	0.8	0.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.8	0.7	1.5	2.0	0.4	1.2	0.7	0.9	0.5	0.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	18.0	13.3	34.2	14.7	12.9	13.5	11.4	12.0	12.6	11.1	11.6
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h	980			646			360			235		
Approach Delay, s/veh	19.2			17.6			12.4			11.7		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	22.5		8.3	19.4		22.5		8.3	19.4			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.0		5.0	18.0		18.0		5.0	18.0			
Max Q Clear Time (g_c+I1), s	7.3		4.8	12.1		5.7		4.8	7.7			
Green Ext Time (p_c), s	1.0		0.0	2.8		0.7		0.0	2.5			
Intersection Summary												
HCM 6th Ctrl Delay	16.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	379	146	498	836	85	198	61	361	90	71	70
Future Volume (veh/h)	27	379	146	498	836	85	198	61	361	90	71	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	412	159	541	909	92	215	66	392	98	77	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	849	378	286	1029	459	590	587	497	508	533	469
Arrive On Green	0.03	0.24	0.24	0.08	0.29	0.29	0.08	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1788	1576
Grp Volume(v), veh/h	29	412	159	541	909	92	215	66	392	98	76	77
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1587
Q Serve(g_s), s	1.0	6.0	5.1	5.0	14.8	2.6	5.0	1.5	13.6	2.2	1.9	2.2
Cycle Q Clear(g_c), s	1.0	6.0	5.1	5.0	14.8	2.6	5.0	1.5	13.6	2.2	1.9	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	57	849	378	286	1029	459	590	587	497	508	529	473
V/C Ratio(X)	0.51	0.49	0.42	1.89	0.88	0.20	0.36	0.11	0.79	0.19	0.14	0.16
Avail Cap(c_a), veh/h	147	1059	472	286	1059	472	590	587	497	536	529	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	19.8	19.5	27.7	20.5	16.2	13.3	14.7	18.9	12.9	15.6	15.7
Incr Delay (d2), s/veh	6.9	0.4	0.7	414.4	8.8	0.2	0.4	0.4	12.0	0.2	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.2	1.7	18.3	6.4	0.8	1.8	0.6	5.8	0.8	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	20.2	20.2	442.1	29.3	16.4	13.7	15.1	30.9	13.1	16.1	16.4
LnGrp LOS	D	C	C	F	C	B	B	B	C	B	B	B
Approach Vol, veh/h		600			1542			673			251	
Approach Delay, s/veh		21.0			173.4			23.8			15.0	
Approach LOS		C			F			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	23.5	9.5	18.9	9.5	22.5	6.4	22.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.2	15.6	7.0	8.0	7.0	4.2	3.0	16.8				
Green Ext Time (p_c), s	0.0	0.5	0.0	2.1	0.0	0.6	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay				97.7								
HCM 6th LOS				F								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	735	162	444	453	141	147	119	539	96	66	40
Future Volume (veh/h)	51	735	162	444	453	141	147	119	539	96	66	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	799	176	483	492	153	160	129	586	104	72	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	949	423	275	1058	472	590	561	475	416	633	350
Arrive On Green	0.05	0.27	0.27	0.08	0.30	0.30	0.08	0.30	0.30	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2207	1221
Grp Volume(v), veh/h	55	799	176	483	492	153	160	129	586	104	57	58
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1651
Q Serve(g_s), s	1.9	13.3	5.7	5.0	7.1	4.7	3.9	3.3	18.8	2.5	1.5	1.6
Cycle Q Clear(g_c), s	1.9	13.3	5.7	5.0	7.1	4.7	3.9	3.3	18.8	2.5	1.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	88	949	423	275	1058	472	590	561	475	416	510	473
V/C Ratio(X)	0.63	0.84	0.42	1.75	0.47	0.32	0.27	0.23	1.23	0.25	0.11	0.12
Avail Cap(c_a), veh/h	142	1019	455	275	1058	472	590	561	475	439	510	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	21.7	19.0	28.9	18.0	17.1	13.9	16.5	22.0	14.0	16.5	16.5
Incr Delay (d2), s/veh	7.2	6.1	0.7	354.2	0.3	0.4	0.2	1.0	122.2	0.3	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.6	1.9	15.4	2.5	1.5	1.4	1.4	22.0	0.9	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	27.9	19.6	383.1	18.3	17.5	14.1	17.5	144.2	14.3	16.9	17.1
LnGrp LOS	D	C	B	F	B	B	B	B	F	B	B	B
Approach Vol, veh/h		1030			1128			875			219	
Approach Delay, s/veh		26.9			174.4			101.7			15.7	
Approach LOS		C			F			F			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	23.3	9.5	21.3	9.5	22.5	7.6	23.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	20.8	7.0	15.3	5.9	3.6	3.9	9.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.4	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay				97.4								
HCM 6th LOS				F								

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	91	257	478	29	726	637	157	0	415	41	0	536
Future Volume (veh/h)	91	257	478	29	726	637	157	0	415	41	0	536
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	99	279	520	32	789	692	171	0	451	45	0	583
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	149	1778	793	67	1613	720	217	0	0	88	0	0
Arrive On Green	0.08	0.50	0.50	0.04	0.45	0.45	0.12	0.00	0.00	0.05	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	171		1781	45	
Grp Volume(v), veh/h	99	279	520	32	789	692	171	33.4		45	22.9	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	C		1781	C	
Q Serve(g_s), s	2.1	1.7	9.7	0.7	6.2	16.8	3.7			1.0		
Cycle Q Clear(g_c), s	2.1	1.7	9.7	0.7	6.2	16.8	3.7			1.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	149	1778	793	67	1613	720	217			88		
V/C Ratio(X)	0.66	0.16	0.66	0.48	0.49	0.96	0.79			0.51		
Avail Cap(c_a), veh/h	225	1778	793	225	1613	720	225			225		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	17.6	5.4	7.4	18.7	7.6	10.5	16.9			18.4		
Incr Delay (d2), s/veh	5.0	0.0	2.0	5.3	0.2	24.4	16.4			4.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.3	1.9	0.3	1.3	7.9	2.1			0.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	5.4	9.3	24.0	7.8	34.9	33.4			22.9		
LnGrp LOS	C	A	A	C	A	C	C			C		
Approach Vol, veh/h		898			1513							
Approach Delay, s/veh		9.6			20.6							
Approach LOS		A			C							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	6.5		6.0	24.3	9.3		7.8	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.0		5.0	18.0	5.0		5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0		2.7	11.7	5.7		4.1	18.8				
Green Ext Time (p_c), s	0.0		0.0	2.0	0.0		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			17.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	141	792	437	32	448	369	113	0	819	77	0	485
Future Volume (veh/h)	141	792	437	32	448	369	113	0	819	77	0	485
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	153	861	475	35	487	401	123	0	890	84	0	527
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	205	1568	699	74	1307	583	184	0	0	146	0	0
Arrive On Green	0.12	0.44	0.44	0.04	0.37	0.37	0.10	0.00	0.00	0.08	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	123		1781	84	
Grp Volume(v), veh/h	153	861	475	35	487	401	123	18.3		84	18.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	2.7	5.8	7.8	0.6	3.3	7.0	2.2			1.5		
Cycle Q Clear(g_c), s	2.7	5.8	7.8	0.6	3.3	7.0	2.2			1.5		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	205	1568	699	74	1307	583	184			146		
V/C Ratio(X)	0.75	0.55	0.68	0.47	0.37	0.69	0.67			0.58		
Avail Cap(c_a), veh/h	273	1962	875	273	1962	875	273			273		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	14.0	6.7	7.3	15.3	7.5	8.7	14.1			14.4		
Incr Delay (d2), s/veh	7.5	0.3	1.5	4.6	0.2	1.5	4.2			3.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.9	1.3	0.3	0.6	1.4	0.8			0.6		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	7.0	8.8	19.9	7.7	10.2	18.3			18.0		
LnGrp LOS	C	A	A	B	A	B	B			B		
Approach Vol, veh/h	1489			923								
Approach Delay, s/veh	9.1			9.2								
Approach LOS	A			A								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	7.2		5.9	18.9	7.9		8.2	16.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.0		5.0	18.0	5.0		5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.5		2.6	9.8	4.2		4.7	9.0				
Green Ext Time (p_c), s	0.0		0.0	4.4	0.0		0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay	9.9											
HCM 6th LOS	A											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	2	13	1	0	0	11	420	1	0	382	285
Future Volume (vph)	173	2	13	1	0	0	11	420	1	0	382	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1614	1504		1770		1770	3538			3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1614	1504		1863		1770	3538			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	188	2	14	1	0	0	12	457	1	0	415	310
RTOR Reduction (vph)	0	1	11	0	0	0	0	0	0	0	0	163
Lane Group Flow (vph)	96	94	2	0	1	0	12	458	0	0	415	147
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	6.7	6.7	6.7		0.8		0.7	28.8			23.6	23.6
Effective Green, g (s)	6.7	6.7	6.7		0.8		0.7	28.8			23.6	23.6
Actuated g/C Ratio	0.13	0.13	0.13		0.02		0.01	0.58			0.47	0.47
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	226	217	202		29		24	2046			1677	750
v/s Ratio Prot	0.06	c0.06					0.01	c0.13			0.12	
v/s Ratio Perm			0.00		c0.00							0.09
v/c Ratio	0.42	0.43	0.01		0.03		0.50	0.22			0.25	0.20
Uniform Delay, d1	19.8	19.8	18.7		24.1		24.4	5.1			7.8	7.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.3	1.4	0.0		0.5		15.4	0.3			0.4	0.6
Delay (s)	21.1	21.2	18.7		24.6		39.8	5.3			8.2	8.2
Level of Service	C	C	B		C		D	A			A	A
Approach Delay (s)		21.0			24.6			6.2			8.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.4				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			49.8				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			37.2%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	304	0	20	3	9	1	18	452	1	1	425	202
Future Volume (vph)	304	0	20	3	9	1	18	452	1	1	425	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1825		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.47	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1845		1770	3538		880	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	330	0	22	3	10	1	20	491	1	1	462	220
RTOR Reduction (vph)	0	119	16	0	1	0	0	0	0	0	0	129
Lane Group Flow (vph)	165	48	4	0	13	0	20	492	0	1	462	91
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	10.1	10.1	10.1		1.0		0.7	26.3		21.1	21.1	21.1
Effective Green, g (s)	10.1	10.1	10.1		1.0		0.7	26.3		21.1	21.1	21.1
Actuated g/C Ratio	0.20	0.20	0.20		0.02		0.01	0.52		0.41	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	333	319	298		36		24	1828		364	1467	656
v/s Ratio Prot	c0.10	0.03					0.01	c0.14			c0.13	
v/s Ratio Perm			0.00		c0.01					0.00		0.06
v/c Ratio	0.50	0.15	0.01		0.36		0.83	0.27		0.00	0.31	0.14
Uniform Delay, d1	18.1	16.9	16.4		24.6		25.0	6.9		8.7	10.0	9.3
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.2	0.0		6.1		110.4	0.4		0.0	0.6	0.4
Delay (s)	19.3	17.1	16.4		30.7		135.5	7.3		8.7	10.6	9.7
Level of Service	B	B	B		C		F	A		A	B	A
Approach Delay (s)		18.1			30.7			12.3			10.3	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			12.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			50.9				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			37.7%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	542	100	84	704	132	132	309	76	172	364	157
Future Volume (veh/h)	93	542	100	84	704	132	132	309	76	172	364	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	589	109	91	765	143	143	336	83	187	396	171
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	810	149	116	935	417	144	826	201	144	546	462
Arrive On Green	0.07	0.27	0.27	0.07	0.26	0.26	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	2995	553	1781	3554	1585	1781	2833	690	1781	1870	1585
Grp Volume(v), veh/h	101	349	349	91	765	143	143	209	210	187	396	171
Grp Sat Flow(s),veh/h/ln	1781	1777	1771	1781	1777	1585	1781	1777	1746	1781	1870	1585
Q Serve(g_s), s	3.4	11.0	11.1	3.1	12.5	4.5	5.0	5.8	6.0	5.0	11.7	5.3
Cycle Q Clear(g_c), s	3.4	11.0	11.1	3.1	12.5	4.5	5.0	5.8	6.0	5.0	11.7	5.3
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	129	480	479	116	935	417	144	518	509	144	546	462
V/C Ratio(X)	0.78	0.73	0.73	0.78	0.82	0.34	0.99	0.40	0.41	1.30	0.73	0.37
Avail Cap(c_a), veh/h	144	518	516	144	1036	462	144	518	509	144	546	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	20.4	20.5	28.4	21.4	18.4	28.3	17.5	17.6	28.4	19.6	17.4
Incr Delay (d2), s/veh	21.6	4.7	4.8	19.5	4.8	0.5	72.0	2.3	2.5	174.7	8.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.6	4.6	1.8	5.1	1.5	4.9	2.5	2.5	9.0	5.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	25.1	25.3	47.9	26.2	18.9	100.3	19.9	20.1	203.1	27.8	19.6
LnGrp LOS	D	C	C	D	C	B	F	B	C	F	C	B
Approach Vol, veh/h		799			999			562			754	
Approach Delay, s/veh		28.3			27.1			40.4			69.4	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	8.5	21.2	9.5	22.5	9.0	20.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	8.0	5.1	13.1	7.0	13.7	5.4	14.5				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.8	0.0	1.2	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			40.1									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	756	110	103	642	105	182	286	117	138	225	76
Future Volume (veh/h)	49	756	110	103	642	105	182	286	117	138	225	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	822	120	112	698	114	198	311	127	150	245	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	875	128	139	1108	494	139	697	279	139	526	446
Arrive On Green	0.05	0.28	0.28	0.08	0.31	0.31	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3111	454	1781	3554	1585	1781	2478	991	1781	1870	1585
Grp Volume(v), veh/h	53	469	473	112	698	114	198	221	217	150	245	83
Grp Sat Flow(s),veh/h/ln	1781	1777	1789	1781	1777	1585	1781	1777	1692	1781	1870	1585
Q Serve(g_s), s	1.9	16.5	16.5	4.0	10.8	3.4	5.0	6.5	6.8	5.0	6.9	2.5
Cycle Q Clear(g_c), s	1.9	16.5	16.5	4.0	10.8	3.4	5.0	6.5	6.8	5.0	6.9	2.5
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	85	500	503	139	1108	494	139	500	476	139	526	446
V/C Ratio(X)	0.62	0.94	0.94	0.80	0.63	0.23	1.42	0.44	0.46	1.08	0.47	0.19
Avail Cap(c_a), veh/h	139	500	503	139	1108	494	139	500	476	139	526	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	22.5	22.5	29.0	18.9	16.3	29.5	18.9	19.0	29.5	19.0	17.4
Incr Delay (d2), s/veh	7.3	25.9	25.8	28.1	1.2	0.2	226.8	2.8	3.1	98.6	2.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.6	9.7	2.6	4.0	1.1	10.8	2.8	2.8	5.9	3.2	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	48.4	48.3	57.1	20.0	16.6	256.3	21.7	22.1	128.1	22.0	18.4
LnGrp LOS	D	D	D	E	C	B	F	C	C	F	C	B
Approach Vol, veh/h	995			924			636			478		
Approach Delay, s/veh	47.7			24.1			94.9			54.7		
Approach LOS	D			C			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	7.6	24.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	8.8	6.0	18.5	7.0	8.9	3.9	12.8				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	1.1	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	51.5											
HCM 6th LOS	D											

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	771	77	123	1025	10	0	0	89	0	0	8
Future Vol, veh/h	21	771	77	123	1025	10	0	0	89	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	838	84	134	1114	11	0	0	97	0	0	9
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1125	0	0	922	0	0	-	-	419	-	-	557
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	617	-	-	736	-	-	0	0	583	0	0	474
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	617	-	-	736	-	-	-	-	583	-	-	474
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.3		1.2			12.4			12.7			
HCM LOS						B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	583	617	-	-	736	-	-	474				
HCM Lane V/C Ratio	0.166	0.037	-	-	0.182	-	-	0.018				
HCM Control Delay (s)	12.4	11.1	-	-	11	-	-	12.7				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.7	-	-	0.1				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	998	57	71	864	5	0	0	122	0	0	27
Future Vol, veh/h	21	998	57	71	864	5	0	0	122	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1085	62	77	939	5	0	0	133	0	0	29
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	944	0	0	1147	0	0	-	-	543	-	-	470
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	722	-	-	605	-	-	0	0	484	0	0	540
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	722	-	-	605	-	-	-	-	484	-	-	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.9			15.2			12		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	484	722	-	-	605	-	-	540				
HCM Lane V/C Ratio	0.274	0.032	-	-	0.128	-	-	0.054				
HCM Control Delay (s)	15.2	10.1	-	-	11.8	-	-	12				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.4	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	791	66	70	1153	11	7	3	16	11	7	0
Future Volume (veh/h)	4	791	66	70	1153	11	7	3	16	11	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	860	72	76	1253	12	8	3	17	12	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	1403	626	291	1424	14	236	120	389	477	288	0
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.40	0.40	0.40	0.40	0.00
Sat Flow, veh/h	438	3554	1585	643	3606	35	327	298	965	862	713	0
Grp Volume(v), veh/h	4	860	72	76	617	648	28	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	438	1777	1585	643	1777	1864	1589	0	0	1574	0	0
Q Serve(g_s), s	0.4	8.6	1.3	4.8	14.4	14.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	8.6	1.3	13.4	14.4	14.4	0.4	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.29		0.61	0.60		0.00
Lane Grp Cap(c), veh/h	193	1403	626	291	702	736	745	0	0	764	0	0
V/C Ratio(X)	0.02	0.61	0.12	0.26	0.88	0.88	0.04	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	197	1434	639	296	717	752	745	0	0	764	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.4	10.8	8.6	16.1	12.5	12.5	8.1	0.0	0.0	8.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.1	0.5	12.0	11.6	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	0.4	0.6	6.7	6.9	0.1	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	11.5	8.6	16.6	24.5	24.1	8.2	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	B	B	A	B	C	C	A	A	A	A	A	A
Approach Vol, veh/h	936			1341			28			20		
Approach Delay, s/veh	11.3			23.9			8.2			8.1		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.1			22.5			22.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	2.4			16.8			2.3			16.4		
Green Ext Time (p_c), s	0.1			0.8			0.0			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	18.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1297	14	12	898	12	69	10	83	27	8	0
Future Volume (veh/h)	9	1297	14	12	898	12	69	10	83	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1410	15	13	976	13	75	11	90	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1421	634	162	1436	19	334	82	316	570	159	0
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.00
Sat Flow, veh/h	569	3554	1585	382	3591	48	550	205	791	1072	397	0
Grp Volume(v), veh/h	10	1410	15	13	483	506	176	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	569	1777	1585	382	1777	1862	1546	0	0	1469	0	0
Q Serve(g_s), s	0.7	17.8	0.3	0.2	10.1	10.1	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.7	17.8	0.3	18.0	10.1	10.1	3.2	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.43		0.51	0.76		0.00
Lane Grp Cap(c), veh/h	260	1421	634	162	711	745	733	0	0	729	0	0
V/C Ratio(X)	0.04	0.99	0.02	0.08	0.68	0.68	0.24	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	260	1421	634	162	711	745	733	0	0	729	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	13.4	8.2	22.5	11.1	11.1	9.0	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	21.9	0.0	0.2	2.6	2.5	0.8	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.7	0.1	0.1	3.6	3.7	1.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	35.3	8.2	22.7	13.7	13.6	9.8	0.0	0.0	8.4	0.0	0.0
LnGrp LOS	B	D	A	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1435			1002			176			38		
Approach Delay, s/veh	34.9			13.8			9.8			8.4		
Approach LOS	C			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	5.2			19.8			2.6			20.0		
Green Ext Time (p_c), s	0.7			0.0			0.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	24.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	586	6	7	849	113	2	1	7	135	4	333
Future Volume (veh/h)	162	586	6	7	849	113	2	1	7	135	4	333
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	637	7	8	923	123	2	1	8	147	4	362
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1257	14	18	999	446	306	135	446	139	804	681
Arrive On Green	0.08	0.35	0.35	0.01	0.28	0.28	0.28	0.28	0.28	0.08	0.43	0.43
Sat Flow, veh/h	1781	3601	40	1781	3554	1585	755	481	1585	1781	1870	1585
Grp Volume(v), veh/h	176	314	330	8	923	123	3	0	8	147	4	362
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1236	0	1585	1781	1870	1585
Q Serve(g_s), s	5.0	9.0	9.0	0.3	16.1	3.9	0.0	0.0	0.2	5.0	0.1	10.8
Cycle Q Clear(g_c), s	5.0	9.0	9.0	0.3	16.1	3.9	0.1	0.0	0.2	5.0	0.1	10.8
Prop In Lane	1.00		0.02	1.00		1.00	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	620	650	18	999	446	441	0	446	139	804	681
V/C Ratio(X)	1.26	0.51	0.51	0.43	0.92	0.28	0.01	0.00	0.02	1.06	0.00	0.53
Avail Cap(c_a), veh/h	139	620	650	139	999	446	441	0	446	139	804	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	16.5	16.5	31.5	22.3	17.9	16.6	0.0	16.6	29.5	10.4	13.5
Incr Delay (d2), s/veh	164.0	0.7	0.6	15.2	13.7	0.3	0.0	0.0	0.1	92.1	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	3.3	3.4	0.2	7.8	1.3	0.0	0.0	0.1	5.5	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	193.5	17.1	17.1	46.7	36.0	18.3	16.6	0.0	16.7	121.6	10.4	16.4
LnGrp LOS	F	B	B	D	D	B	B	A	B	F	B	B
Approach Vol, veh/h		820			1054			11			513	
Approach Delay, s/veh		55.0			34.0			16.7			46.5	
Approach LOS		D			C			B			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	5.2	26.8		32.0	9.5	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	7.0	2.2	2.3	11.0		12.8	7.0	18.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1		0.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				43.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	1001	7	17	687	120	11	7	20	119	4	156
Future Volume (veh/h)	165	1001	7	17	687	120	11	7	20	119	4	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	1088	8	18	747	130	12	8	22	129	4	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1149	8	38	919	410	320	192	460	144	829	702
Arrive On Green	0.08	0.32	0.32	0.02	0.26	0.26	0.29	0.29	0.29	0.08	0.44	0.44
Sat Flow, veh/h	1781	3616	27	1781	3554	1585	783	661	1585	1781	1870	1585
Grp Volume(v), veh/h	179	535	561	18	747	130	20	0	22	129	4	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1444	0	1585	1781	1870	1585
Q Serve(g_s), s	5.0	18.2	18.2	0.6	12.2	4.1	0.0	0.0	0.6	4.5	0.1	4.2
Cycle Q Clear(g_c), s	5.0	18.2	18.2	0.6	12.2	4.1	0.5	0.0	0.6	4.5	0.1	4.2
Prop In Lane	1.00		0.01	1.00		1.00	0.60		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	565	593	38	919	410	512	0	460	144	829	702
V/C Ratio(X)	1.25	0.95	0.95	0.47	0.81	0.32	0.04	0.00	0.05	0.90	0.00	0.24
Avail Cap(c_a), veh/h	144	565	593	144	1031	460	512	0	460	144	829	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	20.7	20.7	30.0	21.6	18.6	15.8	0.0	15.9	28.3	9.6	10.8
Incr Delay (d2), s/veh	156.2	25.3	24.5	8.7	4.6	0.4	0.1	0.0	0.2	46.4	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	10.4	10.8	0.3	5.0	1.4	0.2	0.0	0.2	3.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.7	46.0	45.2	38.7	26.2	19.0	15.9	0.0	16.1	74.7	9.6	11.6
LnGrp LOS	F	D	D	D	C	B	B	A	B	E	A	B
Approach Vol, veh/h		1275			895			42			303	
Approach Delay, s/veh		65.1			25.4			16.0			38.4	
Approach LOS		E			C			B			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	5.8	24.2		32.0	9.5	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.5	2.6	2.6	20.2		6.2	7.0	14.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0		0.4	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			46.9									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	156	406	127	135	702	33	171	218	60	58	269	97
Future Volume (veh/h)	156	406	127	135	702	33	171	218	60	58	269	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	441	138	147	763	36	186	237	65	63	292	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1010	451	175	1010	451	796	978	262	455	910	320
Arrive On Green	0.10	0.28	0.28	0.10	0.28	0.28	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1916	2770	743	1077	2577	907
Grp Volume(v), veh/h	170	441	138	147	763	36	186	150	152	63	199	198
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	958	1777	1737	1077	1777	1707
Q Serve(g_s), s	4.9	5.2	3.5	4.1	10.0	0.8	4.0	3.0	3.2	2.2	4.2	4.3
Cycle Q Clear(g_c), s	4.9	5.2	3.5	4.1	10.0	0.8	8.3	3.0	3.2	5.4	4.2	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.53
Lane Grp Cap(c), veh/h	175	1010	451	175	1010	451	796	627	613	455	627	603
V/C Ratio(X)	0.97	0.44	0.31	0.84	0.76	0.08	0.23	0.24	0.25	0.14	0.32	0.33
Avail Cap(c_a), veh/h	175	1254	559	175	1254	559	796	627	613	455	627	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	14.9	14.3	22.6	16.6	13.4	15.1	11.7	11.7	13.6	12.0	12.1
Incr Delay (d2), s/veh	60.0	0.3	0.4	29.2	2.1	0.1	0.7	0.9	1.0	0.6	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	1.8	1.1	2.9	3.6	0.3	0.8	1.1	1.1	0.5	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.0	15.2	14.7	51.8	18.7	13.4	15.8	12.6	12.7	14.3	13.4	13.5
LnGrp LOS	F	B	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		749			946			488			460	
Approach Delay, s/veh		30.5			23.7			13.8			13.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.5	19.0		22.5	9.5	19.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		10.3	6.1	7.2		7.4	6.9	12.0				
Green Ext Time (p_c), s		1.6	0.0	2.4		1.8	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	891	158	101	556	47	115	238	106	74	186	72
Future Volume (veh/h)	149	891	158	101	556	47	115	238	106	74	186	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	968	172	110	604	51	125	259	115	80	202	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1148	512	141	1091	487	876	826	356	399	865	323
Arrive On Green	0.09	0.32	0.32	0.08	0.31	0.31	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2132	2417	1043	1009	2531	946
Grp Volume(v), veh/h	162	968	172	110	604	51	125	188	186	80	140	140
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1066	1777	1683	1009	1777	1700
Q Serve(g_s), s	4.8	13.3	4.3	3.2	7.5	1.2	2.4	4.1	4.3	3.4	3.0	3.1
Cycle Q Clear(g_c), s	4.8	13.3	4.3	3.2	7.5	1.2	5.5	4.1	4.3	7.7	3.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.62	1.00		0.56
Lane Grp Cap(c), veh/h	169	1148	512	141	1091	487	876	607	575	399	607	581
V/C Ratio(X)	0.96	0.84	0.34	0.78	0.55	0.10	0.14	0.31	0.32	0.20	0.23	0.24
Avail Cap(c_a), veh/h	169	1214	542	169	1214	542	876	607	575	399	607	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	16.6	13.5	23.8	15.2	13.1	14.4	12.8	12.8	15.7	12.4	12.4
Incr Delay (d2), s/veh	56.7	5.3	0.4	17.7	0.4	0.1	0.3	1.3	1.5	1.1	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.2	1.3	1.9	2.5	0.4	0.5	1.5	1.5	0.8	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.4	21.9	13.9	41.5	15.7	13.2	14.7	14.1	14.3	16.8	13.3	13.4
LnGrp LOS	F	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1302			765			499			360	
Approach Delay, s/veh		28.2			19.2			14.3			14.1	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	8.7	21.5		22.5	9.5	20.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		7.5	5.2	15.3		9.7	6.8	9.5				
Green Ext Time (p_c), s		2.0	0.0	1.7		1.2	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	414	82	87	694	147	135	318	73	83	266	34
Future Volume (veh/h)	30	414	82	87	694	147	135	318	73	83	266	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	436	86	92	731	155	142	335	77	87	280	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	826	368	231	940	419	268	1152	514	225	1431	179
Arrive On Green	0.03	0.23	0.23	0.07	0.26	0.26	0.08	0.32	0.32	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4595	576
Grp Volume(v), veh/h	32	436	86	92	731	155	142	335	77	87	206	110
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1767
Q Serve(g_s), s	1.0	6.2	2.5	1.5	11.0	4.6	2.3	4.1	2.0	1.4	2.6	2.7
Cycle Q Clear(g_c), s	1.0	6.2	2.5	1.5	11.0	4.6	2.3	4.1	2.0	1.4	2.6	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	62	826	368	231	940	419	268	1152	514	225	1060	550
V/C Ratio(X)	0.52	0.53	0.23	0.40	0.78	0.37	0.53	0.29	0.15	0.39	0.19	0.20
Avail Cap(c_a), veh/h	154	1107	494	299	1107	494	299	1152	514	299	1060	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	19.4	18.0	25.8	19.7	17.3	25.6	14.6	13.9	25.9	14.6	14.6
Incr Delay (d2), s/veh	6.5	0.5	0.3	1.1	3.0	0.5	1.6	0.6	0.6	1.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	0.8	0.6	4.3	1.5	0.9	1.5	0.7	0.5	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	19.9	18.3	27.0	22.7	17.9	27.2	15.2	14.5	27.0	15.0	15.4
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h	554			978			554			403		
Approach Delay, s/veh	20.5			22.3			18.2			17.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	23.2	8.4	17.9	9.0	22.5	6.5	19.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.4	6.1	3.5	8.2	4.3	4.7	3.0	13.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.1	0.0	1.4	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay	20.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	858	162	111	507	144	145	259	111	151	393	38
Future Volume (veh/h)	52	858	162	111	507	144	145	259	111	151	393	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	903	171	117	534	152	153	273	117	159	414	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1005	448	239	1077	480	256	1018	454	258	1362	130
Arrive On Green	0.05	0.28	0.28	0.07	0.30	0.30	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4742	451
Grp Volume(v), veh/h	55	903	171	117	534	152	153	273	117	159	295	159
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1789
Q Serve(g_s), s	1.9	15.3	5.4	2.0	7.7	4.6	2.7	3.7	3.6	2.8	4.3	4.4
Cycle Q Clear(g_c), s	1.9	15.3	5.4	2.0	7.7	4.6	2.7	3.7	3.6	2.8	4.3	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	87	1005	448	239	1077	480	256	1018	454	258	977	514
V/C Ratio(X)	0.63	0.90	0.38	0.49	0.50	0.32	0.60	0.27	0.26	0.62	0.30	0.31
Avail Cap(c_a), veh/h	142	1018	454	275	1077	480	275	1018	454	275	977	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	21.6	18.1	28.2	18.0	16.9	28.2	17.3	17.3	28.2	17.5	17.5
Incr Delay (d2), s/veh	7.2	10.6	0.5	1.5	0.4	0.4	3.1	0.6	1.4	3.7	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.0	1.8	0.8	2.8	1.5	1.1	1.4	1.3	1.2	1.5	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	32.2	18.6	29.7	18.3	17.2	31.3	18.0	18.6	31.9	18.3	19.1
LnGrp LOS	D	C	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		1129			803			543			613	
Approach Delay, s/veh		30.4			19.8			21.9			22.0	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	22.5	8.9	22.3	9.2	22.5	7.6	23.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+l1), s	4.8	5.7	4.0	17.3	4.7	6.4	3.9	9.7				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.4	0.0	2.0	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	453	96	168	863	0	133	0	137	0	0	1
Future Volume (vph)	4	453	96	168	863	0	133	0	137	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.92	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1520	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1520	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	477	101	177	908	0	140	0	144	0	0	1
RTOR Reduction (vph)	0	0	73	0	0	0	0	65	63	0	1	0
Lane Group Flow (vph)	4	477	28	177	908	0	98	30	28	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	16.4	16.4	5.1	20.7		18.3	18.3	18.3		0.9	
Effective Green, g (s)	0.8	16.4	16.4	5.1	20.7		18.3	18.3	18.3		0.9	
Actuated g/C Ratio	0.01	0.28	0.28	0.09	0.35		0.31	0.31	0.31		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	988	442	298	1247		524	473	468		46	
v/s Ratio Prot	0.00	0.13		c0.05	c0.26		c0.06	0.02			c0.00	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.17	0.48	0.06	0.59	0.73		0.19	0.06	0.06		0.00	
Uniform Delay, d1	28.6	17.6	15.5	25.8	16.5		14.8	14.2	14.2		28.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	0.4	0.1	3.2	2.2		0.8	0.3	0.2		0.0	
Delay (s)	31.9	18.0	15.6	29.0	18.7		15.6	14.4	14.4		28.5	
Level of Service	C	B	B	C	B		B	B	B		C	
Approach Delay (s)		17.7			20.4			14.8			28.5	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			18.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			58.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			51.0%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			 			 	
Traffic Volume (vph)	4	971	159	214	653	1	124	1	331	0	2	0
Future Volume (vph)	4	971	159	214	653	1	124	1	331	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3538		1681	1455	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3538		1681	1455	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1022	167	225	687	1	131	1	348	0	2	0
RTOR Reduction (vph)	0	0	98	0	0	0	0	120	130	0	0	0
Lane Group Flow (vph)	4	1022	69	225	688	0	118	61	51	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	411	425		55	
v/s Ratio Prot	0.00	c0.29		c0.07	c0.19		c0.07	0.04			c0.00	
v/s Ratio Perm			0.04						0.03			
v/c Ratio	0.17	0.84	0.13	0.84	0.48		0.25	0.15	0.12		0.04	
Uniform Delay, d1	31.2	19.5	14.5	29.1	14.0		17.7	17.2	17.0		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	5.5	0.1	20.0	0.3		1.2	0.8	0.6		0.3	
Delay (s)	34.5	25.0	14.6	49.1	14.3		19.0	17.9	17.6		31.3	
Level of Service	C	C	B	D	B		B	B	B		C	
Approach Delay (s)		23.6			22.9			18.1			31.3	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			22.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.7%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
13: 6th St & Indian Hill Blvd

03/18/2024

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	0	6	3	6	5	21	3	550	25	21	646	2
Future Vol, veh/h	0	6	3	6	5	21	3	550	25	21	646	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	3	7	5	23	3	598	27	23	702	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1381	1380	703	1372	1368	612	704	0	0	625	0	0
Stage 1	749	749	-	618	618	-	-	-	-	-	-	-
Stage 2	632	631	-	754	750	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	121	144	438	123	147	493	894	-	-	956	-	-
Stage 1	404	419	-	477	481	-	-	-	-	-	-	-
Stage 2	468	474	-	401	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	110	140	438	115	143	493	894	-	-	956	-	-
Mov Cap-2 Maneuver	110	140	-	115	143	-	-	-	-	-	-	-
Stage 1	403	409	-	476	480	-	-	-	-	-	-	-
Stage 2	440	473	-	382	409	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26	21.9	0	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	894	-	-	181 247	956	-	-
HCM Lane V/C Ratio	0.004	-	-	0.054 0.141	0.024	-	-
HCM Control Delay (s)	9	-	-	26 21.9	8.9	-	-
HCM Lane LOS	A	-	-	D C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0.5	0.1	-	-

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↗		↙	↗	
Traffic Vol, veh/h	4	7	5	19	6	37	7	579	16	16	458	1
Future Vol, veh/h	4	7	5	19	6	37	7	579	16	16	458	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	21	7	40	8	629	17	17	498	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1210	1195	499	1193	1187	638	499	0	0	646	0	0
Stage 1	533	533	-	654	654	-	-	-	-	-	-	-
Stage 2	677	662	-	539	533	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	186	572	164	188	477	1065	-	-	939	-	-
Stage 1	531	525	-	456	463	-	-	-	-	-	-	-
Stage 2	443	459	-	527	525	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	181	572	154	183	477	1065	-	-	939	-	-
Mov Cap-2 Maneuver	139	181	-	154	183	-	-	-	-	-	-	-
Stage 1	527	516	-	452	459	-	-	-	-	-	-	-
Stage 2	397	455	-	505	516	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	23.7		23.2		0.1		0.3					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1065	-	-	210	265	939	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.083	0.254	0.019	-	-				
HCM Control Delay (s)	8.4	-	-	23.7	23.2	8.9	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	1	0.1	-	-				

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	52	9	45	70	17	10	194	50	18	152	12
Future Vol, veh/h	17	52	9	45	70	17	10	194	50	18	152	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	57	10	49	76	18	11	211	54	20	165	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.6	10.3	9.7
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	22%	34%	10%
Vol Thru, %	76%	67%	53%	84%
Vol Right, %	20%	12%	13%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	254	78	132	182
LT Vol	10	17	45	18
Through Vol	194	52	70	152
RT Vol	50	9	17	12
Lane Flow Rate	276	85	143	198
Geometry Grp	1	1	1	1
Degree of Util (X)	0.357	0.123	0.205	0.265
Departure Headway (Hd)	4.652	5.22	5.147	4.829
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	768	680	692	738
Service Time	2.714	3.307	3.226	2.897
HCM Lane V/C Ratio	0.359	0.125	0.207	0.268
HCM Control Delay	10.3	9	9.6	9.7
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.6	0.4	0.8	1.1

HCM 6th AWSC
14: College Ave & 6th St/6st St

03/19/2024

Intersection

Intersection Delay, s/veh 10.7
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	83	6	74	86	21	15	145	72	20	198	14
Future Vol, veh/h	8	83	6	74	86	21	15	145	72	20	198	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	90	7	80	93	23	16	158	78	22	215	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	10.7	10.7	11
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	8%	41%	9%
Vol Thru, %	62%	86%	48%	85%
Vol Right, %	31%	6%	12%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	232	97	181	232
LT Vol	15	8	74	20
Through Vol	145	83	86	198
RT Vol	72	6	21	14
Lane Flow Rate	252	105	197	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.349	0.163	0.296	0.359
Departure Headway (Hd)	4.985	5.553	5.423	5.13
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	721	646	663	701
Service Time	3.013	3.588	3.454	3.158
HCM Lane V/C Ratio	0.35	0.163	0.297	0.359
HCM Control Delay	10.7	9.7	10.7	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.6	0.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	78	12	13	185	0	13	0	8	1	1	1
Future Vol, veh/h	2	78	12	13	185	0	13	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	85	13	14	201	0	14	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	8.4	7.6	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	2%	7%	33%
Vol Thru, %	0%	85%	93%	33%
Vol Right, %	38%	13%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	92	198	3
LT Vol	13	2	13	1
Through Vol	0	78	185	1
RT Vol	8	12	0	1
Lane Flow Rate	23	100	215	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0.113	0.243	0.004
Departure Headway (Hd)	4.512	4.066	4.067	4.507
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	873	880	799
Service Time	2.512	2.13	2.107	2.508
HCM Lane V/C Ratio	0.029	0.115	0.244	0.004
HCM Control Delay	7.6	7.7	8.4	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.4	1	0

HCM 6th AWSC
15: Mills Ave & 6st St

03/19/2024

Intersection

Intersection Delay, s/veh 9.3
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	262	29	22	175	7	16	2	13	4	2	3
Future Vol, veh/h	2	262	29	22	175	7	16	2	13	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	285	32	24	190	8	17	2	14	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	1%	11%	44%
Vol Thru, %	6%	89%	86%	22%
Vol Right, %	42%	10%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	293	204	9
LT Vol	16	2	22	4
Through Vol	2	262	175	2
RT Vol	13	29	7	3
Lane Flow Rate	34	318	222	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.374	0.268	0.014
Departure Headway (Hd)	4.961	4.223	4.359	5.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	857	827	711
Service Time	2.99	2.223	2.374	3.067
HCM Lane V/C Ratio	0.047	0.371	0.268	0.014
HCM Control Delay	8.2	9.7	9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.7	1.1	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	68	9	148	160	83	37	413	71	46	418	35
Future Volume (veh/h)	33	68	9	148	160	83	37	413	71	46	418	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	72	9	156	168	87	39	435	75	48	440	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	131	16	268	281	238	467	1094	187	456	1219	102
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.04	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	1630	204	1781	1870	1585	1781	3034	520	1781	3319	278
Grp Volume(v), veh/h	35	0	81	156	168	87	39	254	256	48	235	242
Grp Sat Flow(s),veh/h/ln	1781	0	1834	1781	1870	1585	1781	1777	1777	1781	1777	1820
Q Serve(g_s), s	0.9	0.0	2.1	4.1	4.2	2.5	0.7	5.3	5.4	0.8	4.8	4.8
Cycle Q Clear(g_c), s	0.9	0.0	2.1	4.1	4.2	2.5	0.7	5.3	5.4	0.8	4.8	4.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.29	1.00		0.15
Lane Grp Cap(c), veh/h	143	0	147	268	281	238	467	641	641	456	653	669
V/C Ratio(X)	0.25	0.00	0.55	0.58	0.60	0.37	0.08	0.40	0.40	0.11	0.36	0.36
Avail Cap(c_a), veh/h	642	0	661	642	674	571	571	641	641	547	653	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	22.1	19.8	19.8	19.1	9.3	11.9	11.9	9.3	11.5	11.5
Incr Delay (d2), s/veh	0.9	0.0	3.2	2.0	2.0	0.9	0.1	1.8	1.9	0.1	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.9	1.7	1.8	0.9	0.2	2.0	2.0	0.3	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	25.3	21.8	21.8	20.0	9.4	13.7	13.8	9.4	13.1	13.0
LnGrp LOS	C	A	C	C	C	C	A	B	B	A	B	B
Approach Vol, veh/h	116			411			549			525		
Approach Delay, s/veh	24.4			21.4			13.5			12.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	22.5		8.5	6.6	22.8		12.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	7.4		4.1	2.7	6.8		6.2				
Green Ext Time (p_c), s	0.0	2.1		0.3	0.0	2.0		1.3				
Intersection Summary												
HCM 6th Ctrl Delay	16.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	160	20	107	98	41	23	381	178	102	369	53
Future Volume (veh/h)	46	160	20	107	98	41	23	381	178	102	369	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	168	21	113	103	43	24	401	187	107	388	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	236	30	196	206	174	461	793	365	430	1191	171
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.03	0.34	0.34	0.07	0.38	0.38
Sat Flow, veh/h	1781	1630	204	1781	1870	1585	1781	2363	1088	1781	3120	447
Grp Volume(v), veh/h	48	0	189	113	103	43	24	300	288	107	220	224
Grp Sat Flow(s),veh/h/ln	1781	0	1834	1781	1870	1585	1781	1777	1674	1781	1777	1790
Q Serve(g_s), s	1.3	0.0	5.3	3.2	2.8	1.3	0.5	7.3	7.4	2.0	4.7	4.8
Cycle Q Clear(g_c), s	1.3	0.0	5.3	3.2	2.8	1.3	0.5	7.3	7.4	2.0	4.7	4.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.65	1.00		0.25
Lane Grp Cap(c), veh/h	258	0	266	196	206	174	461	596	562	430	678	683
V/C Ratio(X)	0.19	0.00	0.71	0.58	0.50	0.25	0.05	0.50	0.51	0.25	0.32	0.33
Avail Cap(c_a), veh/h	598	0	615	598	627	532	577	596	562	464	678	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	21.9	22.7	22.5	21.8	11.1	14.3	14.3	10.5	11.7	11.7
Incr Delay (d2), s/veh	0.3	0.0	3.5	2.7	1.9	0.7	0.0	3.0	3.3	0.3	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	1.4	1.2	0.5	0.2	2.9	2.8	0.7	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	25.4	25.4	24.4	22.6	11.1	17.3	17.6	10.8	13.0	13.0
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		237			259			612			551	
Approach Delay, s/veh		24.4			24.5			17.2			12.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	22.5		12.3	6.0	25.0		10.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.0	9.4		7.3	2.5	6.8		5.2				
Green Ext Time (p_c), s	0.0	2.2		0.7	0.0	1.8		0.8				
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Arrow Rt & Monte Vista Ave

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	142	17	55	231	60	36	402	41	28	398	51
Future Volume (veh/h)	42	142	17	55	231	60	36	402	41	28	398	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	149	18	58	243	63	38	423	43	29	419	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	553	66	99	341	289	142	1760	176	59	1676	212
Arrive On Green	0.05	0.17	0.17	0.06	0.18	0.18	0.04	0.37	0.37	0.03	0.37	0.37
Sat Flow, veh/h	1781	3198	381	1781	1870	1585	3456	4717	472	1781	4590	580
Grp Volume(v), veh/h	44	82	85	58	243	63	38	303	163	29	309	164
Grp Sat Flow(s),veh/h/ln	1781	1777	1802	1781	1870	1585	1728	1702	1785	1781	1702	1766
Q Serve(g_s), s	1.2	2.0	2.0	1.6	6.0	1.7	0.5	3.0	3.1	0.8	3.1	3.2
Cycle Q Clear(g_c), s	1.2	2.0	2.0	1.6	6.0	1.7	0.5	3.0	3.1	0.8	3.1	3.2
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.26	1.00		0.33
Lane Grp Cap(c), veh/h	82	307	311	99	341	289	142	1270	666	59	1243	645
V/C Ratio(X)	0.54	0.27	0.27	0.59	0.71	0.22	0.27	0.24	0.24	0.49	0.25	0.25
Avail Cap(c_a), veh/h	181	649	658	181	683	579	351	1270	666	181	1243	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	17.7	17.7	22.7	18.9	17.2	22.9	10.6	10.7	23.4	10.9	10.9
Incr Delay (d2), s/veh	5.4	0.5	0.5	5.4	2.8	0.4	1.0	0.4	0.9	6.1	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.7	0.7	0.7	2.4	0.5	0.2	0.9	1.1	0.4	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	18.1	18.2	28.1	21.7	17.5	23.9	11.1	11.5	29.6	11.4	11.9
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		211			364			504			502	
Approach Delay, s/veh		20.3			22.0			12.2			12.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	22.9	7.2	13.0	6.5	22.5	6.8	13.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.8	5.1	3.6	4.0	2.5	5.2	3.2	8.0				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.6	0.0	2.2	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	292	40	65	113	37	31	400	67	41	547	52
Future Volume (veh/h)	59	292	40	65	113	37	31	400	67	41	547	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	307	42	68	119	39	33	421	71	43	576	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	503	68	110	306	259	128	1619	267	80	1779	168
Arrive On Green	0.06	0.16	0.16	0.06	0.16	0.16	0.04	0.37	0.37	0.05	0.37	0.37
Sat Flow, veh/h	1781	3144	426	1781	1870	1585	3456	4416	727	1781	4745	449
Grp Volume(v), veh/h	62	172	177	68	119	39	33	322	170	43	412	219
Grp Sat Flow(s),veh/h/ln	1781	1777	1794	1781	1870	1585	1728	1702	1739	1781	1702	1790
Q Serve(g_s), s	1.7	4.4	4.5	1.8	2.8	1.0	0.5	3.3	3.4	1.2	4.2	4.3
Cycle Q Clear(g_c), s	1.7	4.4	4.5	1.8	2.8	1.0	0.5	3.3	3.4	1.2	4.2	4.3
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.42	1.00		0.25
Lane Grp Cap(c), veh/h	104	284	287	110	306	259	128	1248	638	80	1276	671
V/C Ratio(X)	0.60	0.61	0.62	0.62	0.39	0.15	0.26	0.26	0.27	0.53	0.32	0.33
Avail Cap(c_a), veh/h	181	651	658	181	686	581	352	1248	638	181	1276	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	19.2	19.2	22.5	18.3	17.6	23.0	10.9	10.9	22.9	10.9	10.9
Incr Delay (d2), s/veh	5.4	2.1	2.2	5.6	0.8	0.3	1.1	0.5	1.0	5.4	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.7	0.8	1.1	0.3	0.2	1.0	1.1	0.5	1.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	21.3	21.4	28.1	19.2	17.9	24.0	11.4	11.9	28.3	11.6	12.2
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		411			226			525			674	
Approach Delay, s/veh		22.3			21.6			12.4			12.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	22.5	7.5	12.4	6.3	22.9	7.4	12.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.2	5.4	3.8	6.5	2.5	6.3	3.7	4.8				
Green Ext Time (p_c), s	0.0	2.3	0.0	1.3	0.0	2.8	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			15.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	57	54	47	20	50	16	15	559	47	34	471	21
Future Volume (veh/h)	57	54	47	20	50	16	15	559	47	34	471	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	59	51	22	54	17	16	608	51	37	512	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	70	553	91	172	553	35	653	554	71	656	29
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.35	0.35	0.04	0.37	0.37
Sat Flow, veh/h	4	201	1585	2	492	1585	1781	1870	1585	1781	1776	80
Grp Volume(v), veh/h	121	0	51	76	0	17	16	608	51	37	0	535
Grp Sat Flow(s),veh/h/ln	205	0	1585	494	0	1585	1781	1870	1585	1781	0	1856
Q Serve(g_s), s	0.1	0.0	1.1	0.1	0.0	0.4	0.5	16.2	1.1	1.0	0.0	13.2
Cycle Q Clear(g_c), s	18.0	0.0	1.1	18.0	0.0	0.4	0.5	16.2	1.1	1.0	0.0	13.2
Prop In Lane	0.51		1.00	0.29		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	177	0	553	262	0	553	35	653	554	71	0	685
V/C Ratio(X)	0.68	0.00	0.09	0.29	0.00	0.03	0.45	0.93	0.09	0.52	0.00	0.78
Avail Cap(c_a), veh/h	178	0	554	263	0	554	173	653	554	173	0	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	11.3	13.1	0.0	11.0	25.0	16.2	11.3	24.3	0.0	14.4
Incr Delay (d2), s/veh	10.2	0.0	0.1	0.6	0.0	0.0	8.8	21.8	0.3	5.8	0.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.4	0.6	0.0	0.1	0.3	9.9	0.4	0.5	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	11.4	13.7	0.0	11.1	33.8	37.9	11.6	30.1	0.0	23.0
LnGrp LOS	C	A	B	B	A	B	C	D	B	C	A	C
Approach Vol, veh/h		172			93			675			572	
Approach Delay, s/veh		21.8			13.2			35.9			23.5	
Approach LOS		C			B			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	23.5		22.5	6.6	22.5		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.5	15.2		20.0	3.0	18.2		20.0				
Green Ext Time (p_c), s	0.0	1.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	22	31	41	46	30	53	9	421	22	19	532	21
Future Volume (veh/h)	22	31	41	46	30	53	9	421	22	19	532	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	34	45	50	33	58	10	458	24	21	578	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	142	400	163	76	400	23	772	654	45	760	30
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.01	0.41	0.41	0.03	0.43	0.43
Sat Flow, veh/h	74	562	1585	121	303	1585	1781	1870	1585	1781	1786	71
Grp Volume(v), veh/h	58	0	45	83	0	58	10	458	24	21	0	601
Grp Sat Flow(s),veh/h/ln	636	0	1585	424	0	1585	1781	1870	1585	1781	0	1858
Q Serve(g_s), s	0.3	0.0	1.0	0.7	0.0	1.2	0.2	8.3	0.4	0.5	0.0	12.0
Cycle Q Clear(g_c), s	10.0	0.0	1.0	10.3	0.0	1.2	0.2	8.3	0.4	0.5	0.0	12.0
Prop In Lane	0.41		1.00	0.60		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	277	0	400	239	0	400	23	772	654	45	0	790
V/C Ratio(X)	0.21	0.00	0.11	0.35	0.00	0.14	0.44	0.59	0.04	0.47	0.00	0.76
Avail Cap(c_a), veh/h	532	0	654	479	0	654	204	772	654	204	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	12.5	14.4	0.0	12.7	21.4	10.0	7.6	21.0	0.0	10.6
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.9	0.0	0.2	12.6	3.3	0.1	7.3	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	0.6	0.0	0.4	0.2	3.4	0.1	0.3	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	12.7	15.3	0.0	12.8	33.9	13.3	7.7	28.2	0.0	17.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	C	A	B
Approach Vol, veh/h		103			141			492			622	
Approach Delay, s/veh		13.2			14.3			13.4			17.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	23.0		15.9	5.6	22.5		15.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.2	14.0		12.0	2.5	10.3		12.3				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.0	1.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	16	37	68	35	45	58	536	140	33	506	26
Future Volume (veh/h)	7	16	37	68	35	45	58	536	140	33	506	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	17	40	74	38	49	63	583	152	36	550	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	221	187	335	88	113	489	916	776	448	825	42
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.06	0.49	0.49	0.04	0.47	0.47
Sat Flow, veh/h	1310	1870	1585	1346	742	956	1781	1870	1585	1781	1764	90
Grp Volume(v), veh/h	8	17	40	74	0	87	63	583	152	36	0	578
Grp Sat Flow(s),veh/h/ln	1310	1870	1585	1346	0	1698	1781	1870	1585	1781	0	1854
Q Serve(g_s), s	0.2	0.3	0.9	2.0	0.0	1.8	0.7	8.9	2.1	0.4	0.0	9.3
Cycle Q Clear(g_c), s	2.1	0.3	0.9	2.3	0.0	1.8	0.7	8.9	2.1	0.4	0.0	9.3
Prop In Lane	1.00		1.00	1.00		0.56	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	280	221	187	335	0	201	489	916	776	448	0	867
V/C Ratio(X)	0.03	0.08	0.21	0.22	0.00	0.43	0.13	0.64	0.20	0.08	0.00	0.67
Avail Cap(c_a), veh/h	737	874	741	805	0	794	607	916	776	605	0	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	15.1	15.4	16.1	0.0	15.8	5.6	7.3	5.5	5.6	0.0	7.9
Incr Delay (d2), s/veh	0.0	0.1	0.6	0.3	0.0	1.5	0.1	3.4	0.6	0.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.3	0.6	0.0	0.7	0.2	3.0	0.6	0.1	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	15.3	15.9	16.5	0.0	17.2	5.7	10.7	6.1	5.7	0.0	12.0
LnGrp LOS	B	B	B	B	A	B	A	B	A	A	A	B
Approach Vol, veh/h	65			161			798			614		
Approach Delay, s/veh	15.8			16.9			9.4			11.6		
Approach LOS	B			B			A			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.1	23.4	9.1		7.0	22.5	9.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	18.0		5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.4	10.9	4.1		2.7	11.3	4.3					
Green Ext Time (p_c), s	0.0	2.5	0.1		0.0	2.2	0.5					
Intersection Summary												
HCM 6th Ctrl Delay	11.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	46	88	114	55	89	103	455	119	37	434	64
Future Volume (veh/h)	28	46	88	114	55	89	103	455	119	37	434	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	50	96	124	60	97	112	495	129	40	472	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	345	292	368	119	192	467	858	727	457	664	98
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.46	0.46	0.04	0.42	0.42
Sat Flow, veh/h	1230	1870	1585	1242	643	1040	1781	1870	1585	1781	1592	236
Grp Volume(v), veh/h	30	50	96	124	0	157	112	495	129	40	0	542
Grp Sat Flow(s),veh/h/ln	1230	1870	1585	1242	0	1683	1781	1870	1585	1781	0	1828
Q Serve(g_s), s	1.0	1.0	2.3	4.0	0.0	3.6	1.4	8.4	2.1	0.5	0.0	10.6
Cycle Q Clear(g_c), s	4.6	1.0	2.3	5.0	0.0	3.6	1.4	8.4	2.1	0.5	0.0	10.6
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	291	345	292	368	0	311	467	858	727	457	0	762
V/C Ratio(X)	0.10	0.14	0.33	0.34	0.00	0.51	0.24	0.58	0.18	0.09	0.00	0.71
Avail Cap(c_a), veh/h	577	780	661	657	0	702	521	858	727	584	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	14.7	15.3	16.8	0.0	15.8	7.2	8.6	6.9	6.9	0.0	10.4
Incr Delay (d2), s/veh	0.2	0.2	0.6	0.5	0.0	1.3	0.3	2.8	0.5	0.1	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.8	1.1	0.0	1.3	0.4	3.1	0.6	0.2	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	14.9	15.9	17.4	0.0	17.1	7.5	11.4	7.4	7.0	0.0	16.0
LnGrp LOS	B	B	B	B	A	B	A	B	A	A	A	B
Approach Vol, veh/h	176			281			736			582		
Approach Delay, s/veh	16.0			17.2			10.1			15.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.4	24.3	12.5		8.2	22.5	12.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	18.0		5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.5	10.4	6.6		3.4	12.6	7.0					
Green Ext Time (p_c), s	0.0	2.2	0.5		0.0	1.7	1.0					
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

Intersection												
Intersection Delay, s/veh	11.6											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	69	29	22	86	39	29	219	27	35	154	13
Future Vol, veh/h	19	69	29	22	86	39	29	219	27	35	154	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	75	32	24	93	42	32	238	29	38	167	14
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.7	9.8	13.2	11.7
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	11%	100%	0%	0%	100%	0%	0%	17%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	76%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	19	69	29	22	86	39	202
LT Vol	29	19	0	0	22	0	0	35
Through Vol	219	0	69	0	0	86	0	154
RT Vol	27	0	0	29	0	0	39	13
Lane Flow Rate	299	21	75	32	24	93	42	220
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.467	0.039	0.132	0.049	0.045	0.163	0.066	0.353
Departure Headway (Hd)	5.626	6.849	6.338	5.622	6.793	6.282	5.566	5.784
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	523	566	636	527	571	643	624
Service Time	3.354	4.59	4.078	3.361	4.531	4.019	3.303	3.514
HCM Lane V/C Ratio	0.465	0.04	0.133	0.05	0.046	0.163	0.065	0.353
HCM Control Delay	13.2	9.9	10	8.7	9.9	10.2	8.7	11.7
HCM Lane LOS	B	A	A	A	A	B	A	B
HCM 95th-tile Q	2.5	0.1	0.5	0.2	0.1	0.6	0.2	1.6

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	109	65	40	123	40	40	124	48	40	247	44
Future Vol, veh/h	32	109	65	40	123	40	40	124	48	40	247	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	118	71	43	134	43	43	135	52	43	268	48
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.9	11.3	13.6	18.6
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	12%
Vol Thru, %	58%	0%	100%	0%	0%	100%	0%	75%
Vol Right, %	23%	0%	0%	100%	0%	0%	100%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	32	109	65	40	123	40	331
LT Vol	40	32	0	0	40	0	0	40
Through Vol	124	0	109	0	0	123	0	247
RT Vol	48	0	0	65	0	0	40	44
Lane Flow Rate	230	35	118	71	43	134	43	360
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.409	0.071	0.226	0.12	0.089	0.254	0.074	0.619
Departure Headway (Hd)	6.386	7.368	6.853	6.132	7.365	6.85	6.129	6.197
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	560	483	520	579	483	520	580	579
Service Time	4.166	5.161	4.645	3.924	5.158	4.642	3.92	3.966
HCM Lane V/C Ratio	0.411	0.072	0.227	0.123	0.089	0.258	0.074	0.622
HCM Control Delay	13.6	10.7	11.7	9.8	10.9	12	9.4	18.6
HCM Lane LOS	B	B	B	A	B	B	A	C
HCM 95th-tile Q	2	0.2	0.9	0.4	0.3	1	0.2	4.2

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	41	6	0	1	110	468	5	1	451	108
Future Volume (veh/h)	42	0	41	6	0	1	110	468	5	1	451	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	0	45	7	0	1	120	509	5	1	490	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	157	133	19	0	17	565	1865	18	595	1838	820
Arrive On Green	0.08	0.00	0.08	0.01	0.00	0.01	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	813	3605	35	887	3554	1585
Grp Volume(v), veh/h	46	0	45	7	0	1	120	251	263	1	490	117
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	813	1777	1864	887	1777	1585
Q Serve(g_s), s	0.8	0.0	0.9	0.1	0.0	0.0	3.4	2.8	2.8	0.0	2.7	1.3
Cycle Q Clear(g_c), s	0.8	0.0	0.9	0.1	0.0	0.0	6.1	2.8	2.8	2.8	2.7	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	150	157	133	19	0	17	565	919	964	595	1838	820
V/C Ratio(X)	0.31	0.00	0.34	0.37	0.00	0.06	0.21	0.27	0.27	0.00	0.27	0.14
Avail Cap(c_a), veh/h	921	968	820	921	0	820	565	919	964	595	1838	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	15.0	17.1	0.0	17.0	6.4	4.7	4.7	5.5	4.7	4.4
Incr Delay (d2), s/veh	1.1	0.0	1.5	11.4	0.0	1.4	0.9	0.7	0.7	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.1	0.0	0.0	0.4	0.6	0.6	0.0	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	0.0	16.5	28.5	0.0	18.5	7.3	5.5	5.4	5.5	5.1	4.7
LnGrp LOS	B	A	B	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h	91			8			634			608		
Approach Delay, s/veh	16.3			27.2			5.8			5.0		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			7.4			22.5			4.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	8.1			2.9			4.8			2.1		
Green Ext Time (p_c), s	2.6			0.2			2.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	6.3											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	3	111	3	0	1	64	417	5	2	389	93
Future Volume (veh/h)	141	3	111	3	0	1	64	417	5	2	389	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	3	121	3	0	1	70	453	5	2	423	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	270	228	10	0	9	560	1750	19	579	1727	770
Arrive On Green	0.14	0.14	0.14	0.01	0.00	0.01	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	878	3600	40	934	3554	1585
Grp Volume(v), veh/h	153	3	121	3	0	1	70	223	235	2	423	101
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	878	1777	1863	934	1777	1585
Q Serve(g_s), s	3.0	0.1	2.6	0.1	0.0	0.0	1.9	2.7	2.7	0.0	2.6	1.3
Cycle Q Clear(g_c), s	3.0	0.1	2.6	0.1	0.0	0.0	4.4	2.7	2.7	2.8	2.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	257	270	228	10	0	9	560	864	905	579	1727	770
V/C Ratio(X)	0.60	0.01	0.53	0.31	0.00	0.12	0.12	0.26	0.26	0.00	0.24	0.13
Avail Cap(c_a), veh/h	866	909	770	866	0	770	560	864	905	579	1727	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	13.6	14.7	18.3	0.0	18.3	6.9	5.6	5.6	6.4	5.6	5.2
Incr Delay (d2), s/veh	2.2	0.0	1.9	17.0	0.0	5.8	0.5	0.7	0.7	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.9	0.1	0.0	0.0	0.3	0.7	0.7	0.0	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	13.6	16.6	35.4	0.0	24.2	7.3	6.3	6.3	6.4	5.9	5.6
LnGrp LOS	B	B	B	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h	277			4			528			526		
Approach Delay, s/veh	16.8			32.6			6.4			5.8		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			9.8			22.5			4.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	6.4			5.0			4.8			2.1		
Green Ext Time (p_c), s	2.2			0.7			2.4			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.4											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	369	137	157	687	88	139	558	155	69	464	41
Future Volume (veh/h)	80	369	137	157	687	88	139	558	155	69	464	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	401	149	171	747	96	151	607	168	75	504	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	863	385	147	931	415	147	1135	506	105	978	87
Arrive On Green	0.06	0.24	0.24	0.08	0.26	0.26	0.08	0.32	0.32	0.06	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3300	294
Grp Volume(v), veh/h	87	401	149	171	747	96	151	607	168	75	271	278
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1817
Q Serve(g_s), s	2.9	5.9	4.8	5.0	11.9	2.9	5.0	8.5	4.9	2.5	7.7	7.7
Cycle Q Clear(g_c), s	2.9	5.9	4.8	5.0	11.9	2.9	5.0	8.5	4.9	2.5	7.7	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	113	863	385	147	931	415	147	1135	506	105	526	538
V/C Ratio(X)	0.77	0.46	0.39	1.17	0.80	0.23	1.03	0.53	0.33	0.71	0.51	0.52
Avail Cap(c_a), veh/h	147	1053	470	147	1053	470	147	1135	506	147	526	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	19.6	19.2	27.9	21.0	17.6	27.9	17.0	15.7	28.1	17.8	17.8
Incr Delay (d2), s/veh	16.8	0.4	0.6	126.1	4.1	0.3	82.5	1.8	1.8	9.3	3.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.3	1.7	7.1	5.1	1.0	5.4	3.4	1.9	1.3	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	20.0	19.9	154.0	25.0	17.9	110.4	18.8	17.5	37.4	21.3	21.3
LnGrp LOS	D	C	B	F	C	B	F	B	B	D	C	C
Approach Vol, veh/h	637			1014			926			624		
Approach Delay, s/veh	23.4			46.1			33.5			23.2		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	23.9	9.5	19.3	9.5	22.5	8.3	20.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	10.5	7.0	7.9	7.0	9.7	4.9	13.9				
Green Ext Time (p_c), s	0.0	2.8	0.0	2.3	0.0	2.0	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay	33.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	845	152	182	475	56	136	469	162	125	527	56
Future Volume (veh/h)	98	845	152	182	475	56	136	469	162	125	527	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	918	165	198	516	61	148	510	176	136	573	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	999	446	139	1004	448	139	999	446	139	912	97
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3241	344
Grp Volume(v), veh/h	107	918	165	198	516	61	148	510	176	136	314	320
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1808
Q Serve(g_s), s	3.8	16.0	5.3	5.0	7.8	1.8	5.0	7.7	5.7	4.9	9.9	9.9
Cycle Q Clear(g_c), s	3.8	16.0	5.3	5.0	7.8	1.8	5.0	7.7	5.7	4.9	9.9	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	137	999	446	139	1004	448	139	999	446	139	500	509
V/C Ratio(X)	0.78	0.92	0.37	1.42	0.51	0.14	1.06	0.51	0.39	0.98	0.63	0.63
Avail Cap(c_a), veh/h	139	999	446	139	1004	448	139	999	446	139	500	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	22.3	18.5	29.5	19.3	17.1	29.5	19.3	18.6	29.4	20.1	20.1
Incr Delay (d2), s/veh	24.2	13.1	0.5	226.8	0.4	0.1	94.2	1.9	2.6	69.1	5.9	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.9	1.9	10.8	3.0	0.6	5.7	3.2	2.3	4.7	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	35.3	19.0	256.3	19.7	17.3	123.7	21.2	21.2	98.6	25.9	25.9
LnGrp LOS	D	D	B	F	B	B	F	C	C	F	C	C
Approach Vol, veh/h		1190			775			834			770	
Approach Delay, s/veh		34.7			80.0			39.4			38.8	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.4	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.9	9.7	7.0	18.0	7.0	11.9	5.8	9.8				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.0	0.0	2.0	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			46.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	491	33	38	836	71	37	124	15	65	93	65
Future Volume (veh/h)	54	491	33	38	836	71	37	124	15	65	93	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	534	36	41	909	77	40	135	16	71	101	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	1311	88	393	1286	109	188	556	59	705	763	647
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	571	3379	227	842	3316	281	219	1362	145	1236	1870	1585
Grp Volume(v), veh/h	59	280	290	41	487	499	191	0	0	71	101	71
Grp Sat Flow(s),veh/h/ln	571	1777	1829	842	1777	1820	1726	0	0	1236	1870	1585
Q Serve(g_s), s	4.3	5.1	5.1	1.6	10.2	10.2	0.0	0.0	0.0	0.0	1.5	1.2
Cycle Q Clear(g_c), s	14.5	5.1	5.1	6.7	10.2	10.2	3.0	0.0	0.0	1.1	1.5	1.2
Prop In Lane	1.00		0.12	1.00		0.15	0.21		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	253	689	710	393	689	706	803	0	0	705	763	647
V/C Ratio(X)	0.23	0.41	0.41	0.10	0.71	0.71	0.24	0.00	0.00	0.10	0.13	0.11
Avail Cap(c_a), veh/h	264	725	746	410	725	743	803	0	0	705	763	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	9.8	9.8	12.3	11.4	11.4	8.6	0.0	0.0	8.1	8.2	8.1
Incr Delay (d2), s/veh	0.5	0.4	0.4	0.1	3.0	2.9	0.7	0.0	0.0	0.3	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.6	1.7	0.3	3.7	3.7	1.1	0.0	0.0	0.4	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	10.2	10.2	12.4	14.4	14.3	9.3	0.0	0.0	8.3	8.5	8.4
LnGrp LOS	B	B	B	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	629			1027			191			243		
Approach Delay, s/veh	10.9			14.3			9.3			8.4		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			21.6			22.5			21.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	5.0			16.5			3.5			12.2		
Green Ext Time (p_c), s	0.9			0.6			0.8			3.1		
Intersection Summary												
HCM 6th Ctrl Delay	12.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	961	29	23	579	45	31	50	47	113	121	111
Future Volume (veh/h)	66	961	29	23	579	45	31	50	47	113	121	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	1045	32	25	629	49	34	54	51	123	132	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1334	41	227	1266	99	212	319	248	724	774	656
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	762	3520	108	524	3341	260	264	770	599	1289	1870	1585
Grp Volume(v), veh/h	72	527	550	25	334	344	139	0	0	123	132	121
Grp Sat Flow(s),veh/h/ln	762	1777	1851	524	1777	1824	1634	0	0	1289	1870	1585
Q Serve(g_s), s	3.5	11.4	11.4	1.9	6.3	6.3	0.0	0.0	0.0	0.0	1.9	2.1
Cycle Q Clear(g_c), s	9.7	11.4	11.4	13.3	6.3	6.3	2.2	0.0	0.0	1.9	1.9	2.1
Prop In Lane	1.00		0.06	1.00		0.14	0.24		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	344	674	702	227	674	691	779	0	0	724	774	656
V/C Ratio(X)	0.21	0.78	0.78	0.11	0.50	0.50	0.18	0.00	0.00	0.17	0.17	0.18
Avail Cap(c_a), veh/h	371	735	766	245	735	755	779	0	0	724	774	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	11.9	11.9	17.8	10.3	10.3	8.1	0.0	0.0	8.0	8.0	8.1
Incr Delay (d2), s/veh	0.3	5.1	4.9	0.2	0.6	0.6	0.5	0.0	0.0	0.5	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.4	4.6	0.2	2.0	2.1	0.7	0.0	0.0	0.7	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	17.0	16.8	18.0	10.9	10.9	8.6	0.0	0.0	8.5	8.5	8.7
LnGrp LOS	B	B	B	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1149			703			139			376		
Approach Delay, s/veh	16.8			11.1			8.6			8.6		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			21.0			22.5			21.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	4.2			13.4			4.1			15.3		
Green Ext Time (p_c), s	0.6			2.8			1.3			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	13.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	372	34	33	624	84	91	346	47	52	218	206
Future Volume (veh/h)	139	372	34	33	624	84	91	346	47	52	218	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	404	37	36	678	91	99	376	51	57	237	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	1003	91	67	820	110	127	988	133	90	549	465
Arrive On Green	0.08	0.30	0.30	0.04	0.26	0.26	0.07	0.31	0.31	0.05	0.29	0.29
Sat Flow, veh/h	1781	3293	300	1781	3149	422	1781	3147	424	1781	1870	1585
Grp Volume(v), veh/h	151	217	224	36	382	387	99	211	216	57	237	224
Grp Sat Flow(s),veh/h/ln	1781	1777	1816	1781	1777	1794	1781	1777	1794	1781	1870	1585
Q Serve(g_s), s	5.0	5.9	6.0	1.2	12.4	12.5	3.4	5.7	5.8	1.9	6.3	7.1
Cycle Q Clear(g_c), s	5.0	5.9	6.0	1.2	12.4	12.5	3.4	5.7	5.8	1.9	6.3	7.1
Prop In Lane	1.00		0.17	1.00		0.24	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	145	541	553	67	463	467	127	558	563	90	549	465
V/C Ratio(X)	1.04	0.40	0.40	0.54	0.83	0.83	0.78	0.38	0.38	0.63	0.43	0.48
Avail Cap(c_a), veh/h	145	541	553	145	521	527	145	558	563	145	549	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	16.9	16.9	29.0	21.4	21.4	28.0	16.4	16.4	28.6	17.5	17.8
Incr Delay (d2), s/veh	85.6	0.5	0.5	6.7	9.6	9.6	21.0	2.0	2.0	7.1	2.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	2.1	2.2	0.6	5.7	5.8	2.1	2.4	2.4	1.0	2.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.8	17.4	17.4	35.7	31.0	31.0	49.0	18.3	18.4	35.6	20.0	21.4
LnGrp LOS	F	B	B	D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		592			805			526			518	
Approach Delay, s/veh		42.0			31.2			24.1			22.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	23.8	6.8	23.2	8.9	22.5	9.5	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.9	7.8	3.2	8.0	5.4	9.1	7.0	14.5				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.6	0.0	1.5	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay				30.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	895	51	63	424	51	73	280	56	84	291	170
Future Volume (veh/h)	154	895	51	63	424	51	73	280	56	84	291	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	973	55	68	461	55	79	304	61	91	316	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	1002	57	100	856	102	107	866	171	116	557	472
Arrive On Green	0.08	0.29	0.29	0.06	0.27	0.27	0.06	0.29	0.29	0.07	0.30	0.30
Sat Flow, veh/h	1781	3419	193	1781	3199	380	1781	2956	585	1781	1870	1585
Grp Volume(v), veh/h	167	506	522	68	255	261	79	181	184	91	316	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1836	1781	1777	1802	1781	1777	1765	1781	1870	1585
Q Serve(g_s), s	5.0	17.3	17.3	2.3	7.5	7.6	2.7	4.9	5.1	3.1	8.8	5.7
Cycle Q Clear(g_c), s	5.0	17.3	17.3	2.3	7.5	7.6	2.7	4.9	5.1	3.1	8.8	5.7
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	145	520	538	100	475	482	107	520	517	116	557	472
V/C Ratio(X)	1.15	0.97	0.97	0.68	0.54	0.54	0.74	0.35	0.36	0.78	0.57	0.39
Avail Cap(c_a), veh/h	145	520	538	145	520	528	145	520	517	145	557	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	21.5	21.5	28.5	19.3	19.3	28.4	17.1	17.1	28.3	18.2	17.1
Incr Delay (d2), s/veh	121.5	32.1	31.5	8.0	0.9	0.9	12.2	1.8	1.9	19.3	4.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	10.7	10.9	1.1	2.9	2.9	1.4	2.1	2.1	1.9	4.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.7	53.6	53.0	36.5	20.2	20.2	40.6	18.9	19.1	47.6	22.4	19.6
LnGrp LOS	F	D	D	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h	1195			584			444			592		
Approach Delay, s/veh	66.8			22.1			22.8			25.4		
Approach LOS	E			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	22.5	7.9	22.5	8.2	22.8	9.5	20.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.1	7.1	4.3	19.3	4.7	10.8	7.0	9.6				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	1.6	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	41.9											
HCM 6th LOS	D											

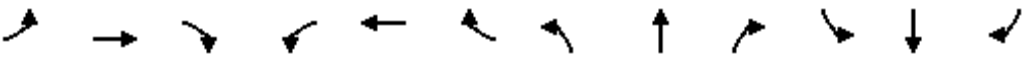
Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	122	48	403	389	22
Future Vol, veh/h	30	122	48	403	389	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	133	52	438	423	24
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	758	224	447	0	-	0
Stage 1	435	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	343	779	1110	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	779	1110	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1110	-	612	-	-	
HCM Lane V/C Ratio	0.047	-	0.27	-	-	
HCM Control Delay (s)	8.4	-	13	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-	

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	121	58	464	414	30
Future Vol, veh/h	44	121	58	464	414	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	132	63	504	450	33
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	845	242	483	0	-	0
Stage 1	467	-	-	-	-	-
Stage 2	378	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	302	759	1076	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	284	759	1076	-	-	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.4	1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1076	-	525	-	-	
HCM Lane V/C Ratio	0.059	-	0.342	-	-	
HCM Control Delay (s)	8.6	-	15.4	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-	

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑		↔	↑↑↑	
Traffic Volume (veh/h)	0	0	0	65	0	73	0	427	51	56	506	1
Future Volume (veh/h)	0	0	0	65	0	73	0	427	51	56	506	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	68	0	77	0	449	54	59	533	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	120	194	164	5	1525	183	211	3462	6
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.10	0.00	0.48	0.48	0.06	0.66	0.66
Sat Flow, veh/h	0	-58771	0	1781	1870	1585	1781	3196	383	3456	5263	10
Grp Volume(v), veh/h	0	0	0	68	0	77	0	249	254	59	345	189
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1802	1728	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	1.4	0.0	1.7	0.0	3.2	3.2	0.6	1.5	1.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.4	0.0	1.7	0.0	3.2	3.2	0.6	1.5	1.5
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.21	1.00		0.01
Lane Grp Cap(c), veh/h	0	5	0	120	194	164	5	848	860	211	2239	1229
V/C Ratio(X)	0.00	0.00	0.00	0.57	0.00	0.47	0.00	0.29	0.30	0.28	0.15	0.15
Avail Cap(c_a), veh/h	0	893	0	236	893	757	236	848	860	458	2239	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	15.9	0.0	6.0	6.0	16.9	2.5	2.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.1	0.0	2.1	0.0	0.9	0.9	0.7	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.6	0.0	0.8	0.8	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.2	0.0	18.0	0.0	6.9	6.9	17.6	2.6	2.7
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h		0			145			503			593	
Approach Delay, s/veh		0.0			19.5			6.9			4.1	
Approach LOS					B			A			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	22.5	7.0	1.4	0.0	29.3		8.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	5.2	3.4	0.0	0.0	3.5		3.7				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	2.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				7.0								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	85	0	71	1	550	70	34	634	0
Future Volume (veh/h)	0	0	0	85	0	71	1	550	70	34	634	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	89	0	75	1	579	74	36	667	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	144	205	174	5	1537	196	144	2682	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.48	0.48	0.04	0.53	0.00
Sat Flow, veh/h	0	-64051	0	1781	1870	1585	1781	3170	404	3456	5274	0
Grp Volume(v), veh/h	0	0	0	89	0	75	1	324	329	36	667	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1798	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	1.6	0.0	4.3	4.3	0.4	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.8	0.0	1.6	0.0	4.3	4.3	0.4	2.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	144	205	174	5	861	871	144	2682	0
V/C Ratio(X)	0.00	0.00	0.00	0.62	0.00	0.43	0.21	0.38	0.38	0.25	0.25	0.00
Avail Cap(c_a), veh/h	0	907	0	240	907	768	240	861	871	465	2682	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	15.4	18.5	6.0	6.0	17.2	4.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.3	0.0	1.7	20.2	1.3	1.2	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.6	0.0	1.3	1.3	0.1	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.8	0.0	17.1	38.7	7.3	7.3	18.1	5.0	0.0
LnGrp LOS	A	A	A	C	A	B	D	A	A	B	A	A
Approach Vol, veh/h	0			164			654			703		
Approach Delay, s/veh	0.0			19.1			7.3			5.7		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.1	22.5	7.5	1.1	4.6	24.0	8.6					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.4	6.3	3.8	0.0	2.0	4.6	3.6					
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	3.8	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				7.8								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	394	72	206	485	53	94	37	189	67	67	64
Future Volume (veh/h)	41	394	72	206	485	53	94	37	189	67	67	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	428	78	224	527	58	102	40	205	73	73	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	722	322	194	941	420	611	698	623	501	713	611
Arrive On Green	0.05	0.20	0.20	0.11	0.26	0.26	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1245	1777	1585	1135	1814	1554
Grp Volume(v), veh/h	45	428	78	224	527	58	102	40	205	73	71	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1245	1777	1585	1135	1777	1591
Q Serve(g_s), s	1.1	5.0	1.9	5.0	5.9	1.3	2.6	0.6	4.1	2.2	1.2	1.3
Cycle Q Clear(g_c), s	1.1	5.0	1.9	5.0	5.9	1.3	3.9	0.6	4.1	6.3	1.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	85	722	322	194	941	420	611	698	623	501	698	625
V/C Ratio(X)	0.53	0.59	0.24	1.15	0.56	0.14	0.17	0.06	0.33	0.15	0.10	0.11
Avail Cap(c_a), veh/h	194	1396	623	194	1396	623	611	698	623	501	698	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	16.5	15.3	20.4	14.5	12.9	10.1	8.6	9.7	11.9	8.8	8.8
Incr Delay (d2), s/veh	5.1	0.8	0.4	111.5	0.5	0.1	0.6	0.2	1.4	0.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.8	0.6	7.9	2.1	0.4	0.7	0.2	1.4	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	17.3	15.7	131.9	15.1	13.0	10.7	8.8	11.1	12.5	9.1	9.2
LnGrp LOS	C	B	B	F	B	B	B	A	B	B	A	A
Approach Vol, veh/h		551			809			347			216	
Approach Delay, s/veh		17.8			47.3			10.7			10.3	
Approach LOS		B			D			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.5	13.8		22.5	6.7	16.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		6.1	7.0	7.0		8.3	3.1	7.9				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.7	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	425	77	195	437	43	95	47	158	56	54	55
Future Volume (veh/h)	35	425	77	195	437	43	95	47	158	56	54	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	462	84	212	475	47	103	51	172	61	59	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	759	338	192	993	443	618	689	615	518	689	615
Arrive On Green	0.04	0.21	0.21	0.11	0.28	0.28	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1273	1777	1585	1158	1777	1585
Grp Volume(v), veh/h	38	462	84	212	475	47	103	51	172	61	59	60
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1273	1777	1585	1158	1777	1585
Q Serve(g_s), s	1.0	5.5	2.0	5.0	5.2	1.0	2.6	0.8	3.5	1.8	1.0	1.1
Cycle Q Clear(g_c), s	1.0	5.5	2.0	5.0	5.2	1.0	3.7	0.8	3.5	5.2	1.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	759	338	192	993	443	618	689	615	518	689	615
V/C Ratio(X)	0.51	0.61	0.25	1.10	0.48	0.11	0.17	0.07	0.28	0.12	0.09	0.10
Avail Cap(c_a), veh/h	192	1378	615	192	1378	615	618	689	615	518	689	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	16.5	15.2	20.7	13.9	12.4	10.2	9.0	9.8	11.5	9.0	9.0
Incr Delay (d2), s/veh	5.3	0.8	0.4	95.8	0.4	0.1	0.6	0.2	1.1	0.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.0	0.7	7.0	1.8	0.3	0.7	0.3	1.2	0.4	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	17.3	15.5	116.5	14.3	12.5	10.8	9.2	10.9	12.0	9.2	9.4
LnGrp LOS	C	B	B	F	B	B	B	A	B	B	A	A
Approach Vol, veh/h		584			734			326			180	
Approach Delay, s/veh		17.7			43.7			10.6			10.2	
Approach LOS		B			D			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.5	14.4		22.5	6.4	17.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		5.7	7.0	7.5		7.2	3.0	7.2				
Green Ext Time (p_c), s		1.3	0.0	2.5		0.6	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	496	65	84	474	81	103	88	70	89	81	137
Future Volume (veh/h)	71	496	65	84	474	81	103	88	70	89	81	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	539	71	91	515	88	112	96	76	97	88	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	848	378	133	872	389	631	734	622	624	734	622
Arrive On Green	0.07	0.24	0.24	0.07	0.25	0.25	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1309	1870	1585	1300	1870	1585
Grp Volume(v), veh/h	77	539	71	91	515	88	112	96	76	97	88	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1309	1870	1585	1300	1870	1585
Q Serve(g_s), s	1.9	6.2	1.6	2.3	5.9	2.0	2.7	1.5	1.4	2.4	1.4	2.9
Cycle Q Clear(g_c), s	1.9	6.2	1.6	2.3	5.9	2.0	4.1	1.5	1.4	3.9	1.4	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	848	378	133	872	389	631	734	622	624	734	622
V/C Ratio(X)	0.63	0.64	0.19	0.68	0.59	0.23	0.18	0.13	0.12	0.16	0.12	0.24
Avail Cap(c_a), veh/h	194	1394	622	194	1394	622	631	734	622	624	734	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	15.7	13.9	20.7	15.3	13.8	10.2	8.9	8.9	10.2	8.9	9.4
Incr Delay (d2), s/veh	5.4	0.8	0.2	6.0	0.6	0.3	0.6	0.4	0.4	0.5	0.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.3	0.5	1.1	2.1	0.7	0.7	0.6	0.5	0.6	0.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	16.5	14.2	26.7	15.9	14.1	10.8	9.3	9.3	10.7	9.2	10.3
LnGrp LOS	C	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		687			694			284			334	
Approach Delay, s/veh		17.3			17.1			9.9			10.1	
Approach LOS		B			B			A			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	7.9	15.4		22.5	7.6	15.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		6.1	4.3	8.2		5.9	3.9	7.9				
Green Ext Time (p_c), s		0.9	0.0	2.7		1.0	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	516	60	81	399	65	96	83	68	84	113	128
Future Volume (veh/h)	62	516	60	81	399	65	96	83	68	84	113	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	561	65	88	434	71	104	90	74	91	123	139
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	869	387	131	907	405	596	729	618	625	729	618
Arrive On Green	0.06	0.24	0.24	0.07	0.26	0.26	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1268	1870	1585	1307	1870	1585
Grp Volume(v), veh/h	67	561	65	88	434	71	104	90	74	91	123	139
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1268	1870	1585	1307	1870	1585
Q Serve(g_s), s	1.7	6.5	1.5	2.2	4.8	1.6	2.7	1.4	1.4	2.2	2.0	2.7
Cycle Q Clear(g_c), s	1.7	6.5	1.5	2.2	4.8	1.6	4.7	1.4	1.4	3.6	2.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	869	387	131	907	405	596	729	618	625	729	618
V/C Ratio(X)	0.60	0.65	0.17	0.67	0.48	0.18	0.17	0.12	0.12	0.15	0.17	0.22
Avail Cap(c_a), veh/h	193	1385	618	193	1385	618	596	729	618	625	729	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	15.6	13.7	20.9	14.6	13.4	10.7	9.0	9.0	10.2	9.2	9.4
Incr Delay (d2), s/veh	5.2	0.8	0.2	5.9	0.4	0.2	0.6	0.3	0.4	0.5	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.4	0.5	1.0	1.7	0.5	0.7	0.5	0.5	0.6	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	16.5	13.9	26.8	15.0	13.6	11.4	9.4	9.4	10.7	9.7	10.3
LnGrp LOS	C	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h	693			593			268			353		
Approach Delay, s/veh	17.2			16.6			10.2			10.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	22.5		7.9	15.8		22.5		7.4	16.3			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.0		5.0	18.0		18.0		5.0	18.0			
Max Q Clear Time (g_c+I1), s	6.7		4.2	8.5		5.6		3.7	6.8			
Green Ext Time (p_c), s	0.8		0.0	2.7		1.1		0.0	2.3			
Intersection Summary												
HCM 6th Ctrl Delay	14.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	508	139	444	486	130	124	102	439	140	87	49
Future Volume (veh/h)	33	508	139	444	486	130	124	102	439	140	87	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	552	151	483	528	141	135	111	477	152	95	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	774	345	295	942	420	608	574	486	489	710	370
Arrive On Green	0.04	0.22	0.22	0.09	0.27	0.27	0.08	0.31	0.31	0.08	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2257	1178
Grp Volume(v), veh/h	36	552	151	483	528	141	135	111	477	152	73	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1658
Q Serve(g_s), s	1.2	8.4	4.8	5.0	7.5	4.2	3.0	2.6	17.5	3.3	1.7	1.9
Cycle Q Clear(g_c), s	1.2	8.4	4.8	5.0	7.5	4.2	3.0	2.6	17.5	3.3	1.7	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	67	774	345	295	942	420	608	574	486	489	559	521
V/C Ratio(X)	0.53	0.71	0.44	1.64	0.56	0.34	0.22	0.19	0.98	0.31	0.13	0.14
Avail Cap(c_a), veh/h	152	1091	486	295	1091	486	624	574	486	492	559	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	21.3	19.8	26.8	18.6	17.4	12.1	15.0	20.2	12.0	14.4	14.4
Incr Delay (d2), s/veh	6.4	1.3	0.9	302.7	0.5	0.5	0.2	0.8	36.3	0.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	1.6	14.2	2.7	1.4	1.0	1.1	10.2	1.1	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	22.5	20.7	329.6	19.1	17.9	12.3	15.7	56.5	12.4	14.9	15.0
LnGrp LOS	C	C	C	F	B	B	B	B	E	B	B	B
Approach Vol, veh/h		739			1152			723			300	
Approach Delay, s/veh		22.7			149.1			42.0			13.6	
Approach LOS		C			F			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	22.5	9.5	17.3	8.9	22.9	6.7	20.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.3	19.5	7.0	10.4	5.0	3.9	3.2	9.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	0.6	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay				76.5								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	567	111	362	475	115	90	99	454	131	74	25
Future Volume (veh/h)	32	567	111	362	475	115	90	99	454	131	74	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	616	121	393	516	125	98	108	493	142	80	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	825	368	290	993	443	616	566	479	474	829	268
Arrive On Green	0.04	0.23	0.23	0.08	0.28	0.28	0.07	0.30	0.30	0.08	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2641	852
Grp Volume(v), veh/h	35	616	121	393	516	125	98	108	493	142	53	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1717
Q Serve(g_s), s	1.1	9.6	3.8	5.0	7.3	3.7	2.2	2.5	18.0	3.2	1.2	1.3
Cycle Q Clear(g_c), s	1.1	9.6	3.8	5.0	7.3	3.7	2.2	2.5	18.0	3.2	1.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	66	825	368	290	993	443	616	566	479	474	558	539
V/C Ratio(X)	0.53	0.75	0.33	1.35	0.52	0.28	0.16	0.19	1.03	0.30	0.09	0.10
Avail Cap(c_a), veh/h	150	1075	479	290	1075	479	646	566	479	483	558	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	21.2	19.0	27.3	18.1	16.8	12.5	15.4	20.8	12.4	14.4	14.5
Incr Delay (d2), s/veh	6.5	2.1	0.5	180.1	0.4	0.3	0.1	0.7	48.6	0.4	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.2	9.1	2.6	1.2	0.8	1.1	11.9	1.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	23.3	19.5	207.4	18.5	17.1	12.6	16.1	69.3	12.8	14.8	14.8
LnGrp LOS	C	C	B	F	B	B	B	B	F	B	B	B
Approach Vol, veh/h		772			1034			699			249	
Approach Delay, s/veh		23.2			90.1			53.2			13.7	
Approach LOS		C			F			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	22.5	9.5	18.3	8.5	23.2	6.7	21.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.2	20.0	7.0	11.6	4.2	3.3	3.1	9.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.4	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			55.1									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	558	425	61	466	315	161	0	548	87	0	427
Future Volume (veh/h)	115	558	425	61	466	315	161	0	548	87	0	427
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	125	607	462	66	507	342	175	0	596	95	0	464
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	183	1437	641	122	1316	587	222	0	0	156	0	0
Arrive On Green	0.10	0.40	0.40	0.07	0.37	0.37	0.12	0.00	0.00	0.09	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	175		1781	95	
Grp Volume(v), veh/h	125	607	462	66	507	342	175	26.7		95	18.6	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	C		1781	B	
Q Serve(g_s), s	2.3	4.1	8.2	1.2	3.5	5.8	3.2			1.7		
Cycle Q Clear(g_c), s	2.3	4.1	8.2	1.2	3.5	5.8	3.2			1.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	183	1437	641	122	1316	587	222			156		
V/C Ratio(X)	0.68	0.42	0.72	0.54	0.39	0.58	0.79			0.61		
Avail Cap(c_a), veh/h	266	1907	851	266	1907	851	266			266		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	14.5	7.2	8.4	15.1	7.8	8.5	14.2			14.7		
Incr Delay (d2), s/veh	4.5	0.2	2.0	3.7	0.2	0.9	12.4			3.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.8	1.6	0.5	0.7	1.1	1.7			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	7.4	10.4	18.8	7.9	9.4	26.7			18.6		
LnGrp LOS	B	A	B	B	A	A	C			B		
Approach Vol, veh/h		1194			915							
Approach Delay, s/veh		9.8			9.3							
Approach LOS		A			A							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	7.4		6.8	18.1	8.7		7.9	16.9				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.0		5.0	18.0	5.0		5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.7		3.2	10.2	5.2		4.3	7.8				
Green Ext Time (p_c), s	0.0		0.0	3.3	0.0		0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			11.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	160	561	430	46	403	327	116	0	661	73	0	434
Future Volume (veh/h)	160	561	430	46	403	327	116	0	661	73	0	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	174	610	467	50	438	355	126	0	718	79	0	472
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	221	1478	659	100	1237	552	188	0	0	141	0	0
Arrive On Green	0.12	0.42	0.42	0.06	0.35	0.35	0.11	0.00	0.00	0.08	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	126		1781	79	
Grp Volume(v), veh/h	174	610	467	50	438	355	126	17.9		79	17.7	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	3.0	3.9	7.8	0.9	2.9	6.0	2.2			1.4		
Cycle Q Clear(g_c), s	3.0	3.9	7.8	0.9	2.9	6.0	2.2			1.4		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	221	1478	659	100	1237	552	188			141		
V/C Ratio(X)	0.79	0.41	0.71	0.50	0.35	0.64	0.67			0.56		
Avail Cap(c_a), veh/h	279	2003	893	279	2003	893	279			279		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	13.6	6.6	7.7	14.6	7.7	8.7	13.8			14.2		
Incr Delay (d2), s/veh	11.2	0.2	1.7	3.8	0.2	1.3	4.1			3.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.6	1.4	0.4	0.6	1.2	0.8			0.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	6.8	9.4	18.5	7.9	10.0	17.9			17.7		
LnGrp LOS	C	A	A	B	A	B	B			B		
Approach Vol, veh/h		1251			843							
Approach Delay, s/veh		10.2			9.4							
Approach LOS		B			A							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	7.0		6.3	17.8	7.9		8.5	15.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.0		5.0	18.0	5.0		5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.4		2.9	9.8	4.2		5.0	8.0				
Green Ext Time (p_c), s	0.0		0.0	3.5	0.0		0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	0	17	1	0	0	18	420	1	1	418	194
Future Volume (vph)	221	0	17	1	0	0	18	420	1	1	418	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.49	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3538		909	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	0	18	1	0	0	20	457	1	1	454	211
RTOR Reduction (vph)	0	104	14	0	0	0	0	0	0	0	0	115
Lane Group Flow (vph)	120	18	2	0	1	0	20	458	0	1	454	96
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	7.3	7.3	7.3		0.8		0.7	27.7		22.5	22.5	22.5
Effective Green, g (s)	7.3	7.3	7.3		0.8		0.7	27.7		22.5	22.5	22.5
Actuated g/C Ratio	0.15	0.15	0.15		0.02		0.01	0.56		0.46	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	248	238	222		30		25	1987		414	1615	722
v/s Ratio Prot	c0.07	0.01					0.01	c0.13			c0.13	
v/s Ratio Perm			0.00		c0.00					0.00		0.06
v/c Ratio	0.48	0.08	0.01		0.03		0.80	0.23		0.00	0.28	0.13
Uniform Delay, d1	19.3	18.1	17.9		23.9		24.2	5.4		7.3	8.4	7.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	0.1	0.0		0.5		95.2	0.3		0.0	0.4	0.4
Delay (s)	20.8	18.2	17.9		24.3		119.4	5.7		7.3	8.8	8.1
Level of Service	C	B	B		C		F	A		A	A	A
Approach Delay (s)		19.4			24.3			10.5			8.6	
Approach LOS		B			C			B			A	
Intersection Summary												
HCM 2000 Control Delay			11.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.34									
Actuated Cycle Length (s)			49.3				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			31.6%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	0	22	4	7	1	12	340	2	2	383	187
Future Volume (vph)	224	0	22	4	7	1	12	340	2	2	383	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1815		1770	3536		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.53	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1843		1770	3536		988	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	243	0	24	4	8	1	13	370	2	2	416	203
RTOR Reduction (vph)	0	106	19	0	1	0	0	0	0	0	0	110
Lane Group Flow (vph)	121	18	3	0	12	0	13	372	0	2	416	93
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	7.2	7.2	7.2		0.9		0.7	27.8		22.6	22.6	22.6
Effective Green, g (s)	7.2	7.2	7.2		0.9		0.7	27.8		22.6	22.6	22.6
Actuated g/C Ratio	0.15	0.15	0.15		0.02		0.01	0.56		0.46	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	245	234	219		33		25	1989		452	1619	724
v/s Ratio Prot	c0.07	0.01					0.01	c0.11			c0.12	
v/s Ratio Perm			0.00		c0.01					0.00		0.06
v/c Ratio	0.49	0.08	0.01		0.36		0.52	0.19		0.00	0.26	0.13
Uniform Delay, d1	19.4	18.2	18.1		24.0		24.2	5.3		7.3	8.2	7.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1	0.0		6.7		18.1	0.2		0.0	0.4	0.4
Delay (s)	21.0	18.4	18.1		30.7		42.3	5.5		7.3	8.6	8.1
Level of Service	C	B	B		C		D	A		A	A	A
Approach Delay (s)		19.5			30.7			6.7			8.4	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			49.4				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			31.2%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	589	130	138	606	80	173	254	136	122	227	65
Future Volume (veh/h)	56	589	130	138	606	80	173	254	136	122	227	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	640	141	150	659	87	188	276	148	133	247	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	760	167	143	1032	460	143	652	340	143	540	457
Arrive On Green	0.05	0.26	0.26	0.08	0.29	0.29	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	2896	637	1781	3554	1585	1781	2259	1177	1781	1870	1585
Grp Volume(v), veh/h	61	392	389	150	659	87	188	215	209	133	247	71
Grp Sat Flow(s),veh/h/ln	1781	1777	1756	1781	1777	1585	1781	1777	1659	1781	1870	1585
Q Serve(g_s), s	2.1	13.0	13.1	5.0	10.1	2.6	5.0	6.1	6.4	4.6	6.8	2.1
Cycle Q Clear(g_c), s	2.1	13.0	13.1	5.0	10.1	2.6	5.0	6.1	6.4	4.6	6.8	2.1
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	93	467	461	143	1032	460	143	513	479	143	540	457
V/C Ratio(X)	0.65	0.84	0.84	1.05	0.64	0.19	1.32	0.42	0.44	0.93	0.46	0.16
Avail Cap(c_a), veh/h	143	513	507	143	1032	460	143	513	479	143	540	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	21.8	21.8	28.7	19.3	16.6	28.7	18.0	18.1	28.5	18.2	16.5
Incr Delay (d2), s/veh	7.6	11.1	11.4	89.4	1.3	0.2	183.3	2.5	2.9	55.0	2.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.2	6.2	5.5	3.8	0.8	9.3	2.6	2.6	4.1	3.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	32.9	33.2	118.1	20.6	16.8	212.0	20.5	20.9	83.5	21.0	17.3
LnGrp LOS	D	C	C	F	C	B	F	C	C	F	C	B
Approach Vol, veh/h		842			896			612			451	
Approach Delay, s/veh		33.3			36.6			79.5			38.8	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	20.9	9.5	22.5	7.8	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.6	8.4	7.0	15.1	7.0	8.8	4.1	12.1				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.3	0.0	1.1	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			45.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	601	107	114	519	75	165	222	131	114	212	82
Future Volume (veh/h)	48	601	107	114	519	75	165	222	131	114	212	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	653	116	124	564	82	179	241	142	124	230	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	784	139	143	1040	464	143	632	359	143	542	459
Arrive On Green	0.05	0.26	0.26	0.08	0.29	0.29	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	3016	535	1781	3554	1585	1781	2183	1241	1781	1870	1585
Grp Volume(v), veh/h	52	384	385	124	564	82	179	194	189	124	230	89
Grp Sat Flow(s),veh/h/ln	1781	1777	1774	1781	1777	1585	1781	1777	1647	1781	1870	1585
Q Serve(g_s), s	1.8	12.7	12.7	4.3	8.3	2.4	5.0	5.4	5.7	4.3	6.2	2.6
Cycle Q Clear(g_c), s	1.8	12.7	12.7	4.3	8.3	2.4	5.0	5.4	5.7	4.3	6.2	2.6
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	85	462	461	143	1040	464	143	515	477	143	542	459
V/C Ratio(X)	0.61	0.83	0.83	0.87	0.54	0.18	1.25	0.38	0.40	0.87	0.42	0.19
Avail Cap(c_a), veh/h	143	515	514	143	1040	464	143	515	477	143	542	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	21.7	21.7	28.2	18.5	16.4	28.6	17.6	17.7	28.2	17.9	16.6
Incr Delay (d2), s/veh	7.0	10.3	10.5	38.8	0.6	0.2	157.0	2.1	2.4	38.8	2.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.9	6.0	3.2	3.1	0.8	8.2	2.3	2.3	3.3	2.8	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	32.0	32.2	67.0	19.1	16.6	185.6	19.7	20.2	67.0	20.3	17.6
LnGrp LOS	D	C	C	E	B	B	F	B	C	E	C	B
Approach Vol, veh/h		821			770			562			443	
Approach Delay, s/veh		32.3			26.5			72.7			32.8	
Approach LOS		C			C			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	20.6	9.5	22.5	7.5	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.3	7.7	6.3	14.7	7.0	8.2	3.8	10.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.4	0.0	1.1	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			39.4									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	784	54	71	760	11	0	0	102	0	0	45
Future Vol, veh/h	44	784	54	71	760	11	0	0	102	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	852	59	77	826	12	0	0	111	0	0	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	838	0	0	911	0	0	-	-	426	-	-	413
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	792	-	-	743	-	-	0	0	577	0	0	588
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	792	-	-	743	-	-	-	-	577	-	-	588
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.9			12.7			11.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	577	792	-	-	743	-	-	588				
HCM Lane V/C Ratio	0.192	0.06	-	-	0.104	-	-	0.083				
HCM Control Delay (s)	12.7	9.8	-	-	10.4	-	-	11.7				
HCM Lane LOS	B	A	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0.3	-	-	0.3				

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	906	59	87	742	23	0	0	132	44	0	0
Future Vol, veh/h	42	906	59	87	742	23	0	0	132	44	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	985	64	95	807	25	0	0	143	48	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	832	0	0	1049	0	0	-	-	493	1582	-	404
Stage 1	-	-	-	-	-	-	-	-	-	997	-	-
Stage 2	-	-	-	-	-	-	-	-	-	585	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	796	-	-	659	-	-	0	0	522	73	0	596
Stage 1	-	-	-	-	-	-	0	0	-	262	0	-
Stage 2	-	-	-	-	-	-	0	0	-	464	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	796	-	-	659	-	-	-	-	522	~ 45	-	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	~ 45	-	-
Stage 1	-	-	-	-	-	-	-	-	-	247	-	-
Stage 2	-	-	-	-	-	-	-	-	-	317	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.2			14.5			0		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	522	796	-	-	659	-	-	-				
HCM Lane V/C Ratio	0.275	0.057	-	-	0.143	-	-	-				
HCM Control Delay (s)	14.5	9.8	-	-	11.4	-	-	0				
HCM Lane LOS	B	A	-	-	B	-	-	A				
HCM 95th %tile Q(veh)	1.1	0.2	-	-	0.5	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	863	24	35	831	10	30	5	24	26	8	0
Future Volume (veh/h)	9	863	24	35	831	10	30	5	24	26	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	938	26	38	903	11	33	5	26	28	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1333	594	255	1349	16	416	89	259	596	172	0
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.42	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	611	3554	1585	583	3596	44	695	213	621	1079	414	0
Grp Volume(v), veh/h	10	938	26	38	446	468	64	0	0	37	0	0
Grp Sat Flow(s),veh/h/ln	611	1777	1585	583	1777	1862	1529	0	0	1493	0	0
Q Serve(g_s), s	0.6	9.7	0.5	2.6	9.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.7	9.7	0.5	12.2	9.1	9.1	1.0	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.52		0.41	0.76		0.00
Lane Grp Cap(c), veh/h	268	1333	594	255	666	699	763	0	0	768	0	0
V/C Ratio(X)	0.04	0.70	0.04	0.15	0.67	0.67	0.08	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	293	1481	660	279	740	776	763	0	0	768	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.3	11.5	8.6	16.7	11.3	11.3	7.6	0.0	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.4	0.0	0.3	2.0	1.9	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.9	0.1	0.3	2.8	3.0	0.3	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	12.8	8.6	16.9	13.3	13.2	7.8	0.0	0.0	7.6	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h		974			952			64			37	
Approach Delay, s/veh		12.7			13.4			7.8			7.6	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		20.7		22.5		20.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		3.0		11.7		2.5		14.2				
Green Ext Time (p_c), s		0.2		3.2		0.1		2.0				
Intersection Summary												
HCM 6th Ctrl Delay				12.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	882	22	30	895	10	11	2	22	10	4	0
Future Volume (veh/h)	13	882	22	30	895	10	11	2	22	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	959	24	33	973	11	12	2	24	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	1343	599	252	1360	15	264	86	412	578	189	0
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	572	3554	1585	586	3599	41	373	206	992	1047	456	0
Grp Volume(v), veh/h	14	959	24	33	480	504	38	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	572	1777	1585	586	1777	1863	1571	0	0	1503	0	0
Q Serve(g_s), s	0.9	10.0	0.4	2.2	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.9	10.0	0.4	12.2	10.0	10.0	0.6	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.32		0.63	0.73		0.00
Lane Grp Cap(c), veh/h	250	1343	599	252	671	704	761	0	0	767	0	0
V/C Ratio(X)	0.06	0.71	0.04	0.13	0.72	0.72	0.05	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	271	1474	657	274	737	773	761	0	0	767	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.2	11.5	8.5	16.7	11.5	11.5	7.6	0.0	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.5	0.0	0.2	3.0	2.9	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	0.1	0.3	3.6	3.7	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	13.0	8.6	16.9	14.5	14.4	7.7	0.0	0.0	7.5	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h		997			1017			38			15	
Approach Delay, s/veh		12.9			14.5			7.7			7.5	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		20.9		22.5		20.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		2.6		12.9		2.2		14.2				
Green Ext Time (p_c), s		0.1		2.9		0.0		2.2				
Intersection Summary												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	820	17	16	689	118	5	6	20	105	5	159
Future Volume (veh/h)	158	820	17	16	689	118	5	6	20	105	5	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	891	18	17	749	128	5	7	22	114	5	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1137	23	36	920	410	238	301	460	143	829	702
Arrive On Green	0.08	0.32	0.32	0.02	0.26	0.26	0.29	0.29	0.29	0.08	0.44	0.44
Sat Flow, veh/h	1781	3562	72	1781	3554	1585	536	1039	1585	1781	1870	1585
Grp Volume(v), veh/h	172	444	465	17	749	128	12	0	22	114	5	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1585	1575	0	1585	1781	1870	1585
Q Serve(g_s), s	5.0	14.1	14.1	0.6	12.3	4.0	0.0	0.0	0.6	3.9	0.1	4.2
Cycle Q Clear(g_c), s	5.0	14.1	14.1	0.6	12.3	4.0	0.3	0.0	0.6	3.9	0.1	4.2
Prop In Lane	1.00		0.04	1.00		1.00	0.42		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	567	593	36	920	410	539	0	460	143	829	702
V/C Ratio(X)	1.20	0.78	0.78	0.47	0.81	0.31	0.02	0.00	0.05	0.79	0.01	0.25
Avail Cap(c_a), veh/h	143	567	593	143	1030	460	539	0	460	143	829	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	19.2	19.2	30.1	21.6	18.5	15.7	0.0	15.9	28.0	9.7	10.8
Incr Delay (d2), s/veh	138.4	7.1	6.8	9.0	4.6	0.4	0.1	0.0	0.2	25.7	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	6.1	6.3	0.3	5.1	1.4	0.1	0.0	0.2	2.5	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	166.9	26.3	26.0	39.1	26.2	19.0	15.8	0.0	16.1	53.8	9.7	11.6
LnGrp LOS	F	C	C	D	C	B	B	A	B	D	A	B
Approach Vol, veh/h		1081			894			34			292	
Approach Delay, s/veh		48.5			25.4			16.0			28.1	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	5.8	24.3		32.0	9.5	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.9	2.6	2.6	16.1		6.2	7.0	14.3				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.0		0.4	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				36.5								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	757	11	16	714	106	9	3	15	82	1	140
Future Volume (veh/h)	138	757	11	16	714	106	9	3	15	82	1	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	823	12	17	776	115	10	3	16	89	1	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	1173	17	37	945	421	397	106	466	114	807	684
Arrive On Green	0.08	0.33	0.33	0.02	0.27	0.27	0.29	0.29	0.29	0.06	0.43	0.43
Sat Flow, veh/h	1781	3586	52	1781	3554	1585	996	361	1585	1781	1870	1585
Grp Volume(v), veh/h	150	408	427	17	776	115	13	0	16	89	1	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1585	1357	0	1585	1781	1870	1585
Q Serve(g_s), s	5.0	12.3	12.3	0.6	12.5	3.5	0.0	0.0	0.4	3.0	0.0	3.7
Cycle Q Clear(g_c), s	5.0	12.3	12.3	0.6	12.5	3.5	0.3	0.0	0.4	3.0	0.0	3.7
Prop In Lane	1.00		0.03	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	581	609	37	945	421	503	0	466	114	807	684
V/C Ratio(X)	1.03	0.70	0.70	0.47	0.82	0.27	0.03	0.00	0.03	0.78	0.00	0.22
Avail Cap(c_a), veh/h	146	581	609	146	1046	466	503	0	466	146	807	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	18.0	18.0	29.6	21.1	17.8	15.3	0.0	15.4	28.2	9.9	10.9
Incr Delay (d2), s/veh	82.8	3.8	3.6	8.9	4.9	0.3	0.1	0.0	0.1	18.6	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.9	5.1	0.3	5.2	1.2	0.1	0.0	0.2	1.8	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.9	21.7	21.6	38.6	26.0	18.1	15.4	0.0	15.5	46.9	9.9	11.7
LnGrp LOS	F	C	C	D	C	B	B	A	B	D	A	B
Approach Vol, veh/h	985			908			29			242		
Approach Delay, s/veh	35.3			25.2			15.5			24.6		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	8.4	22.5	5.8	24.5		30.9	9.5	20.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.0	2.4	2.6	14.3		5.7	7.0	14.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7		0.3	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay	29.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	141	629	116	88	587	39	105	189	79	62	160	84
Future Volume (veh/h)	141	629	116	88	587	39	105	189	79	62	160	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	684	126	96	638	42	114	205	86	67	174	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1008	450	132	910	406	968	905	367	481	842	420
Arrive On Green	0.10	0.28	0.28	0.07	0.26	0.26	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2162	2467	1000	1088	2295	1146
Grp Volume(v), veh/h	153	684	126	96	638	42	114	146	145	67	133	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1081	1777	1690	1088	1777	1664
Q Serve(g_s), s	4.1	8.4	3.0	2.6	8.0	1.0	1.9	2.8	2.9	2.2	2.5	2.7
Cycle Q Clear(g_c), s	4.1	8.4	3.0	2.6	8.0	1.0	4.6	2.8	2.9	5.2	2.5	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.69
Lane Grp Cap(c), veh/h	181	1008	450	132	910	406	968	652	620	481	652	610
V/C Ratio(X)	0.84	0.68	0.28	0.72	0.70	0.10	0.12	0.22	0.23	0.14	0.20	0.22
Avail Cap(c_a), veh/h	181	1304	581	181	1304	581	968	652	620	481	652	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	15.6	13.7	22.2	16.5	13.9	12.3	10.7	10.8	12.5	10.6	10.7
Incr Delay (d2), s/veh	28.6	1.0	0.3	8.7	1.0	0.1	0.2	0.8	0.9	0.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.9	0.9	1.3	2.8	0.3	0.4	1.0	1.0	0.5	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	16.5	14.0	31.0	17.5	14.1	12.5	11.5	11.7	13.2	11.3	11.5
LnGrp LOS	D	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		963			776			405			332	
Approach Delay, s/veh		21.6			19.0			11.8			11.8	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	8.1	18.4		22.5	9.5	17.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		6.6	4.6	10.4		7.2	6.1	10.0				
Green Ext Time (p_c), s		1.6	0.0	2.9		1.2	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay				17.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	120	642	99	95	573	47	81	168	77	52	155	70
Future Volume (veh/h)	120	642	99	95	573	47	81	168	77	52	155	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	698	108	103	623	51	88	183	84	57	168	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	981	437	137	924	412	1001	887	391	498	892	387
Arrive On Green	0.09	0.28	0.28	0.08	0.26	0.26	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2204	2399	1058	1112	2413	1046
Grp Volume(v), veh/h	130	698	108	103	623	51	88	134	133	57	122	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1102	1777	1680	1112	1777	1682
Q Serve(g_s), s	3.5	8.6	2.6	2.8	7.7	1.2	1.4	2.5	2.6	1.8	2.3	2.4
Cycle Q Clear(g_c), s	3.5	8.6	2.6	2.8	7.7	1.2	3.8	2.5	2.6	4.4	2.3	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.62
Lane Grp Cap(c), veh/h	166	981	437	137	924	412	1001	657	621	498	657	622
V/C Ratio(X)	0.78	0.71	0.25	0.75	0.67	0.12	0.09	0.20	0.21	0.11	0.19	0.20
Avail Cap(c_a), veh/h	183	1314	586	183	1314	586	1001	657	621	498	657	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	15.9	13.7	22.0	16.2	13.8	11.7	10.5	10.5	12.0	10.4	10.4
Incr Delay (d2), s/veh	18.1	1.2	0.3	11.2	0.9	0.1	0.2	0.7	0.8	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.0	0.8	1.4	2.6	0.4	0.3	0.9	0.9	0.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	17.1	14.0	33.2	17.0	13.9	11.9	11.2	11.3	12.5	11.0	11.1
LnGrp LOS	D	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		936			777			355			301	
Approach Delay, s/veh		19.9			19.0			11.4			11.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	8.3	17.9		22.5	9.0	17.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0		18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s		5.8	4.8	10.6		6.4	5.5	9.7				
Green Ext Time (p_c), s		1.4	0.0	2.8		1.1	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	592	138	108	534	134	141	253	75	120	288	47
Future Volume (veh/h)	33	592	138	108	534	134	141	253	75	120	288	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	623	145	114	562	141	148	266	79	126	303	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	842	376	249	966	431	268	1102	491	257	1365	214
Arrive On Green	0.04	0.24	0.24	0.07	0.27	0.27	0.08	0.31	0.31	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4450	698
Grp Volume(v), veh/h	35	623	145	114	562	141	148	266	79	126	230	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1745
Q Serve(g_s), s	1.1	9.5	4.5	1.9	8.0	4.2	2.4	3.3	2.1	2.1	2.9	3.1
Cycle Q Clear(g_c), s	1.1	9.5	4.5	1.9	8.0	4.2	2.4	3.3	2.1	2.1	2.9	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	66	842	376	249	966	431	268	1102	491	257	1044	535
V/C Ratio(X)	0.53	0.74	0.39	0.46	0.58	0.33	0.55	0.24	0.16	0.49	0.22	0.23
Avail Cap(c_a), veh/h	152	1090	486	294	1090	486	294	1102	491	294	1044	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.7	18.8	26.1	18.5	17.1	26.1	15.1	14.7	26.1	15.1	15.2
Incr Delay (d2), s/veh	6.5	2.0	0.6	1.3	0.6	0.4	1.8	0.5	0.7	1.5	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	1.5	0.7	2.9	1.4	1.0	1.2	0.8	0.8	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	22.7	19.5	27.5	19.1	17.5	27.9	15.6	15.4	27.5	15.6	16.2
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		803			817			493			478	
Approach Delay, s/veh		22.6			20.0			19.3			18.9	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	22.7	8.7	18.4	9.1	22.5	6.7	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.1	5.3	3.9	11.5	4.4	5.1	3.1	10.0				
Green Ext Time (p_c), s	0.0	1.4	0.0	2.4	0.0	1.6	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	621	107	90	564	112	114	202	76	82	260	33
Future Volume (veh/h)	44	621	107	90	564	112	114	202	76	82	260	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	654	113	95	594	118	120	213	80	86	274	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	867	387	232	946	422	253	1125	502	222	1415	176
Arrive On Green	0.04	0.24	0.24	0.07	0.27	0.27	0.07	0.32	0.32	0.06	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4599	573
Grp Volume(v), veh/h	46	654	113	95	594	118	120	213	80	86	201	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1767
Q Serve(g_s), s	1.5	10.0	3.4	1.5	8.6	3.5	2.0	2.5	2.1	1.4	2.5	2.6
Cycle Q Clear(g_c), s	1.5	10.0	3.4	1.5	8.6	3.5	2.0	2.5	2.1	1.4	2.5	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	80	867	387	232	946	422	253	1125	502	222	1047	544
V/C Ratio(X)	0.57	0.75	0.29	0.41	0.63	0.28	0.47	0.19	0.16	0.39	0.19	0.20
Avail Cap(c_a), veh/h	152	1093	488	295	1093	488	295	1125	502	295	1047	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	20.5	18.0	26.2	18.9	17.0	26.0	14.5	14.4	26.3	14.9	14.9
Incr Delay (d2), s/veh	6.3	2.3	0.4	1.2	0.9	0.4	1.4	0.4	0.7	1.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.9	1.1	0.6	3.2	1.1	0.8	0.9	0.7	0.5	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	22.8	18.4	27.3	19.8	17.4	27.4	14.9	15.1	27.4	15.3	15.8
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		813			807			413			395	
Approach Delay, s/veh		22.8			20.3			18.6			18.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	23.0	8.4	18.8	8.8	22.5	7.1	20.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.4	4.5	3.5	12.0	4.0	4.6	3.5	10.6				
Green Ext Time (p_c), s	0.0	1.1	0.0	2.3	0.0	1.3	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	727	143	253	691	0	141	0	295	1	0	0
Future Volume (vph)	14	727	143	253	691	0	141	0	295	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1457	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1457	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	765	151	266	727	0	148	0	311	1	0	0
RTOR Reduction (vph)	0	0	99	0	0	0	0	106	116	0	0	0
Lane Group Flow (vph)	15	765	52	266	727	0	133	58	46	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.3	21.3	5.0	25.4		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.3	21.3	5.0	25.4		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.40		0.29	0.29	0.29		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	25	1188	531	270	1417		479	415	429		55	
v/s Ratio Prot	0.01	c0.22		c0.08	c0.21		c0.08	0.04				
v/s Ratio Perm			0.03						0.03		c0.00	
v/c Ratio	0.60	0.64	0.10	0.99	0.51		0.28	0.14	0.11		0.02	
Uniform Delay, d1	31.1	17.8	14.5	29.2	14.3		17.6	16.9	16.7		30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	33.2	1.2	0.1	50.3	0.3		1.4	0.7	0.5		0.1	
Delay (s)	64.3	19.0	14.5	79.4	14.6		19.0	17.5	17.2		30.8	
Level of Service	E	B	B	E	B		B	B	B		C	
Approach Delay (s)		19.0			32.0			17.9			30.8	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			63.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			52.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	723	153	243	654	0	138	0	283	0	0	2
Future Volume (vph)	13	723	153	243	654	0	138	0	283	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	761	161	256	688	0	145	0	298	0	0	2
RTOR Reduction (vph)	0	0	101	0	0	0	0	106	111	0	2	0
Lane Group Flow (vph)	14	761	60	256	688	0	130	52	44	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.3	21.3	5.0	25.4		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.3	21.3	5.0	25.4		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.40		0.29	0.29	0.29		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	25	1188	531	270	1417		479	416	429		47	
v/s Ratio Prot	0.01	c0.22		c0.07	c0.19		c0.08	0.04			c0.00	
v/s Ratio Perm			0.04						0.03			
v/c Ratio	0.56	0.64	0.11	0.95	0.49		0.27	0.12	0.10		0.00	
Uniform Delay, d1	31.1	17.8	14.5	29.1	14.1		17.5	16.8	16.7		30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	25.6	1.2	0.1	40.4	0.3		1.4	0.6	0.5		0.0	
Delay (s)	56.7	19.0	14.6	69.4	14.4		18.9	17.4	17.2		30.7	
Level of Service	E	B	B	E	B		B	B	B		C	
Approach Delay (s)		18.8			29.3			17.8			30.7	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			22.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			63.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			51.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	9	16	4	30	3	525	15	16	489	6
Future Vol, veh/h	0	2	9	16	4	30	3	525	15	16	489	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	10	17	4	33	3	571	16	17	532	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1174	1163	536	1161	1158	579	539	0	0	587	0	0
Stage 1	570	570	-	585	585	-	-	-	-	-	-	-
Stage 2	604	593	-	576	573	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	169	195	545	172	196	515	1029	-	-	988	-	-
Stage 1	506	505	-	497	498	-	-	-	-	-	-	-
Stage 2	485	493	-	503	504	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	191	545	165	192	515	1029	-	-	988	-	-
Mov Cap-2 Maneuver	153	191	-	165	192	-	-	-	-	-	-	-
Stage 1	504	496	-	496	497	-	-	-	-	-	-	-
Stage 2	449	492	-	483	495	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.1		20.7		0		0.3					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1029	-	-	408	284	988	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.029	0.191	0.018	-	-				
HCM Control Delay (s)	8.5	-	-	14.1	20.7	8.7	-	-				
HCM Lane LOS	A	-	-	B	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0.1	-	-				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	3	19	5	42	6	576	15	9	475	0
Future Vol, veh/h	3	0	3	19	5	42	6	576	15	9	475	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	3	21	5	46	7	626	16	10	516	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1210	1192	516	1186	1184	634	516	0	0	642	0	0
Stage 1	536	536	-	648	648	-	-	-	-	-	-	-
Stage 2	674	656	-	538	536	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	187	559	166	189	479	1050	-	-	943	-	-
Stage 1	529	523	-	459	466	-	-	-	-	-	-	-
Stage 2	444	462	-	527	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	184	559	163	186	479	1050	-	-	943	-	-
Mov Cap-2 Maneuver	139	184	-	163	186	-	-	-	-	-	-	-
Stage 1	525	517	-	456	463	-	-	-	-	-	-	-
Stage 2	394	459	-	518	517	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	21.6		21.8			0.1			0.2			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1050	-	-	223	286	943	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.029	0.251	0.01	-	-				
HCM Control Delay (s)	8.4	-	-	21.6	21.8	8.9	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	1	0	-	-				

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	66	4	65	82	12	7	173	65	14	172	8
Future Vol, veh/h	9	66	4	65	82	12	7	173	65	14	172	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	72	4	71	89	13	8	188	71	15	187	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	10.1	10.3	10
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	11%	41%	7%
Vol Thru, %	71%	84%	52%	89%
Vol Right, %	27%	5%	8%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	79	159	194
LT Vol	7	9	65	14
Through Vol	173	66	82	172
RT Vol	65	4	12	8
Lane Flow Rate	266	86	173	211
Geometry Grp	1	1	1	1
Degree of Util (X)	0.349	0.129	0.25	0.288
Departure Headway (Hd)	4.719	5.408	5.213	4.92
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	754	667	681	723
Service Time	2.796	3.408	3.306	3.004
HCM Lane V/C Ratio	0.353	0.129	0.254	0.292
HCM Control Delay	10.3	9.2	10.1	10
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.6	0.4	1	1.2

HCM 6th AWSC
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Intersection

Intersection Delay, s/veh 9.9
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	42	11	71	86	14	31	171	56	11	136	14
Future Vol, veh/h	2	42	11	71	86	14	31	171	56	11	136	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	46	12	77	93	15	34	186	61	12	148	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	10	10.4	9.4
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	4%	42%	7%
Vol Thru, %	66%	76%	50%	84%
Vol Right, %	22%	20%	8%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	258	55	171	161
LT Vol	31	2	71	11
Through Vol	171	42	86	136
RT Vol	56	11	14	14
Lane Flow Rate	280	60	186	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.364	0.086	0.264	0.236
Departure Headway (Hd)	4.672	5.156	5.111	4.861
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	766	687	697	733
Service Time	2.735	3.248	3.187	2.932
HCM Lane V/C Ratio	0.366	0.087	0.267	0.239
HCM Control Delay	10.4	8.7	10	9.4
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.7	0.3	1.1	0.9

Intersection												
Intersection Delay, s/veh	8.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	136	16	26	162	5	18	0	9	2	5	0
Future Vol, veh/h	3	136	16	26	162	5	18	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	148	17	28	176	5	20	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.5	7.9	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	2%	13%	29%
Vol Thru, %	0%	88%	84%	71%
Vol Right, %	33%	10%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	155	193	7
LT Vol	18	3	26	2
Through Vol	0	136	162	5
RT Vol	9	16	5	0
Lane Flow Rate	29	168	210	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.192	0.241	0.01
Departure Headway (Hd)	4.694	4.098	4.137	4.848
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	767	864	860	743
Service Time	2.694	2.175	2.203	2.849
HCM Lane V/C Ratio	0.038	0.194	0.244	0.011
HCM Control Delay	7.9	8.2	8.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.9	0

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	129	17	15	191	4	14	0	11	2	4	3
Future Vol, veh/h	6	129	17	15	191	4	14	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	140	18	16	208	4	15	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.7	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	56%	4%	7%	22%
Vol Thru, %	0%	85%	91%	44%
Vol Right, %	44%	11%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	152	210	9
LT Vol	14	6	15	2
Through Vol	0	129	191	4
RT Vol	11	17	4	3
Lane Flow Rate	27	165	228	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.189	0.262	0.013
Departure Headway (Hd)	4.644	4.111	4.126	4.664
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	861	863	772
Service Time	2.645	2.192	2.192	2.665
HCM Lane V/C Ratio	0.035	0.192	0.264	0.013
HCM Control Delay	7.8	8.2	8.7	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	1.1	0

HCM 6th Signalized Intersection Summary

16: Claremont Blvd & 6st St/W Arrow Rt

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	98	30	84	104	49	40	276	96	52	263	79
Future Volume (veh/h)	47	98	30	84	104	49	40	276	96	52	263	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	103	32	88	109	52	42	291	101	55	277	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	156	48	192	202	171	529	943	321	518	1007	296
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.04	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	1369	425	1781	1870	1585	1781	2603	885	1781	2709	795
Grp Volume(v), veh/h	49	0	135	88	109	52	42	197	195	55	180	180
Grp Sat Flow(s),veh/h/ln	1781	0	1794	1781	1870	1585	1781	1777	1711	1781	1777	1727
Q Serve(g_s), s	1.2	0.0	3.6	2.3	2.7	1.5	0.7	3.9	4.1	0.9	3.5	3.6
Cycle Q Clear(g_c), s	1.2	0.0	3.6	2.3	2.7	1.5	0.7	3.9	4.1	0.9	3.5	3.6
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.52	1.00		0.46
Lane Grp Cap(c), veh/h	203	0	204	192	202	171	529	644	620	518	660	642
V/C Ratio(X)	0.24	0.00	0.66	0.46	0.54	0.30	0.08	0.31	0.32	0.11	0.27	0.28
Avail Cap(c_a), veh/h	645	0	650	645	678	574	629	644	620	602	660	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	21.1	20.8	21.0	20.4	9.1	11.4	11.4	8.9	10.9	10.9
Incr Delay (d2), s/veh	0.6	0.0	3.6	1.7	2.2	1.0	0.1	1.2	1.3	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.5	1.0	1.2	0.6	0.2	1.4	1.4	0.3	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	24.7	22.5	23.2	21.4	9.1	12.6	12.7	9.0	11.9	12.0
LnGrp LOS	C	A	C	C	C	C	A	B	B	A	B	B
Approach Vol, veh/h	184			249			434			415		
Approach Delay, s/veh	23.6			22.6			12.3			11.6		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	22.5		10.2	6.7	23.0		9.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	6.1		5.6	2.7	5.6		4.7				
Green Ext Time (p_c), s	0.0	1.7		0.6	0.0	1.5		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	15.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	102	38	79	104	40	33	259	82	43	277	61
Future Volume (veh/h)	60	102	38	79	104	40	33	259	82	43	277	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	107	40	83	109	42	35	273	86	45	292	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	162	60	189	198	168	519	966	298	521	1074	232
Arrive On Green	0.12	0.12	0.12	0.11	0.11	0.11	0.04	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	1298	485	1781	1870	1585	1781	2674	825	1781	2907	628
Grp Volume(v), veh/h	63	0	147	83	109	42	35	179	180	45	177	179
Grp Sat Flow(s),veh/h/ln	1781	0	1783	1781	1870	1585	1781	1777	1722	1781	1777	1757
Q Serve(g_s), s	1.6	0.0	3.9	2.2	2.8	1.2	0.6	3.6	3.7	0.8	3.5	3.6
Cycle Q Clear(g_c), s	1.6	0.0	3.9	2.2	2.8	1.2	0.6	3.6	3.7	0.8	3.5	3.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.48	1.00		0.36
Lane Grp Cap(c), veh/h	222	0	222	189	198	168	519	642	622	521	656	649
V/C Ratio(X)	0.28	0.00	0.66	0.44	0.55	0.25	0.07	0.28	0.29	0.09	0.27	0.28
Avail Cap(c_a), veh/h	644	0	644	644	676	573	629	642	622	617	656	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	20.8	20.9	21.1	20.4	9.3	11.3	11.3	9.1	11.0	11.0
Incr Delay (d2), s/veh	0.7	0.0	3.3	1.6	2.4	0.8	0.1	1.1	1.2	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.6	0.9	1.2	0.4	0.2	1.3	1.3	0.2	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	24.1	22.5	23.5	21.2	9.3	12.4	12.5	9.2	12.0	12.1
LnGrp LOS	C	A	C	C	C	C	A	B	B	A	B	B
Approach Vol, veh/h		210			234			394			401	
Approach Delay, s/veh		23.0			22.7			12.2			11.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	22.5		10.7	6.4	22.9		9.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	5.7		5.9	2.6	5.6		4.8				
Green Ext Time (p_c), s	0.0	1.5		0.6	0.0	1.5		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				15.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	132	34	41	117	41	38	323	24	25	486	52
Future Volume (veh/h)	78	132	34	41	117	41	38	323	24	25	486	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	139	36	43	123	43	40	340	25	26	512	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	393	99	82	216	183	150	1935	140	55	1808	192
Arrive On Green	0.07	0.14	0.14	0.05	0.12	0.12	0.04	0.40	0.40	0.03	0.39	0.39
Sat Flow, veh/h	1781	2813	707	1781	1870	1585	3456	4859	352	1781	4688	497
Grp Volume(v), veh/h	82	86	89	43	123	43	40	237	128	26	370	197
Grp Sat Flow(s),veh/h/ln	1781	1777	1743	1781	1870	1585	1728	1702	1807	1781	1702	1781
Q Serve(g_s), s	2.1	2.0	2.2	1.1	2.9	1.2	0.5	2.1	2.1	0.7	3.5	3.6
Cycle Q Clear(g_c), s	2.1	2.0	2.2	1.1	2.9	1.2	0.5	2.1	2.1	0.7	3.5	3.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.20	1.00		0.28
Lane Grp Cap(c), veh/h	125	248	243	82	216	183	150	1356	720	55	1313	687
V/C Ratio(X)	0.66	0.35	0.36	0.53	0.57	0.24	0.27	0.17	0.18	0.48	0.28	0.29
Avail Cap(c_a), veh/h	191	685	672	191	721	611	370	1356	720	191	1313	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	18.2	18.2	21.8	19.6	18.8	21.6	9.1	9.1	22.3	9.9	9.9
Incr Delay (d2), s/veh	5.7	0.8	0.9	5.2	2.4	0.7	0.9	0.3	0.5	6.3	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.7	0.8	0.5	1.2	0.4	0.2	0.6	0.7	0.3	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	19.0	19.1	27.0	21.9	19.4	22.6	9.4	9.6	28.6	10.4	11.0
LnGrp LOS	C	B	B	C	C	B	C	A	A	C	B	B
Approach Vol, veh/h		257			209			405			593	
Approach Delay, s/veh		21.6			22.4			10.8			11.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	23.1	6.6	11.0	6.5	22.5	7.8	9.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.7	4.1	3.1	4.2	2.5	5.6	4.1	4.9				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.6	0.0	2.6	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	148	39	44	125	34	37	309	29	23	442	38
Future Volume (veh/h)	50	148	39	44	125	34	37	309	29	23	442	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	156	41	46	132	36	39	325	31	24	465	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	354	90	86	226	192	147	1925	180	51	1876	159
Arrive On Green	0.05	0.13	0.13	0.05	0.12	0.12	0.04	0.41	0.41	0.03	0.39	0.39
Sat Flow, veh/h	1781	2802	716	1781	1870	1585	3456	4749	445	1781	4794	407
Grp Volume(v), veh/h	53	97	100	46	132	36	39	231	125	24	329	176
Grp Sat Flow(s),veh/h/ln	1781	1777	1741	1781	1870	1585	1728	1702	1790	1781	1702	1797
Q Serve(g_s), s	1.3	2.3	2.4	1.2	3.1	0.9	0.5	2.0	2.0	0.6	3.0	3.0
Cycle Q Clear(g_c), s	1.3	2.3	2.4	1.2	3.1	0.9	0.5	2.0	2.0	0.6	3.0	3.0
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.25	1.00		0.23
Lane Grp Cap(c), veh/h	95	224	220	86	226	192	147	1380	726	51	1332	703
V/C Ratio(X)	0.56	0.43	0.45	0.53	0.58	0.19	0.26	0.17	0.17	0.47	0.25	0.25
Avail Cap(c_a), veh/h	194	695	682	194	732	620	376	1380	726	194	1332	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	18.6	18.6	21.4	19.1	18.2	21.3	8.7	8.7	22.0	9.4	9.4
Incr Delay (d2), s/veh	5.0	1.3	1.5	5.1	2.4	0.5	0.9	0.3	0.5	6.5	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.9	0.5	1.2	0.3	0.2	0.6	0.6	0.3	0.8	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	19.9	20.1	26.4	21.5	18.6	22.3	9.0	9.3	28.5	9.9	10.3
LnGrp LOS	C	B	C	C	C	B	C	A	A	C	A	B
Approach Vol, veh/h		250			214			395			529	
Approach Delay, s/veh		21.3			22.1			10.4			10.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.8	23.1	6.7	10.3	6.5	22.5	7.0	10.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.6	4.0	3.2	4.4	2.5	5.0	3.3	5.1				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.7	0.0	2.3	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	19	23	44	28	23	31	13	499	14	20	497	10
Future Volume (veh/h)	19	23	44	28	23	31	13	499	14	20	497	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	25	48	30	25	34	14	542	15	22	540	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	131	182	227	109	182	32	917	777	49	912	19
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.02	0.49	0.49	0.03	0.50	0.50
Sat Flow, veh/h	526	1138	1585	657	945	1585	1781	1870	1585	1781	1826	37
Grp Volume(v), veh/h	46	0	48	55	0	34	14	542	15	22	0	551
Grp Sat Flow(s),veh/h/ln	1664	0	1585	1601	0	1585	1781	1870	1585	1781	0	1864
Q Serve(g_s), s	0.0	0.0	1.0	0.1	0.0	0.7	0.3	7.6	0.2	0.4	0.0	7.7
Cycle Q Clear(g_c), s	0.8	0.0	1.0	1.0	0.0	0.7	0.3	7.6	0.2	0.4	0.0	7.7
Prop In Lane	0.46		1.00	0.55		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	334	0	182	336	0	182	32	917	777	49	0	930
V/C Ratio(X)	0.14	0.00	0.26	0.16	0.00	0.19	0.43	0.59	0.02	0.45	0.00	0.59
Avail Cap(c_a), veh/h	929	0	777	909	0	777	242	917	777	242	0	930
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	14.8	14.8	0.0	14.7	17.8	6.7	4.8	17.6	0.0	6.5
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.2	0.0	0.5	8.9	2.8	0.0	6.4	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.4	0.0	0.2	0.2	2.7	0.0	0.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	15.6	15.0	0.0	15.2	26.8	9.5	4.9	24.0	0.0	9.3
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		94			89			571			573	
Approach Delay, s/veh		15.3			15.1			9.8			9.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	22.8		8.7	5.5	22.5		8.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.3	9.7		3.0	2.4	9.6		3.0				
Green Ext Time (p_c), s	0.0	2.4		0.3	0.0	2.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	16	14	37	17	23	23	10	416	12	20	528	9
Future Volume (veh/h)	16	14	37	17	23	23	10	416	12	20	528	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	15	40	18	25	25	11	452	13	22	574	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	106	165	194	121	165	26	928	787	49	933	16
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.01	0.50	0.50	0.03	0.51	0.51
Sat Flow, veh/h	619	1015	1585	510	1163	1585	1781	1870	1585	1781	1833	32
Grp Volume(v), veh/h	32	0	40	43	0	25	11	452	13	22	0	584
Grp Sat Flow(s),veh/h/ln	1635	0	1585	1673	0	1585	1781	1870	1585	1781	0	1865
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	0.5	0.2	5.8	0.2	0.4	0.0	8.1
Cycle Q Clear(g_c), s	0.6	0.0	0.8	0.8	0.0	0.5	0.2	5.8	0.2	0.4	0.0	8.1
Prop In Lane	0.53		1.00	0.42		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	322	0	165	315	0	165	26	928	787	49	0	949
V/C Ratio(X)	0.10	0.00	0.24	0.14	0.00	0.15	0.43	0.49	0.02	0.45	0.00	0.62
Avail Cap(c_a), veh/h	932	0	787	946	0	787	246	928	787	246	0	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	14.9	14.9	0.0	14.8	17.7	6.1	4.6	17.4	0.0	6.4
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.2	0.0	0.4	10.8	1.8	0.0	6.4	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.3	0.0	0.2	0.2	1.9	0.0	0.2	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	15.7	15.1	0.0	15.2	28.5	7.9	4.7	23.7	0.0	9.3
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		72			68			476			606	
Approach Delay, s/veh		15.4			15.1			8.3			9.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	23.0		8.3	5.5	22.5		8.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.2	10.1		2.8	2.4	7.8		2.8				
Green Ext Time (p_c), s	0.0	2.5		0.2	0.0	2.2		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	39	82	118	49	101	112	451	163	36	437	86
Future Volume (veh/h)	32	39	82	118	49	101	112	451	163	36	437	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	42	89	128	53	110	122	490	177	39	475	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	343	291	374	99	206	451	863	731	451	632	124
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.46	0.46	0.04	0.42	0.42
Sat Flow, veh/h	1223	1870	1585	1259	542	1125	1781	1870	1585	1781	1519	297
Grp Volume(v), veh/h	35	42	89	128	0	163	122	490	177	39	0	568
Grp Sat Flow(s),veh/h/ln	1223	1870	1585	1259	0	1668	1781	1870	1585	1781	0	1817
Q Serve(g_s), s	1.2	0.8	2.1	4.1	0.0	3.8	1.6	8.3	2.9	0.5	0.0	11.5
Cycle Q Clear(g_c), s	5.0	0.8	2.1	4.9	0.0	3.8	1.6	8.3	2.9	0.5	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	282	343	291	374	0	306	451	863	731	451	0	756
V/C Ratio(X)	0.12	0.12	0.31	0.34	0.00	0.53	0.27	0.57	0.24	0.09	0.00	0.75
Avail Cap(c_a), veh/h	567	778	659	666	0	694	499	863	731	580	0	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	14.8	15.3	16.8	0.0	16.0	7.5	8.5	7.1	7.0	0.0	10.7
Incr Delay (d2), s/veh	0.2	0.2	0.6	0.5	0.0	1.4	0.3	2.7	0.8	0.1	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.7	1.1	0.0	1.4	0.4	3.0	0.9	0.2	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	14.9	15.9	17.4	0.0	17.4	7.8	11.2	7.8	7.0	0.0	17.5
LnGrp LOS	B	B	B	B	A	B	A	B	A	A	A	B
Approach Vol, veh/h	166				291				789			
Approach Delay, s/veh	16.2				17.4				9.9			
Approach LOS	B				B				A			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	24.5		12.4	8.3	22.5		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.5	10.3		7.0	3.6	13.5		6.9				
Green Ext Time (p_c), s	0.0	2.3		0.4	0.0	1.6		1.1				
Intersection Summary												
HCM 6th Ctrl Delay	13.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	42	115	100	66	66	141	440	115	33	372	63
Future Volume (veh/h)	50	42	115	100	66	66	141	440	115	33	372	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	46	125	109	72	72	153	478	125	36	404	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	328	278	354	151	151	534	883	749	476	649	109
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.10	0.47	0.47	0.04	0.42	0.42
Sat Flow, veh/h	1244	1870	1585	1214	858	858	1781	1870	1585	1781	1560	263
Grp Volume(v), veh/h	54	46	125	109	0	144	153	478	125	36	0	472
Grp Sat Flow(s),veh/h/ln	1244	1870	1585	1214	0	1716	1781	1870	1585	1781	0	1823
Q Serve(g_s), s	1.8	0.9	3.1	3.6	0.0	3.3	2.0	7.8	2.0	0.5	0.0	8.8
Cycle Q Clear(g_c), s	5.0	0.9	3.1	4.5	0.0	3.3	2.0	7.8	2.0	0.5	0.0	8.8
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	291	328	278	354	0	301	534	883	749	476	0	758
V/C Ratio(X)	0.19	0.14	0.45	0.31	0.00	0.48	0.29	0.54	0.17	0.08	0.00	0.62
Avail Cap(c_a), veh/h	589	777	659	646	0	713	567	883	749	610	0	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	15.1	16.0	17.0	0.0	16.1	6.7	8.1	6.5	6.9	0.0	10.0
Incr Delay (d2), s/veh	0.3	0.2	1.1	0.5	0.0	1.2	0.3	2.4	0.5	0.1	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	1.1	0.9	0.0	1.2	0.5	2.8	0.6	0.1	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	15.3	17.1	17.5	0.0	17.2	7.0	10.5	7.0	7.0	0.0	13.8
LnGrp LOS	B	B	B	B	A	B	A	B	A	A	A	B
Approach Vol, veh/h	225				253				756			
Approach Delay, s/veh	17.1				17.4				9.2			
Approach LOS	B				B				A			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.3	24.9	12.1		8.7	22.5	12.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	18.0		5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.5	9.8	7.0		4.0	10.8	6.5					
Green Ext Time (p_c), s	0.0	2.2	0.6		0.0	1.8	0.9					
Intersection Summary												
HCM 6th Ctrl Delay	12.6											
HCM 6th LOS	B											

Intersection												
Intersection Delay, s/veh	10.7											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	68	53	13	80	40	58	134	32	29	139	27
Future Vol, veh/h	32	68	53	13	80	40	58	134	32	29	139	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	74	58	14	87	43	63	146	35	32	151	29
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.3	9.5	12	11.3
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	26%	100%	0%	0%	100%	0%	0%	15%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	71%
Vol Right, %	14%	0%	0%	100%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	224	32	68	53	13	80	40	195
LT Vol	58	32	0	0	13	0	0	29
Through Vol	134	0	68	0	0	80	0	139
RT Vol	32	0	0	53	0	0	40	27
Lane Flow Rate	243	35	74	58	14	87	43	212
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.385	0.064	0.126	0.086	0.026	0.149	0.066	0.335
Departure Headway (Hd)	5.694	6.625	6.115	5.401	6.659	6.149	5.435	5.687
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	633	541	587	663	538	583	659	634
Service Time	3.421	4.359	3.849	3.134	4.393	3.882	3.168	3.414
HCM Lane V/C Ratio	0.384	0.065	0.126	0.087	0.026	0.149	0.065	0.334
HCM Control Delay	12	9.8	9.7	8.6	9.6	10	8.6	11.3
HCM Lane LOS	B	A	A	A	A	A	A	B
HCM 95th-tile Q	1.8	0.2	0.4	0.3	0.1	0.5	0.2	1.5

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	85	62	26	118	54	46	144	22	42	154	39
Future Vol, veh/h	43	85	62	26	118	54	46	144	22	42	154	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	92	67	28	128	59	50	157	24	46	167	42
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.1	10.4	12.8	13.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	68%	0%	100%	0%	0%	100%	0%	66%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	43	85	62	26	118	54	235
LT Vol	46	43	0	0	26	0	0	42
Through Vol	144	0	85	0	0	118	0	154
RT Vol	22	0	0	62	0	0	54	39
Lane Flow Rate	230	47	92	67	28	128	59	255
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.393	0.09	0.165	0.107	0.054	0.228	0.093	0.429
Departure Headway (Hd)	6.146	6.943	6.431	5.714	6.925	6.413	5.697	6.047
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	515	556	625	516	558	627	595
Service Time	3.893	4.7	4.187	3.47	4.682	4.17	3.453	3.793
HCM Lane V/C Ratio	0.393	0.091	0.165	0.107	0.054	0.229	0.094	0.429
HCM Control Delay	12.8	10.4	10.5	9.2	10.1	11.1	9	13.3
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	1.9	0.3	0.6	0.4	0.2	0.9	0.3	2.1

HCM 6th Signalized Intersection Summary 21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	2	70	3	1	5	55	342	2	2	290	89
Future Volume (veh/h)	82	2	70	3	1	5	55	342	2	2	290	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	2	76	3	1	5	60	372	2	2	315	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	211	179	16	5	19	640	1813	10	647	1777	793
Arrive On Green	0.11	0.11	0.11	0.01	0.01	0.01	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1781	1870	1585	1352	451	1585	974	3624	19	1009	3554	1585
Grp Volume(v), veh/h	89	2	76	4	0	5	60	182	192	2	315	97
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1803	0	1585	974	1777	1867	1009	1777	1585
Q Serve(g_s), s	1.7	0.0	1.6	0.1	0.0	0.1	1.3	2.1	2.1	0.0	1.7	1.2
Cycle Q Clear(g_c), s	1.7	0.0	1.6	0.1	0.0	0.1	3.0	2.1	2.1	2.1	1.7	1.2
Prop In Lane	1.00		1.00	0.75		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	201	211	179	22	0	19	640	889	934	647	1777	793
V/C Ratio(X)	0.44	0.01	0.43	0.19	0.00	0.26	0.09	0.21	0.21	0.00	0.18	0.12
Avail Cap(c_a), veh/h	891	935	793	902	0	793	640	889	934	647	1777	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	14.2	14.9	17.6	0.0	17.6	5.8	5.0	5.0	5.6	4.9	4.8
Incr Delay (d2), s/veh	1.5	0.0	1.6	4.1	0.0	7.2	0.3	0.5	0.5	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	0.1	0.0	0.1	0.2	0.5	0.5	0.0	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	14.2	16.5	21.7	0.0	24.8	6.1	5.5	5.5	5.6	5.2	5.1
LnGrp LOS	B	B	B	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	167			9			434			414		
Approach Delay, s/veh	16.4			23.4			5.6			5.1		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			8.6			22.5			4.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	5.0			3.7			4.1			2.1		
Green Ext Time (p_c), s	1.9			0.4			1.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	7.3											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	3	74	2	0	5	52	293	0	5	329	76
Future Volume (veh/h)	80	3	74	2	0	5	52	293	0	5	329	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	3	80	2	0	5	57	318	0	5	358	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	213	180	17	0	15	623	1781	0	680	1781	794
Arrive On Green	0.11	0.11	0.11	0.01	0.00	0.01	0.50	0.50	0.00	0.50	0.50	0.50
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	948	3647	0	1062	3554	1585
Grp Volume(v), veh/h	87	3	80	2	0	5	57	318	0	5	358	83
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	948	1777	0	1062	1777	1585
Q Serve(g_s), s	1.6	0.1	1.7	0.0	0.0	0.1	1.3	1.8	0.0	0.1	2.0	1.0
Cycle Q Clear(g_c), s	1.6	0.1	1.7	0.0	0.0	0.1	3.3	1.8	0.0	1.9	2.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	213	180	17	0	15	623	1781	0	680	1781	794
V/C Ratio(X)	0.43	0.01	0.44	0.12	0.00	0.34	0.09	0.18	0.00	0.01	0.20	0.10
Avail Cap(c_a), veh/h	893	937	794	893	0	794	623	1781	0	680	1781	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	14.1	14.9	17.6	0.0	17.7	5.9	4.9	0.0	5.4	5.0	4.7
Incr Delay (d2), s/veh	1.4	0.0	1.7	3.1	0.0	12.7	0.3	0.2	0.0	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	0.0	0.0	0.1	0.2	0.3	0.0	0.0	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	14.2	16.6	20.8	0.0	30.4	6.2	5.1	0.0	5.4	5.2	5.0
LnGrp LOS	B	B	B	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	170			7			375			446		
Approach Delay, s/veh	16.4			27.6			5.3			5.2		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			8.6			22.5			4.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	5.3			3.7			4.0			2.1		
Green Ext Time (p_c), s	1.7			0.4			2.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	7.3											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	528	150	135	333	59	100	521	332	129	432	60
Future Volume (veh/h)	97	528	150	135	333	59	100	521	332	129	432	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	574	163	147	362	64	109	566	361	140	470	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	802	358	150	834	372	139	1077	480	150	969	133
Arrive On Green	0.08	0.23	0.23	0.08	0.23	0.23	0.08	0.30	0.30	0.08	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3138	432
Grp Volume(v), veh/h	105	574	163	147	362	64	109	566	361	140	265	270
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1793
Q Serve(g_s), s	3.4	8.9	5.3	4.9	5.2	1.9	3.6	7.8	12.2	4.6	7.2	7.3
Cycle Q Clear(g_c), s	3.4	8.9	5.3	4.9	5.2	1.9	3.6	7.8	12.2	4.6	7.2	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	134	802	358	150	834	372	139	1077	480	150	549	554
V/C Ratio(X)	0.78	0.72	0.46	0.98	0.43	0.17	0.78	0.53	0.75	0.93	0.48	0.49
Avail Cap(c_a), veh/h	150	1077	480	150	1077	480	150	1077	480	150	549	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	21.2	19.8	27.2	19.4	18.1	26.9	17.2	18.7	27.0	16.7	16.7
Incr Delay (d2), s/veh	21.0	1.5	0.9	67.5	0.4	0.2	21.7	1.8	10.4	54.0	3.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.5	1.9	4.8	2.0	0.7	2.3	3.2	5.4	4.1	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	22.7	20.8	94.6	19.7	18.4	48.6	19.0	29.1	81.1	19.7	19.8
LnGrp LOS	D	C	C	F	B	B	D	B	C	F	B	B
Approach Vol, veh/h	842			573			1036			675		
Approach Delay, s/veh	25.5			38.8			25.6			32.5		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	17.9	9.1	22.9	9.0	18.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.6	14.2	6.9	10.9	5.6	9.3	5.4	7.2				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.6	0.0	2.1	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay	29.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	892	145	122	420	72	130	428	406	125	384	60
Future Volume (veh/h)	90	892	145	122	420	72	130	428	406	125	384	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	970	158	133	457	78	141	465	441	136	417	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	999	446	139	1027	458	139	999	446	139	867	134
Arrive On Green	0.07	0.28	0.28	0.08	0.29	0.29	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3084	477
Grp Volume(v), veh/h	98	970	158	133	457	78	141	465	441	136	239	243
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1784
Q Serve(g_s), s	3.5	17.3	5.1	4.8	6.7	2.4	5.0	6.9	17.7	4.9	7.2	7.2
Cycle Q Clear(g_c), s	3.5	17.3	5.1	4.8	6.7	2.4	5.0	6.9	17.7	4.9	7.2	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	125	999	446	139	1027	458	139	999	446	139	500	502
V/C Ratio(X)	0.78	0.97	0.35	0.96	0.45	0.17	1.01	0.47	0.99	0.98	0.48	0.48
Avail Cap(c_a), veh/h	139	999	446	139	1027	458	139	999	446	139	500	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	22.7	18.4	29.4	18.6	17.0	29.5	19.0	22.9	29.4	19.1	19.1
Incr Delay (d2), s/veh	22.4	21.5	0.5	62.7	0.3	0.2	79.8	1.6	40.0	69.1	3.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.6	1.8	4.4	2.6	0.8	5.1	2.9	11.0	4.7	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	44.3	18.8	92.1	18.9	17.2	109.3	20.6	62.9	98.6	22.4	22.5
LnGrp LOS	D	D	B	F	B	B	F	C	E	F	C	C
Approach Vol, veh/h	1226			668			1047			618		
Approach Delay, s/veh	41.6			33.2			50.4			39.2		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5	22.5	9.5	22.5	9.0	23.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	6.9	19.7	6.8	19.3	7.0	9.2	5.5	8.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.9	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	42.2											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	856	26	13	434	75	21	51	25	76	57	79
Future Volume (veh/h)	71	856	26	13	434	75	21	51	25	76	57	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	930	28	14	472	82	23	55	27	83	62	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	1259	38	246	1083	187	205	440	187	752	801	679
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	854	3522	106	586	3030	523	234	1028	437	1316	1870	1585
Grp Volume(v), veh/h	77	469	489	14	276	278	105	0	0	83	62	86
Grp Sat Flow(s),veh/h/ln	854	1777	1851	586	1777	1776	1699	0	0	1316	1870	1585
Q Serve(g_s), s	3.2	9.7	9.7	0.9	5.0	5.0	0.0	0.0	0.0	0.0	0.8	1.4
Cycle Q Clear(g_c), s	8.2	9.7	9.7	10.6	5.0	5.0	1.5	0.0	0.0	1.2	0.8	1.4
Prop In Lane	1.00		0.06	1.00		0.29	0.22		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	375	635	662	246	635	635	832	0	0	752	801	679
V/C Ratio(X)	0.21	0.74	0.74	0.06	0.43	0.44	0.13	0.00	0.00	0.11	0.08	0.13
Avail Cap(c_a), veh/h	435	761	793	287	761	761	832	0	0	752	801	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	11.8	11.8	16.4	10.3	10.3	7.3	0.0	0.0	7.2	7.1	7.3
Incr Delay (d2), s/veh	0.3	3.1	3.0	0.1	0.5	0.5	0.3	0.0	0.0	0.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.5	3.6	0.1	1.6	1.6	0.5	0.0	0.0	0.4	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	14.9	14.8	16.5	10.7	10.8	7.6	0.0	0.0	7.5	7.3	7.6
LnGrp LOS	B	B	B	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1035				568				105			
Approach Delay, s/veh	14.7				10.9				7.6			
Approach LOS	B				B				A			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			19.5			22.5			19.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	3.5			11.7			3.4			12.6		
Green Ext Time (p_c), s	0.4			3.3			0.7			1.7		
Intersection Summary												
HCM 6th Ctrl Delay	12.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1290	28	25	500	51	20	50	35	84	75	69
Future Volume (veh/h)	57	1290	28	25	500	51	20	50	35	84	75	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1402	30	27	543	55	22	54	38	91	82	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1423	30	163	1303	132	172	374	225	702	748	634
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	820	3557	76	374	3259	329	191	935	563	1304	1870	1585
Grp Volume(v), veh/h	62	700	732	27	295	303	114	0	0	91	82	75
Grp Sat Flow(s),veh/h/ln	820	1777	1857	374	1777	1811	1689	0	0	1304	1870	1585
Q Serve(g_s), s	2.7	17.5	17.6	0.4	5.4	5.4	0.0	0.0	0.0	0.0	1.2	1.3
Cycle Q Clear(g_c), s	8.1	17.5	17.6	18.0	5.4	5.4	1.9	0.0	0.0	1.5	1.2	1.3
Prop In Lane	1.00		0.04	1.00		0.18	0.19		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	389	711	743	163	711	724	771	0	0	702	748	634
V/C Ratio(X)	0.16	0.98	0.99	0.17	0.42	0.42	0.15	0.00	0.00	0.13	0.11	0.12
Avail Cap(c_a), veh/h	389	711	743	163	711	724	771	0	0	702	748	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.4	13.4	22.5	9.7	9.7	8.7	0.0	0.0	8.5	8.5	8.5
Incr Delay (d2), s/veh	0.2	29.8	29.4	0.5	0.4	0.4	0.4	0.0	0.0	0.4	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.2	11.6	0.3	1.7	1.7	0.7	0.0	0.0	0.5	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	43.1	42.8	22.9	10.1	10.1	9.1	0.0	0.0	8.9	8.8	8.9
LnGrp LOS	B	D	D	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1494			625			114			248		
Approach Delay, s/veh	41.7			10.7			9.1			8.9		
Approach LOS	D			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	3.9			19.6			3.5			20.0		
Green Ext Time (p_c), s	0.4			0.0			0.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	29.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	762	37	32	324	43	72	194	61	47	167	95
Future Volume (veh/h)	134	762	37	32	324	43	72	194	61	47	167	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	828	40	35	352	47	78	211	66	51	182	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	979	47	66	742	98	110	864	263	86	578	489
Arrive On Green	0.09	0.28	0.28	0.04	0.24	0.24	0.06	0.32	0.32	0.05	0.31	0.31
Sat Flow, veh/h	1781	3451	167	1781	3154	418	1781	2683	817	1781	1870	1585
Grp Volume(v), veh/h	146	426	442	35	197	202	78	138	139	51	182	103
Grp Sat Flow(s),veh/h/ln	1781	1777	1840	1781	1777	1795	1781	1777	1723	1781	1870	1585
Q Serve(g_s), s	4.8	13.2	13.2	1.1	5.6	5.7	2.5	3.3	3.5	1.6	4.3	2.8
Cycle Q Clear(g_c), s	4.8	13.2	13.2	1.1	5.6	5.7	2.5	3.3	3.5	1.6	4.3	2.8
Prop In Lane	1.00		0.09	1.00		0.23	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	153	504	522	66	418	422	110	572	555	86	578	489
V/C Ratio(X)	0.96	0.85	0.85	0.53	0.47	0.48	0.71	0.24	0.25	0.59	0.32	0.21
Avail Cap(c_a), veh/h	153	549	568	153	549	554	153	572	555	153	578	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	19.7	19.7	27.6	19.2	19.2	26.8	14.5	14.6	27.2	15.4	14.9
Incr Delay (d2), s/veh	59.4	11.0	10.7	6.4	0.8	0.8	8.8	1.0	1.1	6.4	1.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.0	6.2	0.6	2.1	2.2	1.3	1.3	1.4	0.8	1.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	30.7	30.3	34.0	20.0	20.1	35.7	15.5	15.7	33.6	16.9	15.9
LnGrp LOS	F	C	C	C	C	C	D	B	B	C	B	B
Approach Vol, veh/h		1014			434			355			336	
Approach Delay, s/veh		38.5			21.2			20.0			19.1	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	23.3	6.7	21.0	8.1	22.5	9.5	18.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	5.5	3.1	15.2	4.5	6.3	6.8	7.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.4	0.0	1.1	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay				28.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	1174	42	32	388	66	80	235	57	75	204	109
Future Volume (veh/h)	165	1174	42	32	388	66	80	235	57	75	204	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	1276	46	35	422	72	87	255	62	82	222	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	1049	38	66	770	130	114	858	205	111	561	475
Arrive On Green	0.08	0.30	0.30	0.04	0.25	0.25	0.06	0.30	0.30	0.06	0.30	0.30
Sat Flow, veh/h	1781	3498	126	1781	3040	515	1781	2846	679	1781	1870	1585
Grp Volume(v), veh/h	179	648	674	35	245	249	87	157	160	82	222	118
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1778	1781	1777	1748	1781	1870	1585
Q Serve(g_s), s	5.0	18.0	18.0	1.2	7.2	7.3	2.9	4.1	4.2	2.7	5.7	3.4
Cycle Q Clear(g_c), s	5.0	18.0	18.0	1.2	7.2	7.3	2.9	4.1	4.2	2.7	5.7	3.4
Prop In Lane	1.00		0.07	1.00		0.29	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	148	533	554	66	450	450	114	536	527	111	561	475
V/C Ratio(X)	1.21	1.22	1.22	0.53	0.55	0.55	0.77	0.29	0.30	0.74	0.40	0.25
Avail Cap(c_a), veh/h	148	533	554	148	533	533	148	536	527	148	561	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	21.0	21.0	28.4	19.4	19.5	27.7	16.1	16.1	27.7	16.7	15.9
Incr Delay (d2), s/veh	140.0	113.3	113.6	6.6	1.0	1.1	15.9	1.4	1.5	12.6	2.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	22.9	23.9	0.6	2.7	2.8	1.6	1.7	1.7	1.5	2.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.6	134.4	134.6	35.0	20.4	20.5	43.5	17.5	17.6	40.3	18.8	17.1
LnGrp LOS	F	F	F	C	C	C	D	B	B	D	B	B
Approach Vol, veh/h	1501			529			404			422		
Approach Delay, s/veh	138.4			21.4			23.1			22.5		
Approach LOS	F			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	22.6	6.7	22.5	8.3	22.5	9.5	19.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.7	6.2	3.2	20.0	4.9	7.7	7.0	9.3				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	1.2	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	83.3											
HCM 6th LOS	F											

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	67	66	345	316	35
Future Vol, veh/h	28	67	66	345	316	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	73	72	375	343	38
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	694	191	381	0	-	0
Stage 1	362	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	377	818	1174	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	354	818	1174	-	-	-
Mov Cap-2 Maneuver	354	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.4	1.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1174	-	590	-	-	
HCM Lane V/C Ratio	0.061	-	0.175	-	-	
HCM Control Delay (s)	8.3	-	12.4	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-	

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	64	52	294	305	37
Future Vol, veh/h	30	64	52	294	305	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	70	57	320	332	40
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	626	186	372	0	-	0
Stage 1	352	-	-	-	-	-
Stage 2	274	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	416	824	1183	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	824	1183	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1183	-	613	-	-	
HCM Lane V/C Ratio	0.048	-	0.167	-	-	
HCM Control Delay (s)	8.2	-	12	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-	

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	42	0	37	2	441	35	27	584	0
Future Volume (veh/h)	0	0	0	42	0	37	2	441	35	27	584	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	44	0	39	2	464	37	28	615	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	88	147	125	5	1691	134	117	2748	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.08	0.00	0.51	0.51	0.03	0.54	0.00
Sat Flow, veh/h	0	-64819	0	1781	1870	1585	1781	3334	265	3456	5274	0
Grp Volume(v), veh/h	0	0	0	44	0	39	2	247	254	28	615	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1823	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	2.8	2.8	0.3	2.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	2.8	2.8	0.3	2.2	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	88	147	125	5	901	924	117	2748	0
V/C Ratio(X)	0.00	0.00	0.00	0.50	0.00	0.31	0.40	0.27	0.28	0.24	0.22	0.00
Avail Cap(c_a), veh/h	0	948	0	251	948	804	251	901	924	487	2748	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.4	0.0	15.4	17.7	5.0	5.0	16.7	4.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.3	0.0	1.4	44.2	0.8	0.7	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	0.3	0.1	0.8	0.8	0.1	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.7	0.0	16.9	61.8	5.8	5.8	17.7	4.5	0.0
LnGrp LOS	A	A	A	C	A	B	E	A	A	B	A	A
Approach Vol, veh/h	0			83			503			643		
Approach Delay, s/veh	0.0			18.9			6.0			5.1		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	6.3	1.0	4.6	23.6	7.3					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	4.8	2.9	0.0	2.0	4.2	2.8					
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	3.6	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	6.4											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	60	1	32	0	490	48	21	658	0
Future Volume (veh/h)	0	1	0	60	1	32	0	490	48	21	658	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	65	1	35	0	533	52	23	715	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	78	0	113	400	339	4	1418	138	97	2909	0
Arrive On Green	0.00	0.04	0.00	0.06	0.21	0.21	0.00	0.43	0.43	0.03	0.57	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	1781	3272	318	3456	5274	0
Grp Volume(v), veh/h	0	1	0	65	1	35	0	289	296	23	715	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1813	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.7	0.0	4.6	4.6	0.3	2.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	0.7	0.0	4.6	4.6	0.3	2.9	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	0	78	0	113	400	339	4	770	786	97	2909	0
V/C Ratio(X)	0.00	0.01	0.00	0.57	0.00	0.10	0.00	0.38	0.38	0.24	0.25	0.00
Avail Cap(c_a), veh/h	0	810	0	214	810	687	214	770	786	416	2909	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	19.1	0.0	18.9	12.8	13.1	0.0	8.0	8.0	19.8	4.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	4.5	0.0	0.1	0.0	1.4	1.4	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.2	0.0	1.6	1.6	0.1	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.1	0.0	23.4	12.9	13.3	0.0	9.4	9.4	21.0	4.7	0.0
LnGrp LOS	A	B	A	C	B	B	A	A	A	C	A	A
Approach Vol, veh/h	1			101			585			738		
Approach Delay, s/veh	19.1			19.8			9.4			5.2		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	7.1	6.2	0.0	28.2	13.4					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	6.6	3.5	2.0	0.0	4.9	2.7					
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	4.1	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	7.9											
HCM 6th LOS	A											

APPENDIX C

OPENING YEAR WITHOUT PROJECT LEVEL-OF- SERVICE WORKSHEET

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Future Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	251	403	836	73	142	53	307	39	187	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	759	338	425	1475	658	438	605	539	297	908	283
Arrive On Green	0.04	0.21	0.21	0.24	0.42	0.42	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1133	1777	1585	1022	2667	830
Grp Volume(v), veh/h	36	493	251	403	836	73	142	53	307	39	123	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1133	1777	1585	1022	1777	1721
Q Serve(g_s), s	1.3	8.2	9.6	14.5	11.7	1.8	6.6	1.3	10.3	2.1	3.2	3.3
Cycle Q Clear(g_c), s	1.3	8.2	9.6	14.5	11.7	1.8	10.0	1.3	10.3	12.4	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	65	759	338	425	1475	658	438	605	539	297	605	586
V/C Ratio(X)	0.55	0.65	0.74	0.95	0.57	0.11	0.32	0.09	0.57	0.13	0.20	0.21
Avail Cap(c_a), veh/h	153	984	439	425	1525	680	438	605	539	297	605	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	23.3	23.9	24.4	14.5	11.7	18.8	14.6	17.5	22.6	15.2	15.2
Incr Delay (d2), s/veh	7.0	1.0	4.8	22.1	0.3	0.0	1.7	0.3	3.8	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	3.8	8.3	4.3	0.6	1.8	0.5	4.0	0.6	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	24.3	28.7	46.5	14.8	11.7	20.5	14.8	21.4	23.5	15.9	16.1
LnGrp LOS	D	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		780			1312			502			286	
Approach Delay, s/veh		26.3			24.4			20.4			17.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	20.0	18.4		26.6	6.9	31.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	15.5	18.0		18.0	5.6	27.9				
Max Q Clear Time (g_c+I1), s		12.3	16.5	11.6		14.4	3.3	13.7				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.5	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	721	102	170	446	49	179	74	236	48	55	36
Future Volume (veh/h)	60	721	102	170	446	49	179	74	236	48	55	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	784	111	185	485	53	195	80	257	52	60	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	963	430	230	1227	547	580	666	594	385	802	478
Arrive On Green	0.06	0.27	0.27	0.13	0.35	0.35	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1296	1777	1585	1043	2141	1277
Grp Volume(v), veh/h	65	784	111	185	485	53	195	80	257	52	49	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1296	1777	1585	1043	1777	1641
Q Serve(g_s), s	2.1	12.4	3.3	6.1	6.2	1.4	6.9	1.8	7.3	2.3	1.1	1.2
Cycle Q Clear(g_c), s	2.1	12.4	3.3	6.1	6.2	1.4	8.0	1.8	7.3	9.6	1.1	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	98	963	430	230	1227	547	580	666	594	385	666	615
V/C Ratio(X)	0.66	0.81	0.26	0.80	0.40	0.10	0.34	0.12	0.43	0.14	0.07	0.08
Avail Cap(c_a), veh/h	193	1066	476	282	1244	555	580	666	594	385	666	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.5	17.1	25.4	14.9	13.3	14.7	12.3	14.0	17.6	12.1	12.1
Incr Delay (d2), s/veh	7.4	4.5	0.3	11.9	0.2	0.1	1.4	0.3	2.1	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	1.1	3.2	2.3	0.5	2.0	0.7	2.7	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	25.0	17.5	37.3	15.1	13.4	16.1	12.6	16.1	18.3	12.3	12.4
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h	960			723			532			151		
Approach Delay, s/veh	24.8			20.7			15.6			14.4		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	27.0			12.3			20.8			27.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.0			9.5			18.0			19.0		
Max Q Clear Time (g_c+I1), s	10.0			8.1			14.4			11.6		
Green Ext Time (p_c), s	1.9			0.1			1.9			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	20.8											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Future Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
Arrive On Green	0.06	0.28	0.28	0.12	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	997	1870	1585	1147	1870	1585
Grp Volume(v), veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	997	1870	1585	1147	1870	1585
Q Serve(g_s), s	2.4	6.5	4.7	5.6	15.9	0.9	6.8	2.6	2.9	3.4	4.4	5.1
Cycle Q Clear(g_c), s	2.4	6.5	4.7	5.6	15.9	0.9	11.3	2.6	2.9	6.0	4.4	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
V/C Ratio(X)	0.70	0.47	0.35	0.80	0.84	0.07	0.33	0.17	0.19	0.18	0.28	0.32
Avail Cap(c_a), veh/h	163	1066	476	282	1303	581	422	705	597	503	705	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.38	0.38	0.38	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	18.0	17.4	25.7	18.3	13.4	17.0	12.5	12.5	14.4	13.0	13.2
Incr Delay (d2), s/veh	6.6	0.3	0.4	4.5	1.9	0.0	0.8	0.2	0.3	0.8	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	1.6	2.5	6.1	0.3	1.5	1.0	1.0	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	18.3	17.7	30.2	20.2	13.4	17.8	12.7	12.8	15.2	14.0	14.6
LnGrp LOS	C	B	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h	691			1223			373			477		
Approach Delay, s/veh	19.8			21.4			14.6			14.5		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	27.1		11.7	21.2		27.1		8.0	24.9			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	19.0		9.5	18.0		19.0		5.5	22.0			
Max Q Clear Time (g_c+I1), s	13.3		7.6	8.5		8.0		4.4	17.9			
Green Ext Time (p_c), s	0.9		0.1	2.5		1.6		0.0	2.5			
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	769	86	96	491	58	134	100	113	71	76	89
Future Volume (veh/h)	97	769	86	96	491	58	134	100	113	71	76	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	836	93	104	534	63	146	109	123	77	83	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
Arrive On Green	0.08	0.29	0.29	0.07	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1315	1870	1585	1284	1870	1585
Grp Volume(v), veh/h	105	836	93	104	534	63	146	109	123	77	83	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1315	1870	1585	1284	1870	1585
Q Serve(g_s), s	3.2	11.9	2.4	3.2	6.9	1.6	4.4	2.1	2.8	2.3	1.6	2.2
Cycle Q Clear(g_c), s	3.2	11.9	2.4	3.2	6.9	1.6	6.0	2.1	2.8	4.4	1.6	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
V/C Ratio(X)	0.78	0.80	0.20	0.78	0.51	0.14	0.24	0.15	0.20	0.13	0.11	0.16
Avail Cap(c_a), veh/h	165	1169	522	162	1163	519	601	722	612	578	722	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.86	0.86	0.86	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	17.9	14.6	25.0	16.2	14.3	12.8	11.0	11.2	12.4	10.8	11.0
Incr Delay (d2), s/veh	11.3	2.3	0.1	15.8	0.3	0.1	0.4	0.2	0.3	0.5	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.6	0.8	1.8	2.5	0.5	1.2	0.8	0.9	0.7	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	20.2	14.7	40.9	16.5	14.4	13.2	11.2	11.6	12.9	11.2	11.6
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1034			701			378			257	
Approach Delay, s/veh		21.3			19.9			12.1			11.8	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.7	8.6	20.7		25.7	8.6	20.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.0	18.1		18.4	5.1	18.0				
Max Q Clear Time (g_c+I1), s		8.0	5.2	13.9		6.4	5.2	8.9				
Green Ext Time (p_c), s		1.1	0.0	2.2		0.8	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Future Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	448	170	592	957	100	229	74	433	102	88	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	609	271	668	1180	526	571	630	534	477	610	495
Arrive On Green	0.03	0.17	0.17	0.19	0.33	0.33	0.07	0.34	0.34	0.06	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1862	1513
Grp Volume(v), veh/h	32	448	170	592	957	100	229	74	433	102	84	83
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1598
Q Serve(g_s), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Cycle Q Clear(g_c), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	58	609	271	668	1180	526	571	630	534	477	582	523
V/C Ratio(X)	0.55	0.74	0.63	0.89	0.81	0.19	0.40	0.12	0.81	0.21	0.14	0.16
Avail Cap(c_a), veh/h	119	853	380	668	1303	581	571	630	534	491	582	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.5	28.8	29.4	22.9	17.9	16.3	17.2	22.7	15.0	17.8	17.9
Incr Delay (d2), s/veh	7.3	1.9	2.2	13.6	3.7	0.2	0.4	0.4	11.8	0.2	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.7	2.8	6.0	7.4	1.1	2.5	0.9	7.9	1.0	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	31.4	31.0	43.1	26.5	18.0	16.8	17.5	34.5	15.2	18.3	18.6
LnGrp LOS	D	C	C	D	C	B	B	B	C	B	B	B
Approach Vol, veh/h		650			1649			736			269	
Approach Delay, s/veh		31.8			32.0			27.3			17.2	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	29.8	19.0	17.3	9.6	29.1	6.9	29.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.5	14.5	18.0	5.1	19.4	5.0	27.5				
Max Q Clear Time (g_c+I1), s	4.8	20.7	14.5	11.0	7.1	4.8	3.3	20.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.7	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			29.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	778	174	488	490	148	159	131	592	103	73	43
Future Volume (veh/h)	53	778	174	488	490	148	159	131	592	103	73	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	846	189	530	533	161	173	142	643	112	79	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	911	406	583	1349	602	537	538	456	359	596	329
Arrive On Green	0.05	0.26	0.26	0.17	0.38	0.38	0.08	0.29	0.29	0.06	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2208	1220
Grp Volume(v), veh/h	58	846	189	530	533	161	173	142	643	112	62	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1651
Q Serve(g_s), s	2.6	18.6	8.1	12.0	8.8	5.6	5.6	4.7	23.0	3.6	2.1	2.3
Cycle Q Clear(g_c), s	2.6	18.6	8.1	12.0	8.8	5.6	5.6	4.7	23.0	3.6	2.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	81	911	406	583	1349	602	537	538	456	359	480	446
V/C Ratio(X)	0.72	0.93	0.47	0.91	0.39	0.27	0.32	0.26	1.41	0.31	0.13	0.14
Avail Cap(c_a), veh/h	154	911	406	583	1349	602	537	538	456	359	480	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	29.0	25.1	32.6	18.1	17.1	18.8	22.0	28.5	19.1	22.1	22.2
Incr Delay (d2), s/veh	8.3	12.0	0.6	18.3	0.2	0.2	0.3	1.1	196.4	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.7	2.9	6.1	3.2	1.9	2.2	2.1	32.7	1.4	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	41.1	25.7	50.9	18.3	17.4	19.1	23.1	224.9	19.6	22.7	22.8
LnGrp LOS	D	D	C	D	B	B	B	C	F	B	C	C
Approach Vol, veh/h		1093			1224			958			238	
Approach Delay, s/veh		38.7			32.3			157.8			21.3	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	27.5	18.0	25.0	10.9	26.1	8.1	34.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	23.0	13.5	20.5	6.4	21.6	6.9	27.1				
Max Q Clear Time (g_c+I1), s	5.6	25.0	14.0	20.6	7.6	4.3	4.6	10.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay				67.8								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Future Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	112	312	555	33	839	726	186	0	480	47	0	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	142	1060	473	58	893	398	891	0	0	891	0	0
Arrive On Green	0.08	0.30	0.30	0.03	0.25	0.25	0.50	0.00	0.00	0.50	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	186		1781	47	
Grp Volume(v), veh/h	112	312	555	33	839	726	186	11.3		47	10.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Cycle Q Clear(g_c), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	142	1060	473	58	893	398	891			891		
V/C Ratio(X)	0.79	0.29	1.17	0.57	0.94	1.82	0.21			0.05		
Avail Cap(c_a), veh/h	143	1060	473	114	893	398	891			891		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	36.2	21.6	28.1	38.2	29.4	29.9	11.1			10.3		
Incr Delay (d2), s/veh	25.1	0.2	98.6	8.5	17.3	380.1	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	2.1	21.1	0.7	9.3	49.0	1.6			0.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	21.7	126.6	46.7	46.7	410.1	11.3			10.3		
LnGrp LOS	E	C	F	D	D	F	B			B		
Approach Vol, veh/h	979			1598								
Approach Delay, s/veh	85.7			211.8								
Approach LOS	F			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	44.5		7.1	28.4	44.5		10.9	24.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.4		5.1	21.4	9.5		6.4	20.1				
Max Q Clear Time (g_c+I1), s	3.1		3.5	25.9	6.7		6.9	22.1				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	151.2											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	157	845	471	33	486	395	127	0	859	80	0	517
Future Volume (veh/h)	157	845	471	33	486	395	127	0	859	80	0	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	171	918	512	36	528	429	138	0	934	87	0	562
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	209	1145	511	63	853	380	824	0	0	824	0	0
Arrive On Green	0.12	0.32	0.32	0.04	0.24	0.24	0.46	0.00	0.00	0.46	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	138		1781	87	
Grp Volume(v), veh/h	171	918	512	36	528	429	138	11.8		87	11.4	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	7.0	17.7	24.2	1.5	9.9	18.0	3.4			2.1		
Cycle Q Clear(g_c), s	7.0	17.7	24.2	1.5	9.9	18.0	3.4			2.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	209	1145	511	63	853	380	824			824		
V/C Ratio(X)	0.82	0.80	1.00	0.57	0.62	1.13	0.17			0.11		
Avail Cap(c_a), veh/h	226	1145	511	119	853	380	824			824		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	32.3	23.2	25.4	35.6	25.4	28.5	11.7			11.4		
Incr Delay (d2), s/veh	19.5	4.2	40.5	8.0	1.4	85.5	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.9	7.2	13.7	0.7	4.0	15.2	1.2			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	27.4	66.0	43.7	26.8	114.0	11.8			11.4		
LnGrp LOS	D	C	F	D	C	F	B			B		
Approach Vol, veh/h	1601			993								
Approach Delay, s/veh	42.4			65.1								
Approach LOS	D			E								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	39.2		7.1	28.7	39.2		13.3	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.5		5.0	22.5	7.5		9.5	18.0				
Max Q Clear Time (g_c+I1), s	4.1		3.5	26.2	5.4		9.0	20.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	47.9											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Future Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1770		1770	3538			3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1863		1770	3538			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	2	15	1	0	0	12	504	1	0	459	337
RTOR Reduction (vph)	0	1	12	0	0	0	0	0	0	0	0	126
Lane Group Flow (vph)	104	102	1	0	1	0	12	505	0	0	459	211
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Effective Green, g (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Actuated g/C Ratio	0.11	0.11	0.11		0.01		0.02	0.70			0.63	0.63
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	191	183	171		27		33	2485			2220	993
v/s Ratio Prot	0.06	c0.06					0.01	c0.14			0.13	
v/s Ratio Perm			0.00		c0.00							0.13
v/c Ratio	0.54	0.56	0.01		0.04		0.36	0.20			0.21	0.21
Uniform Delay, d1	33.5	33.5	31.4		38.8		38.8	4.1			6.4	6.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	3.7	0.0		0.6		6.7	0.2			0.2	0.5
Delay (s)	36.6	37.2	31.5		39.4		45.5	4.3			6.6	6.9
Level of Service	D	D	C		D		D	A			A	A
Approach Delay (s)		36.6			39.4			5.3			6.7	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			38.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	0	21	3	9	1	19	501	1	1	471	216
Future Volume (vph)	328	0	21	3	9	1	19	501	1	1	471	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1825		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.45	1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1845		1770	3538		835	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	0	23	3	10	1	21	545	1	1	512	235
RTOR Reduction (vph)	0	119	17	0	1	0	0	0	0	0	0	106
Lane Group Flow (vph)	178	62	4	0	13	0	21	546	0	1	512	129
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.6	13.6	13.6		1.5		3.0	51.4		43.9	43.9	43.9
Effective Green, g (s)	13.6	13.6	13.6		1.5		3.0	51.4		43.9	43.9	43.9
Actuated g/C Ratio	0.17	0.17	0.17		0.02		0.04	0.64		0.55	0.55	0.55
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	285	274	255		34		66	2273		458	1942	868
v/s Ratio Prot	c0.11	0.04					0.01	c0.15			c0.14	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.62	0.23	0.01		0.38		0.32	0.24		0.00	0.26	0.15
Uniform Delay, d1	30.8	28.7	27.6		38.8		37.5	6.0		8.2	9.5	8.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		0.36	0.29	0.04
Incremental Delay, d2	4.2	0.4	0.0		7.0		2.8	0.3		0.0	0.2	0.3
Delay (s)	35.1	29.1	27.6		45.8		40.3	6.3		2.9	3.0	0.6
Level of Service	D	C	C		D		D	A		A	A	A
Approach Delay (s)		31.8			45.8			7.6			2.3	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			39.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Future Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	653	130	100	824	150	158	353	90	199	421	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	780	155	128	911	406	194	817	206	238	590	500
Arrive On Green	0.08	0.26	0.26	0.07	0.26	0.26	0.11	0.29	0.29	0.13	0.32	0.32
Sat Flow, veh/h	1781	2954	587	1781	3554	1585	1781	2812	708	1781	1870	1585
Grp Volume(v), veh/h	111	392	391	100	824	150	158	221	222	199	421	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1585	1781	1777	1743	1781	1870	1585
Q Serve(g_s), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Cycle Q Clear(g_c), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	141	469	466	128	911	406	194	516	507	238	590	500
V/C Ratio(X)	0.79	0.84	0.84	0.78	0.90	0.37	0.81	0.43	0.44	0.84	0.71	0.36
Avail Cap(c_a), veh/h	154	486	482	131	924	412	202	516	507	249	590	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	33.9	26.1	26.1	34.2	27.0	22.9	32.7	21.6	21.6	31.7	22.7	19.8
Incr Delay (d2), s/veh	21.6	11.8	12.1	25.5	12.1	0.6	21.2	2.6	2.7	16.3	5.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.6	7.6	2.6	8.1	2.1	3.8	3.3	3.4	4.5	7.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	37.9	38.2	59.8	39.1	23.5	53.8	24.1	24.4	48.0	28.2	21.4
LnGrp LOS	E	D	D	E	D	C	D	C	C	D	C	C
Approach Vol, veh/h		894			1074			601			800	
Approach Delay, s/veh		40.2			38.8			32.0			31.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	26.3	9.9	24.3	12.7	28.1	10.4	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	20.5	5.5	20.5	8.5	22.5	6.5	19.5				
Max Q Clear Time (g_c+I1), s	10.2	9.8	6.1	17.7	8.5	16.9	6.6	18.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.3	0.0	1.6	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	818	126	110	714	114	205	306	127	146	240	84
Future Volume (veh/h)	56	818	126	110	714	114	205	306	127	146	240	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	889	137	120	776	124	223	333	138	159	261	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	959	148	148	1242	554	258	734	299	193	489	414
Arrive On Green	0.04	0.31	0.31	0.17	0.70	0.70	0.15	0.30	0.30	0.11	0.26	0.26
Sat Flow, veh/h	1781	3086	476	1781	3554	1585	1781	2464	1002	1781	1870	1585
Grp Volume(v), veh/h	61	512	514	120	776	124	223	238	233	159	261	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	3.1	25.1	25.1	5.8	10.5	2.5	11.0	9.8	10.1	7.9	10.8	4.0
Cycle Q Clear(g_c), s	3.1	25.1	25.1	5.8	10.5	2.5	11.0	9.8	10.1	7.9	10.8	4.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	79	552	554	148	1242	554	258	530	504	193	489	414
V/C Ratio(X)	0.78	0.93	0.93	0.81	0.62	0.22	0.86	0.45	0.46	0.82	0.53	0.22
Avail Cap(c_a), veh/h	156	563	565	168	1242	554	287	530	504	232	489	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	42.6	30.0	30.0	36.9	10.4	9.2	37.6	25.6	25.7	39.3	28.5	26.1
Incr Delay (d2), s/veh	15.0	21.5	21.5	22.8	1.0	0.2	21.2	2.8	3.0	16.8	3.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.3	13.3	3.2	2.7	0.8	6.2	4.4	4.3	4.3	5.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	51.6	51.5	59.6	11.4	9.4	58.8	28.4	28.7	56.1	32.4	27.2
LnGrp LOS	E	D	D	E	B	A	E	C	C	E	C	C
Approach Vol, veh/h		1087			1020			694			511	
Approach Delay, s/veh		51.9			16.8			38.3			38.8	
Approach LOS		D			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	31.3	12.0	32.5	17.6	28.0	8.5	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.7	23.3	8.5	28.5	14.5	20.5	7.9	29.1				
Max Q Clear Time (g_c+I1), s	9.9	12.1	7.8	27.1	13.0	12.8	5.1	12.5				
Green Ext Time (p_c), s	0.1	2.1	0.0	0.9	0.1	1.1	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Future Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	920	87	139	1193	11	0	0	102	0	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	1007	0	0	-	-	460	-	-	597
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	575	-	-	684	-	-	0	0	548	0	0	446
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	684	-	-	-	-	548	-	-	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.2			13.1			13.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	548	575	-	-	684	-	-	446				
HCM Lane V/C Ratio	0.186	0.042	-	-	0.203	-	-	0.019				
HCM Control Delay (s)	13.1	11.5	-	-	11.6	-	-	13.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.8	-	-	0.1				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	1077	59	74	952	5	0	0	127	0	0	28
Future Vol, veh/h	22	1077	59	74	952	5	0	0	127	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	1171	64	80	1035	5	0	0	138	0	0	30
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1040	0	0	1235	0	0	-	-	586	-	-	518
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	664	-	-	560	-	-	0	0	454	0	0	502
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	664	-	-	560	-	-	-	-	454	-	-	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.2		0.9			16.4			12.6			
HCM LOS						C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	454	664	-	-	560	-	-	502				
HCM Lane V/C Ratio	0.304	0.036	-	-	0.144	-	-	0.061				
HCM Control Delay (s)	16.4	10.6	-	-	12.5	-	-	12.6				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.5	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Future Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	932	90	79	1337	12	11	3	18	12	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	1617	721	288	1642	15	254	96	337	437	267	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	404	3554	1585	601	3609	32	434	252	882	871	699	0
Grp Volume(v), veh/h	4	932	90	79	658	691	32	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	404	1777	1585	601	1777	1865	1569	0	0	1570	0	0
Q Serve(g_s), s	0.5	10.7	1.8	6.2	17.6	17.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	10.7	1.8	16.8	17.6	17.6	0.7	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.34		0.56	0.60		0.00
Lane Grp Cap(c), veh/h	185	1617	721	288	808	848	686	0	0	704	0	0
V/C Ratio(X)	0.02	0.58	0.12	0.27	0.81	0.81	0.05	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	203	1777	793	315	888	932	686	0	0	704	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	11.1	8.7	17.3	13.0	13.0	10.7	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.2	2.1	2.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.5	0.8	6.2	6.4	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	11.5	8.7	17.5	15.1	15.0	10.9	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	C	B	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1026			1428			32			20	
Approach Delay, s/veh		11.3			15.2			10.9			10.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.5		29.5		25.5		29.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		2.7		20.1		2.4		19.6				
Green Ext Time (p_c), s		0.1		3.9		0.0		5.4				
Intersection Summary												
HCM 6th Ctrl Delay				13.5								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1383	21	12	976	12	85	10	86	28	8	0
Future Volume (veh/h)	9	1383	21	12	976	12	85	10	86	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1503	23	13	1061	13	92	11	93	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1787	797	168	1808	22	307	60	252	479	131	0
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.00
Sat Flow, veh/h	525	3554	1585	349	3595	44	631	174	727	1074	376	0
Grp Volume(v), veh/h	10	1503	23	13	524	550	196	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	525	1777	1585	349	1777	1862	1531	0	0	1451	0	0
Q Serve(g_s), s	0.8	21.9	0.4	2.0	12.5	12.5	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.3	21.9	0.4	23.9	12.5	12.5	5.5	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.47		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	275	1787	797	168	894	937	620	0	0	610	0	0
V/C Ratio(X)	0.04	0.84	0.03	0.08	0.59	0.59	0.32	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	295	1925	859	182	962	1009	620	0	0	610	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.62	0.62	0.62	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.2	12.8	7.5	23.1	10.5	10.5	14.5	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	3.3	0.0	0.1	0.5	0.5	1.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.9	0.1	0.2	4.1	4.3	2.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	16.2	7.5	23.2	11.0	11.0	15.9	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1536			1087			196			39	
Approach Delay, s/veh		16.0			11.2			15.9			13.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.3		34.7		25.3		34.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5		32.5				
Max Q Clear Time (g_c+I1), s		7.5		23.9		2.9		25.9				
Green Ext Time (p_c), s		0.8		6.3		0.1		3.7				
Intersection Summary												
HCM 6th Ctrl Delay				14.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Future Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	699	7	10	1020	129	2	1	10	153	4	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1538	15	22	1126	502	261	118	407	186	769	651
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.32	0.26	0.26	0.26	0.10	0.41	0.41
Sat Flow, veh/h	1781	3605	36	1781	3554	1585	756	459	1585	1781	1870	1585
Grp Volume(v), veh/h	183	345	361	10	1020	129	3	0	10	153	4	377
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1215	0	1585	1781	1870	1585
Q Serve(g_s), s	9.0	12.4	12.4	0.5	24.8	5.4	0.0	0.0	0.4	7.6	0.1	16.5
Cycle Q Clear(g_c), s	9.0	12.4	12.4	0.5	24.8	5.4	0.1	0.0	0.4	7.6	0.1	16.5
Prop In Lane	1.00		0.02	1.00		1.00	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	758	795	22	1126	502	378	0	407	186	769	651
V/C Ratio(X)	0.84	0.45	0.45	0.46	0.91	0.26	0.01	0.00	0.02	0.82	0.01	0.58
Avail Cap(c_a), veh/h	247	758	795	99	1165	520	378	0	407	208	769	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.71	0.71	0.71	1.00	0.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	38.6	18.3	18.3	44.1	29.5	22.9	24.9	0.0	25.0	39.5	15.6	20.5
Incr Delay (d2), s/veh	17.1	0.3	0.3	10.2	7.5	0.2	0.0	0.0	0.1	19.5	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.8	5.0	0.3	11.0	2.0	0.1	0.0	0.2	4.2	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	18.7	18.7	54.3	37.0	23.1	24.9	0.0	25.1	58.9	15.7	23.9
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		889			1159			13			534	
Approach Delay, s/veh		26.3			35.6			25.1			33.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	27.6	5.6	42.9		41.5	15.5	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	19.5	5.0	37.0		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	9.6	2.4	2.5	14.4		18.5	11.0	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1		1.2	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1097	7	21	761	126	11	7	22	125	4	163
Future Volume (veh/h)	173	1097	7	21	761	126	11	7	22	125	4	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1192	8	23	827	137	12	8	24	136	4	177
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	1336	9	45	949	423	299	182	453	169	818	693
Arrive On Green	0.13	0.37	0.37	0.03	0.27	0.27	0.29	0.29	0.29	0.10	0.44	0.44
Sat Flow, veh/h	1781	3619	24	1781	3554	1585	793	638	1585	1781	1870	1585
Grp Volume(v), veh/h	188	585	615	23	827	137	20	0	24	136	4	177
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1431	0	1585	1781	1870	1585
Q Serve(g_s), s	8.2	24.8	24.8	1.0	17.8	5.5	0.0	0.0	0.9	6.0	0.1	5.7
Cycle Q Clear(g_c), s	8.2	24.8	24.8	1.0	17.8	5.5	0.6	0.0	0.9	6.0	0.1	5.7
Prop In Lane	1.00		0.01	1.00		1.00	0.60		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	656	689	45	949	423	481	0	453	169	818	693
V/C Ratio(X)	0.83	0.89	0.89	0.52	0.87	0.32	0.04	0.00	0.05	0.80	0.00	0.26
Avail Cap(c_a), veh/h	265	656	689	114	1008	450	481	0	453	189	818	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.84	0.84	0.84	1.00	0.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	34.1	23.7	23.7	38.5	28.0	23.5	20.6	0.0	20.7	35.5	12.7	14.3
Incr Delay (d2), s/veh	9.3	8.0	7.6	7.6	6.9	0.4	0.2	0.0	0.2	18.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	10.8	11.2	0.5	7.9	2.0	0.3	0.0	0.3	3.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	31.7	31.4	46.1	34.9	23.9	20.8	0.0	20.9	54.4	12.7	15.1
LnGrp LOS	D	C	C	D	C	C	C	A	C	D	B	B
Approach Vol, veh/h		1388			987			44			317	
Approach Delay, s/veh		33.1			33.6			20.9			31.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.1	27.4	6.5	34.0		39.5	14.7	25.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	18.9	5.1	29.5		31.9	11.9	22.7				
Max Q Clear Time (g_c+I1), s	8.0	2.9	3.0	26.8		7.7	10.2	19.8				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.8		0.5	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Future Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	495	143	165	848	37	196	253	77	65	312	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1040	464	207	1010	450	752	988	294	434	931	342
Arrive On Green	0.12	0.29	0.29	0.12	0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1860	2699	803	1050	2544	935
Grp Volume(v), veh/h	178	495	143	165	848	37	196	165	165	65	216	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	930	1777	1726	1050	1777	1702
Q Serve(g_s), s	5.8	6.9	4.2	5.4	13.5	1.0	5.1	3.9	4.0	2.8	5.3	5.4
Cycle Q Clear(g_c), s	5.8	6.9	4.2	5.4	13.5	1.0	10.6	3.9	4.0	6.8	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.55
Lane Grp Cap(c), veh/h	223	1040	464	207	1010	450	752	650	632	434	650	623
V/C Ratio(X)	0.80	0.48	0.31	0.80	0.84	0.08	0.26	0.25	0.26	0.15	0.33	0.34
Avail Cap(c_a), veh/h	282	1143	510	258	1096	489	752	650	632	434	650	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.4	16.5	25.8	20.2	15.7	17.6	13.3	13.3	15.7	13.7	13.8
Incr Delay (d2), s/veh	10.7	0.3	0.3	12.8	5.6	0.1	0.8	0.9	1.0	0.7	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	1.4	2.8	5.6	0.3	1.0	1.5	1.5	0.7	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	17.7	16.8	38.7	25.8	15.8	18.5	14.2	14.3	16.5	15.1	15.3
LnGrp LOS	D	B	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		816			1050			526			494	
Approach Delay, s/veh		21.6			27.5			15.8			15.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	11.5	22.1		26.5	12.0	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	8.7	19.3		18.5	9.5	18.5				
Max Q Clear Time (g_c+I1), s		12.6	7.4	8.9		8.8	7.8	15.5				
Green Ext Time (p_c), s		1.5	0.1	2.6		1.9	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	978	165	121	624	49	120	254	124	77	197	77
Future Volume (veh/h)	161	978	165	121	624	49	120	254	124	77	197	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	1063	179	132	678	53	130	276	135	84	214	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1188	530	168	1087	485	835	809	385	370	872	332
Arrive On Green	0.12	0.33	0.33	0.09	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2098	2336	1111	975	2518	957
Grp Volume(v), veh/h	175	1063	179	132	678	53	130	208	203	84	149	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1049	1777	1670	975	1777	1698
Q Serve(g_s), s	5.7	17.0	5.1	4.3	9.8	1.4	2.8	5.2	5.4	4.2	3.6	3.8
Cycle Q Clear(g_c), s	5.7	17.0	5.1	4.3	9.8	1.4	6.6	5.2	5.4	9.6	3.6	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		0.56
Lane Grp Cap(c), veh/h	219	1188	530	168	1087	485	835	616	579	370	616	588
V/C Ratio(X)	0.80	0.89	0.34	0.79	0.62	0.11	0.16	0.34	0.35	0.23	0.24	0.25
Avail Cap(c_a), veh/h	267	1214	542	193	1087	485	835	616	579	370	616	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	19.0	15.0	26.6	17.9	15.0	16.4	14.5	14.6	18.2	14.0	14.0
Incr Delay (d2), s/veh	7.4	5.0	0.2	17.0	1.1	0.1	0.4	1.5	1.7	1.4	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.7	1.6	2.5	3.6	0.5	0.6	2.0	2.0	1.0	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	23.9	15.2	43.6	19.0	15.1	16.8	16.0	16.3	19.6	14.9	15.1
LnGrp LOS	C	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1417			863			541			382	
Approach Delay, s/veh		23.9			22.5			16.3			16.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	10.2	24.6		25.3	11.9	22.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	9.0	18.0				
Max Q Clear Time (g_c+I1), s		8.6	6.3	19.0		11.6	7.7	11.8				
Green Ext Time (p_c), s		2.2	0.0	1.0		1.2	0.1	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Future Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	251	403	836	73	142	53	307	39	187	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	759	338	425	1475	658	438	605	539	297	908	283
Arrive On Green	0.04	0.21	0.21	0.24	0.42	0.42	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1133	1777	1585	1022	2667	830
Grp Volume(v), veh/h	36	493	251	403	836	73	142	53	307	39	123	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1133	1777	1585	1022	1777	1721
Q Serve(g_s), s	1.3	8.2	9.6	14.5	11.7	1.8	6.6	1.3	10.3	2.1	3.2	3.3
Cycle Q Clear(g_c), s	1.3	8.2	9.6	14.5	11.7	1.8	10.0	1.3	10.3	12.4	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	65	759	338	425	1475	658	438	605	539	297	605	586
V/C Ratio(X)	0.55	0.65	0.74	0.95	0.57	0.11	0.32	0.09	0.57	0.13	0.20	0.21
Avail Cap(c_a), veh/h	153	984	439	425	1525	680	438	605	539	297	605	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	23.3	23.9	24.4	14.5	11.7	18.8	14.6	17.5	22.6	15.2	15.2
Incr Delay (d2), s/veh	7.0	1.0	4.8	22.1	0.3	0.0	1.7	0.3	3.8	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	3.8	8.3	4.3	0.6	1.8	0.5	4.0	0.6	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	24.3	28.7	46.5	14.8	11.7	20.5	14.8	21.4	23.5	15.9	16.1
LnGrp LOS	D	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		780			1312			502			286	
Approach Delay, s/veh		26.3			24.4			20.4			17.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	20.0	18.4		26.6	6.9	31.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	15.5	18.0		18.0	5.6	27.9				
Max Q Clear Time (g_c+I1), s		12.3	16.5	11.6		14.4	3.3	13.7				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.5	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	721	102	170	446	49	179	74	236	48	55	36
Future Volume (veh/h)	60	721	102	170	446	49	179	74	236	48	55	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	784	111	185	485	53	195	80	257	52	60	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	963	430	230	1227	547	580	666	594	385	802	478
Arrive On Green	0.06	0.27	0.27	0.13	0.35	0.35	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1296	1777	1585	1043	2141	1277
Grp Volume(v), veh/h	65	784	111	185	485	53	195	80	257	52	49	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1296	1777	1585	1043	1777	1641
Q Serve(g_s), s	2.1	12.4	3.3	6.1	6.2	1.4	6.9	1.8	7.3	2.3	1.1	1.2
Cycle Q Clear(g_c), s	2.1	12.4	3.3	6.1	6.2	1.4	8.0	1.8	7.3	9.6	1.1	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	98	963	430	230	1227	547	580	666	594	385	666	615
V/C Ratio(X)	0.66	0.81	0.26	0.80	0.40	0.10	0.34	0.12	0.43	0.14	0.07	0.08
Avail Cap(c_a), veh/h	193	1066	476	282	1244	555	580	666	594	385	666	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.5	17.1	25.4	14.9	13.3	14.7	12.3	14.0	17.6	12.1	12.1
Incr Delay (d2), s/veh	7.4	4.5	0.3	11.9	0.2	0.1	1.4	0.3	2.1	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	1.1	3.2	2.3	0.5	2.0	0.7	2.7	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	25.0	17.5	37.3	15.1	13.4	16.1	12.6	16.1	18.3	12.3	12.4
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		960			723			532			151	
Approach Delay, s/veh		24.8			20.7			15.6			14.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	12.3	20.8		27.0	7.8	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	9.5	18.0		19.0	6.5	21.0				
Max Q Clear Time (g_c+I1), s		10.0	8.1	14.4		11.6	4.1	8.2				
Green Ext Time (p_c), s		1.9	0.1	1.9		0.4	0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Future Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
Arrive On Green	0.06	0.28	0.28	0.12	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	997	1870	1585	1147	1870	1585
Grp Volume(v), veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	997	1870	1585	1147	1870	1585
Q Serve(g_s), s	2.4	6.5	4.7	5.6	15.9	0.9	6.8	2.6	2.9	3.4	4.4	5.1
Cycle Q Clear(g_c), s	2.4	6.5	4.7	5.6	15.9	0.9	11.3	2.6	2.9	6.0	4.4	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
V/C Ratio(X)	0.70	0.47	0.35	0.80	0.84	0.07	0.33	0.17	0.19	0.18	0.28	0.32
Avail Cap(c_a), veh/h	163	1066	476	282	1303	581	422	705	597	503	705	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.38	0.38	0.38	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	18.0	17.4	25.7	18.3	13.4	17.0	12.5	12.5	14.4	13.0	13.2
Incr Delay (d2), s/veh	6.6	0.3	0.4	4.5	1.9	0.0	0.8	0.2	0.3	0.8	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	1.6	2.5	6.1	0.3	1.5	1.0	1.0	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	18.3	17.7	30.2	20.2	13.4	17.8	12.7	12.8	15.2	14.0	14.6
LnGrp LOS	C	B	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h	691			1223			373			477		
Approach Delay, s/veh	19.8			21.4			14.6			14.5		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	27.1			11.7			21.2			27.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.0			9.5			18.0			19.0		
Max Q Clear Time (g_c+I1), s	13.3			7.6			8.5			8.0		
Green Ext Time (p_c), s	0.9			0.1			2.5			1.6		
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	769	86	96	491	58	134	100	113	71	76	89
Future Volume (veh/h)	97	769	86	96	491	58	134	100	113	71	76	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	836	93	104	534	63	146	109	123	77	83	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
Arrive On Green	0.08	0.29	0.29	0.07	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1315	1870	1585	1284	1870	1585
Grp Volume(v), veh/h	105	836	93	104	534	63	146	109	123	77	83	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1315	1870	1585	1284	1870	1585
Q Serve(g_s), s	3.2	11.9	2.4	3.2	6.9	1.6	4.4	2.1	2.8	2.3	1.6	2.2
Cycle Q Clear(g_c), s	3.2	11.9	2.4	3.2	6.9	1.6	6.0	2.1	2.8	4.4	1.6	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
V/C Ratio(X)	0.78	0.80	0.20	0.78	0.51	0.14	0.24	0.15	0.20	0.13	0.11	0.16
Avail Cap(c_a), veh/h	165	1169	522	162	1163	519	601	722	612	578	722	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.86	0.86	0.86	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	17.9	14.6	25.0	16.2	14.3	12.8	11.0	11.2	12.4	10.8	11.0
Incr Delay (d2), s/veh	11.3	2.3	0.1	15.8	0.3	0.1	0.4	0.2	0.3	0.5	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.6	0.8	1.8	2.5	0.5	1.2	0.8	0.9	0.7	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	20.2	14.7	40.9	16.5	14.4	13.2	11.2	11.6	12.9	11.2	11.6
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1034			701			378			257	
Approach Delay, s/veh		21.3			19.9			12.1			11.8	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.7	8.6	20.7		25.7	8.6	20.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.0	18.1		18.4	5.1	18.0				
Max Q Clear Time (g_c+I1), s		8.0	5.2	13.9		6.4	5.2	8.9				
Green Ext Time (p_c), s		1.1	0.0	2.2		0.8	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Future Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	448	170	592	957	100	229	74	433	102	88	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	609	271	668	1180	526	571	630	534	477	610	495
Arrive On Green	0.03	0.17	0.17	0.19	0.33	0.33	0.07	0.34	0.34	0.06	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1862	1513
Grp Volume(v), veh/h	32	448	170	592	957	100	229	74	433	102	84	83
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1598
Q Serve(g_s), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Cycle Q Clear(g_c), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	58	609	271	668	1180	526	571	630	534	477	582	523
V/C Ratio(X)	0.55	0.74	0.63	0.89	0.81	0.19	0.40	0.12	0.81	0.21	0.14	0.16
Avail Cap(c_a), veh/h	119	853	380	668	1303	581	571	630	534	491	582	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.5	28.8	29.4	22.9	17.9	16.3	17.2	22.7	15.0	17.8	17.9
Incr Delay (d2), s/veh	7.3	1.9	2.2	13.6	3.7	0.2	0.4	0.4	11.8	0.2	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.7	2.8	6.0	7.4	1.1	2.5	0.9	7.9	1.0	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	31.4	31.0	43.1	26.5	18.0	16.8	17.5	34.5	15.2	18.3	18.6
LnGrp LOS	D	C	C	D	C	B	B	B	C	B	B	B
Approach Vol, veh/h		650			1649			736			269	
Approach Delay, s/veh		31.8			32.0			27.3			17.2	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	29.8	19.0	17.3	9.6	29.1	6.9	29.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.5	14.5	18.0	5.1	19.4	5.0	27.5				
Max Q Clear Time (g_c+I1), s	4.8	20.7	14.5	11.0	7.1	4.8	3.3	20.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.7	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	778	174	488	490	148	159	131	592	103	73	43
Future Volume (veh/h)	53	778	174	488	490	148	159	131	592	103	73	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	846	189	530	533	161	173	142	643	112	79	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	911	406	583	1349	602	537	538	456	359	596	329
Arrive On Green	0.05	0.26	0.26	0.17	0.38	0.38	0.08	0.29	0.29	0.06	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2208	1220
Grp Volume(v), veh/h	58	846	189	530	533	161	173	142	643	112	62	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1651
Q Serve(g_s), s	2.6	18.6	8.1	12.0	8.8	5.6	5.6	4.7	23.0	3.6	2.1	2.3
Cycle Q Clear(g_c), s	2.6	18.6	8.1	12.0	8.8	5.6	5.6	4.7	23.0	3.6	2.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	81	911	406	583	1349	602	537	538	456	359	480	446
V/C Ratio(X)	0.72	0.93	0.47	0.91	0.39	0.27	0.32	0.26	1.41	0.31	0.13	0.14
Avail Cap(c_a), veh/h	154	911	406	583	1349	602	537	538	456	359	480	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	29.0	25.1	32.6	18.1	17.1	18.8	22.0	28.5	19.1	22.1	22.2
Incr Delay (d2), s/veh	8.3	12.0	0.6	18.3	0.2	0.2	0.3	1.1	196.4	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.7	2.9	6.1	3.2	1.9	2.2	2.1	32.7	1.4	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	41.1	25.7	50.9	18.3	17.4	19.1	23.1	224.9	19.6	22.7	22.8
LnGrp LOS	D	D	C	D	B	B	B	C	F	B	C	C
Approach Vol, veh/h		1093			1224			958			238	
Approach Delay, s/veh		38.7			32.3			157.8			21.3	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	27.5	18.0	25.0	10.9	26.1	8.1	34.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	23.0	13.5	20.5	6.4	21.6	6.9	27.1				
Max Q Clear Time (g_c+I1), s	5.6	25.0	14.0	20.6	7.6	4.3	4.6	10.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay				67.8								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Future Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	112	312	555	33	839	726	186	0	480	47	0	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	142	1060	473	58	893	398	891	0	0	891	0	0
Arrive On Green	0.08	0.30	0.30	0.03	0.25	0.25	0.50	0.00	0.00	0.50	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	186		1781	47	
Grp Volume(v), veh/h	112	312	555	33	839	726	186	11.3		47	10.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Cycle Q Clear(g_c), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	142	1060	473	58	893	398	891			891		
V/C Ratio(X)	0.79	0.29	1.17	0.57	0.94	1.82	0.21			0.05		
Avail Cap(c_a), veh/h	143	1060	473	114	893	398	891			891		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	36.2	21.6	28.1	38.2	29.4	29.9	11.1			10.3		
Incr Delay (d2), s/veh	25.1	0.2	98.6	8.5	17.3	380.1	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	2.1	21.1	0.7	9.3	49.0	1.6			0.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	21.7	126.6	46.7	46.7	410.1	11.3			10.3		
LnGrp LOS	E	C	F	D	D	F	B			B		
Approach Vol, veh/h	979			1598								
Approach Delay, s/veh	85.7			211.8								
Approach LOS	F			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	44.5		7.1	28.4	44.5		10.9	24.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.4		5.1	21.4	9.5		6.4	20.1				
Max Q Clear Time (g_c+I1), s	3.1		3.5	25.9	6.7		6.9	22.1				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	151.2											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	157	845	471	33	486	395	127	0	859	80	0	517
Future Volume (veh/h)	157	845	471	33	486	395	127	0	859	80	0	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	171	918	512	36	528	429	138	0	934	87	0	562
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	209	1145	511	63	853	380	824	0	0	824	0	0
Arrive On Green	0.12	0.32	0.32	0.04	0.24	0.24	0.46	0.00	0.00	0.46	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	138		1781	87	
Grp Volume(v), veh/h	171	918	512	36	528	429	138	11.8		87	11.4	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	7.0	17.7	24.2	1.5	9.9	18.0	3.4			2.1		
Cycle Q Clear(g_c), s	7.0	17.7	24.2	1.5	9.9	18.0	3.4			2.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	209	1145	511	63	853	380	824			824		
V/C Ratio(X)	0.82	0.80	1.00	0.57	0.62	1.13	0.17			0.11		
Avail Cap(c_a), veh/h	226	1145	511	119	853	380	824			824		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	32.3	23.2	25.4	35.6	25.4	28.5	11.7			11.4		
Incr Delay (d2), s/veh	19.5	4.2	40.5	8.0	1.4	85.5	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.9	7.2	13.7	0.7	4.0	15.2	1.2			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	27.4	66.0	43.7	26.8	114.0	11.8			11.4		
LnGrp LOS	D	C	F	D	C	F	B			B		
Approach Vol, veh/h		1601			993							
Approach Delay, s/veh		42.4			65.1							
Approach LOS		D			E							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	39.2		7.1	28.7	39.2		13.3	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.5		5.0	22.5	7.5		9.5	18.0				
Max Q Clear Time (g_c+I1), s	4.1		3.5	26.2	5.4		9.0	20.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			47.9									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Future Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1770		1770	3538			3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1863		1770	3538			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	2	15	1	0	0	12	504	1	0	459	337
RTOR Reduction (vph)	0	1	12	0	0	0	0	0	0	0	0	126
Lane Group Flow (vph)	104	102	1	0	1	0	12	505	0	0	459	211
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Effective Green, g (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Actuated g/C Ratio	0.11	0.11	0.11		0.01		0.02	0.70			0.63	0.63
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	191	183	171		27		33	2485			2220	993
v/s Ratio Prot	0.06	c0.06					0.01	c0.14			0.13	
v/s Ratio Perm			0.00		c0.00							0.13
v/c Ratio	0.54	0.56	0.01		0.04		0.36	0.20			0.21	0.21
Uniform Delay, d1	33.5	33.5	31.4		38.8		38.8	4.1			6.4	6.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	3.7	0.0		0.6		6.7	0.2			0.2	0.5
Delay (s)	36.6	37.2	31.5		39.4		45.5	4.3			6.6	6.9
Level of Service	D	D	C		D		D	A			A	A
Approach Delay (s)		36.6			39.4			5.3			6.7	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			38.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	0	21	3	9	1	19	501	1	1	471	216
Future Volume (vph)	328	0	21	3	9	1	19	501	1	1	471	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1825		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.45	1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1845		1770	3538		835	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	0	23	3	10	1	21	545	1	1	512	235
RTOR Reduction (vph)	0	119	17	0	1	0	0	0	0	0	0	106
Lane Group Flow (vph)	178	62	4	0	13	0	21	546	0	1	512	129
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.6	13.6	13.6		1.5		3.0	51.4		43.9	43.9	43.9
Effective Green, g (s)	13.6	13.6	13.6		1.5		3.0	51.4		43.9	43.9	43.9
Actuated g/C Ratio	0.17	0.17	0.17		0.02		0.04	0.64		0.55	0.55	0.55
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	285	274	255		34		66	2273		458	1942	868
v/s Ratio Prot	c0.11	0.04					0.01	c0.15			c0.14	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.62	0.23	0.01		0.38		0.32	0.24		0.00	0.26	0.15
Uniform Delay, d1	30.8	28.7	27.6		38.8		37.5	6.0		8.2	9.5	8.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		0.36	0.29	0.04
Incremental Delay, d2	4.2	0.4	0.0		7.0		2.8	0.3		0.0	0.2	0.3
Delay (s)	35.1	29.1	27.6		45.8		40.3	6.3		2.9	3.0	0.6
Level of Service	D	C	C		D		D	A		A	A	A
Approach Delay (s)		31.8			45.8			7.6			2.3	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			39.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Future Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	653	130	100	824	150	158	353	90	199	421	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	780	155	128	911	406	194	817	206	238	590	500
Arrive On Green	0.08	0.26	0.26	0.07	0.26	0.26	0.11	0.29	0.29	0.13	0.32	0.32
Sat Flow, veh/h	1781	2954	587	1781	3554	1585	1781	2812	708	1781	1870	1585
Grp Volume(v), veh/h	111	392	391	100	824	150	158	221	222	199	421	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1585	1781	1777	1743	1781	1870	1585
Q Serve(g_s), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Cycle Q Clear(g_c), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	141	469	466	128	911	406	194	516	507	238	590	500
V/C Ratio(X)	0.79	0.84	0.84	0.78	0.90	0.37	0.81	0.43	0.44	0.84	0.71	0.36
Avail Cap(c_a), veh/h	154	486	482	131	924	412	202	516	507	249	590	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	33.9	26.1	26.1	34.2	27.0	22.9	32.7	21.6	21.6	31.7	22.7	19.8
Incr Delay (d2), s/veh	21.6	11.8	12.1	25.5	12.1	0.6	21.2	2.6	2.7	16.3	5.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.6	7.6	2.6	8.1	2.1	3.8	3.3	3.4	4.5	7.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	37.9	38.2	59.8	39.1	23.5	53.8	24.1	24.4	48.0	28.2	21.4
LnGrp LOS	E	D	D	E	D	C	D	C	C	D	C	C
Approach Vol, veh/h		894			1074			601			800	
Approach Delay, s/veh		40.2			38.8			32.0			31.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	26.3	9.9	24.3	12.7	28.1	10.4	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	20.5	5.5	20.5	8.5	22.5	6.5	19.5				
Max Q Clear Time (g_c+I1), s	10.2	9.8	6.1	17.7	8.5	16.9	6.6	18.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.3	0.0	1.6	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	818	126	110	714	114	205	306	127	146	240	84
Future Volume (veh/h)	56	818	126	110	714	114	205	306	127	146	240	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	889	137	120	776	124	223	333	138	159	261	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	959	148	148	1242	554	258	734	299	193	489	414
Arrive On Green	0.04	0.31	0.31	0.17	0.70	0.70	0.15	0.30	0.30	0.11	0.26	0.26
Sat Flow, veh/h	1781	3086	476	1781	3554	1585	1781	2464	1002	1781	1870	1585
Grp Volume(v), veh/h	61	512	514	120	776	124	223	238	233	159	261	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	3.1	25.1	25.1	5.8	10.5	2.5	11.0	9.8	10.1	7.9	10.8	4.0
Cycle Q Clear(g_c), s	3.1	25.1	25.1	5.8	10.5	2.5	11.0	9.8	10.1	7.9	10.8	4.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	79	552	554	148	1242	554	258	530	504	193	489	414
V/C Ratio(X)	0.78	0.93	0.93	0.81	0.62	0.22	0.86	0.45	0.46	0.82	0.53	0.22
Avail Cap(c_a), veh/h	156	563	565	168	1242	554	287	530	504	232	489	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	42.6	30.0	30.0	36.9	10.4	9.2	37.6	25.6	25.7	39.3	28.5	26.1
Incr Delay (d2), s/veh	15.0	21.5	21.5	22.8	1.0	0.2	21.2	2.8	3.0	16.8	3.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.3	13.3	3.2	2.7	0.8	6.2	4.4	4.3	4.3	5.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	51.6	51.5	59.6	11.4	9.4	58.8	28.4	28.7	56.1	32.4	27.2
LnGrp LOS	E	D	D	E	B	A	E	C	C	E	C	C
Approach Vol, veh/h		1087			1020			694			511	
Approach Delay, s/veh		51.9			16.8			38.3			38.8	
Approach LOS		D			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	31.3	12.0	32.5	17.6	28.0	8.5	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.7	23.3	8.5	28.5	14.5	20.5	7.9	29.1				
Max Q Clear Time (g_c+I1), s	9.9	12.1	7.8	27.1	13.0	12.8	5.1	12.5				
Green Ext Time (p_c), s	0.1	2.1	0.0	0.9	0.1	1.1	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Future Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	920	87	139	1193	11	0	0	102	0	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	1007	0	0	-	-	460	-	-	597
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	575	-	-	684	-	-	0	0	548	0	0	446
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	684	-	-	-	-	548	-	-	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.2			13.1			13.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	548	575	-	-	684	-	-	446				
HCM Lane V/C Ratio	0.186	0.042	-	-	0.203	-	-	0.019				
HCM Control Delay (s)	13.1	11.5	-	-	11.6	-	-	13.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.8	-	-	0.1				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	1077	59	74	952	5	0	0	127	0	0	28
Future Vol, veh/h	22	1077	59	74	952	5	0	0	127	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	1171	64	80	1035	5	0	0	138	0	0	30
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1040	0	0	1235	0	0	-	-	586	-	-	518
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	664	-	-	560	-	-	0	0	454	0	0	502
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	664	-	-	560	-	-	-	-	454	-	-	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.2		0.9			16.4			12.6			
HCM LOS						C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	454	664	-	-	560	-	-	502				
HCM Lane V/C Ratio	0.304	0.036	-	-	0.144	-	-	0.061				
HCM Control Delay (s)	16.4	10.6	-	-	12.5	-	-	12.6				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.5	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Future Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	932	90	79	1337	12	11	3	18	12	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	1617	721	288	1642	15	254	96	337	437	267	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	404	3554	1585	601	3609	32	434	252	882	871	699	0
Grp Volume(v), veh/h	4	932	90	79	658	691	32	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	404	1777	1585	601	1777	1865	1569	0	0	1570	0	0
Q Serve(g_s), s	0.5	10.7	1.8	6.2	17.6	17.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	10.7	1.8	16.8	17.6	17.6	0.7	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.34		0.56	0.60		0.00
Lane Grp Cap(c), veh/h	185	1617	721	288	808	848	686	0	0	704	0	0
V/C Ratio(X)	0.02	0.58	0.12	0.27	0.81	0.81	0.05	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	203	1777	793	315	888	932	686	0	0	704	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	11.1	8.7	17.3	13.0	13.0	10.7	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.2	2.1	2.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.5	0.8	6.2	6.4	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	11.5	8.7	17.5	15.1	15.0	10.9	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	C	B	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1026			1428			32			20		
Approach Delay, s/veh	11.3			15.2			10.9			10.7		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.5			29.5			25.5			29.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			27.5			18.5			27.5		
Max Q Clear Time (g_c+I1), s	2.7			20.1			2.4			19.6		
Green Ext Time (p_c), s	0.1			3.9			0.0			5.4		
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1383	21	12	976	12	85	10	86	28	8	0
Future Volume (veh/h)	9	1383	21	12	976	12	85	10	86	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1503	23	13	1061	13	92	11	93	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1787	797	168	1808	22	307	60	252	479	131	0
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.00
Sat Flow, veh/h	525	3554	1585	349	3595	44	631	174	727	1074	376	0
Grp Volume(v), veh/h	10	1503	23	13	524	550	196	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	525	1777	1585	349	1777	1862	1531	0	0	1451	0	0
Q Serve(g_s), s	0.8	21.9	0.4	2.0	12.5	12.5	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.3	21.9	0.4	23.9	12.5	12.5	5.5	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.47		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	275	1787	797	168	894	937	620	0	0	610	0	0
V/C Ratio(X)	0.04	0.84	0.03	0.08	0.59	0.59	0.32	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	295	1925	859	182	962	1009	620	0	0	610	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.62	0.62	0.62	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.2	12.8	7.5	23.1	10.5	10.5	14.5	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	3.3	0.0	0.1	0.5	0.5	1.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.9	0.1	0.2	4.1	4.3	2.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	16.2	7.5	23.2	11.0	11.0	15.9	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1536			1087			196			39		
Approach Delay, s/veh	16.0			11.2			15.9			13.3		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			34.7			25.3			34.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	7.5			23.9			2.9			25.9		
Green Ext Time (p_c), s	0.8			6.3			0.1			3.7		
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Future Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	699	7	10	1020	129	2	1	10	153	4	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1538	15	22	1126	502	261	118	407	186	769	651
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.32	0.26	0.26	0.26	0.10	0.41	0.41
Sat Flow, veh/h	1781	3605	36	1781	3554	1585	756	459	1585	1781	1870	1585
Grp Volume(v), veh/h	183	345	361	10	1020	129	3	0	10	153	4	377
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1215	0	1585	1781	1870	1585
Q Serve(g_s), s	9.0	12.4	12.4	0.5	24.8	5.4	0.0	0.0	0.4	7.6	0.1	16.5
Cycle Q Clear(g_c), s	9.0	12.4	12.4	0.5	24.8	5.4	0.1	0.0	0.4	7.6	0.1	16.5
Prop In Lane	1.00		0.02	1.00		1.00	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	758	795	22	1126	502	378	0	407	186	769	651
V/C Ratio(X)	0.84	0.45	0.45	0.46	0.91	0.26	0.01	0.00	0.02	0.82	0.01	0.58
Avail Cap(c_a), veh/h	247	758	795	99	1165	520	378	0	407	208	769	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.71	0.71	0.71	1.00	0.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	38.6	18.3	18.3	44.1	29.5	22.9	24.9	0.0	25.0	39.5	15.6	20.5
Incr Delay (d2), s/veh	17.1	0.3	0.3	10.2	7.5	0.2	0.0	0.0	0.1	19.5	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.8	5.0	0.3	11.0	2.0	0.1	0.0	0.2	4.2	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	18.7	18.7	54.3	37.0	23.1	24.9	0.0	25.1	58.9	15.7	23.9
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		889			1159			13			534	
Approach Delay, s/veh		26.3			35.6			25.1			33.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	27.6	5.6	42.9		41.5	15.5	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	19.5	5.0	37.0		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	9.6	2.4	2.5	14.4		18.5	11.0	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1		1.2	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1097	7	21	761	126	11	7	22	125	4	163
Future Volume (veh/h)	173	1097	7	21	761	126	11	7	22	125	4	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1192	8	23	827	137	12	8	24	136	4	177
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	1336	9	45	949	423	299	182	453	169	818	693
Arrive On Green	0.13	0.37	0.37	0.03	0.27	0.27	0.29	0.29	0.29	0.10	0.44	0.44
Sat Flow, veh/h	1781	3619	24	1781	3554	1585	793	638	1585	1781	1870	1585
Grp Volume(v), veh/h	188	585	615	23	827	137	20	0	24	136	4	177
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1431	0	1585	1781	1870	1585
Q Serve(g_s), s	8.2	24.8	24.8	1.0	17.8	5.5	0.0	0.0	0.9	6.0	0.1	5.7
Cycle Q Clear(g_c), s	8.2	24.8	24.8	1.0	17.8	5.5	0.6	0.0	0.9	6.0	0.1	5.7
Prop In Lane	1.00		0.01	1.00		1.00	0.60		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	656	689	45	949	423	481	0	453	169	818	693
V/C Ratio(X)	0.83	0.89	0.89	0.52	0.87	0.32	0.04	0.00	0.05	0.80	0.00	0.26
Avail Cap(c_a), veh/h	265	656	689	114	1008	450	481	0	453	189	818	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.84	0.84	0.84	1.00	0.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	34.1	23.7	23.7	38.5	28.0	23.5	20.6	0.0	20.7	35.5	12.7	14.3
Incr Delay (d2), s/veh	9.3	8.0	7.6	7.6	6.9	0.4	0.2	0.0	0.2	18.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	10.8	11.2	0.5	7.9	2.0	0.3	0.0	0.3	3.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	31.7	31.4	46.1	34.9	23.9	20.8	0.0	20.9	54.4	12.7	15.1
LnGrp LOS	D	C	C	D	C	C	C	A	C	D	B	B
Approach Vol, veh/h		1388			987			44			317	
Approach Delay, s/veh		33.1			33.6			20.9			31.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.1	27.4	6.5	34.0		39.5	14.7	25.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	18.9	5.1	29.5		31.9	11.9	22.7				
Max Q Clear Time (g_c+I1), s	8.0	2.9	3.0	26.8		7.7	10.2	19.8				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.8		0.5	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Future Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	495	143	165	848	37	196	253	77	65	312	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1040	464	207	1010	450	752	988	294	434	931	342
Arrive On Green	0.12	0.29	0.29	0.12	0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1860	2699	803	1050	2544	935
Grp Volume(v), veh/h	178	495	143	165	848	37	196	165	165	65	216	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	930	1777	1726	1050	1777	1702
Q Serve(g_s), s	5.8	6.9	4.2	5.4	13.5	1.0	5.1	3.9	4.0	2.8	5.3	5.4
Cycle Q Clear(g_c), s	5.8	6.9	4.2	5.4	13.5	1.0	10.6	3.9	4.0	6.8	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.55
Lane Grp Cap(c), veh/h	223	1040	464	207	1010	450	752	650	632	434	650	623
V/C Ratio(X)	0.80	0.48	0.31	0.80	0.84	0.08	0.26	0.25	0.26	0.15	0.33	0.34
Avail Cap(c_a), veh/h	282	1143	510	258	1096	489	752	650	632	434	650	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.4	16.5	25.8	20.2	15.7	17.6	13.3	13.3	15.7	13.7	13.8
Incr Delay (d2), s/veh	10.7	0.3	0.3	12.8	5.6	0.1	0.8	0.9	1.0	0.7	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	1.4	2.8	5.6	0.3	1.0	1.5	1.5	0.7	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	17.7	16.8	38.7	25.8	15.8	18.5	14.2	14.3	16.5	15.1	15.3
LnGrp LOS	D	B	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		816			1050			526			494	
Approach Delay, s/veh		21.6			27.5			15.8			15.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	11.5	22.1		26.5	12.0	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	8.7	19.3		18.5	9.5	18.5				
Max Q Clear Time (g_c+I1), s		12.6	7.4	8.9		8.8	7.8	15.5				
Green Ext Time (p_c), s		1.5	0.1	2.6		1.9	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	978	165	121	624	49	120	254	124	77	197	77
Future Volume (veh/h)	161	978	165	121	624	49	120	254	124	77	197	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	1063	179	132	678	53	130	276	135	84	214	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1188	530	168	1087	485	835	809	385	370	872	332
Arrive On Green	0.12	0.33	0.33	0.09	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2098	2336	1111	975	2518	957
Grp Volume(v), veh/h	175	1063	179	132	678	53	130	208	203	84	149	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1049	1777	1670	975	1777	1698
Q Serve(g_s), s	5.7	17.0	5.1	4.3	9.8	1.4	2.8	5.2	5.4	4.2	3.6	3.8
Cycle Q Clear(g_c), s	5.7	17.0	5.1	4.3	9.8	1.4	6.6	5.2	5.4	9.6	3.6	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		0.56
Lane Grp Cap(c), veh/h	219	1188	530	168	1087	485	835	616	579	370	616	588
V/C Ratio(X)	0.80	0.89	0.34	0.79	0.62	0.11	0.16	0.34	0.35	0.23	0.24	0.25
Avail Cap(c_a), veh/h	267	1214	542	193	1087	485	835	616	579	370	616	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	19.0	15.0	26.6	17.9	15.0	16.4	14.5	14.6	18.2	14.0	14.0
Incr Delay (d2), s/veh	7.4	5.0	0.2	17.0	1.1	0.1	0.4	1.5	1.7	1.4	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.7	1.6	2.5	3.6	0.5	0.6	2.0	2.0	1.0	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	23.9	15.2	43.6	19.0	15.1	16.8	16.0	16.3	19.6	14.9	15.1
LnGrp LOS	C	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1417			863			541			382	
Approach Delay, s/veh		23.9			22.5			16.3			16.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	10.2	24.6		25.3	11.9	22.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	9.0	18.0				
Max Q Clear Time (g_c+I1), s		8.6	6.3	19.0		11.6	7.7	11.8				
Green Ext Time (p_c), s		2.2	0.0	1.0		1.2	0.1	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Future Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	91	103	811	177	148	358	89	99	297	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	853	380	224	953	425	247	1259	561	221	1543	242
Arrive On Green	0.04	0.24	0.24	0.06	0.27	0.27	0.07	0.35	0.35	0.06	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4451	698
Grp Volume(v), veh/h	36	493	91	103	811	177	148	358	89	99	225	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1745
Q Serve(g_s), s	1.3	8.0	3.0	1.9	14.1	6.0	2.7	4.7	2.5	1.8	3.0	3.1
Cycle Q Clear(g_c), s	1.3	8.0	3.0	1.9	14.1	6.0	2.7	4.7	2.5	1.8	3.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	65	853	380	224	953	425	247	1259	561	221	1180	605
V/C Ratio(X)	0.55	0.58	0.24	0.46	0.85	0.42	0.60	0.28	0.16	0.45	0.19	0.20
Avail Cap(c_a), veh/h	137	995	444	282	1011	451	266	1259	561	266	1180	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	21.8	19.9	29.3	22.6	19.6	29.3	15.1	14.4	29.3	14.9	14.9
Incr Delay (d2), s/veh	7.0	0.6	0.3	0.1	0.7	0.1	3.2	0.6	0.6	1.4	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.0	1.0	0.7	5.3	2.0	1.1	1.7	0.9	0.7	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	22.4	20.2	29.4	23.2	19.7	32.5	15.6	15.0	30.7	15.2	15.6
LnGrp LOS	D	C	C	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		620			1091			595			444	
Approach Delay, s/veh		23.0			23.2			19.7			18.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	27.5	8.7	20.1	9.2	27.0	6.9	21.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.5	5.3	18.2	5.0	18.5	5.0	18.5				
Max Q Clear Time (g_c+I1), s	3.8	6.7	3.9	10.0	4.7	5.1	3.3	16.1				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.1	0.0	1.5	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 		 	 		 	  	
Traffic Volume (veh/h)	64	945	169	127	583	164	153	276	125	173	419	43
Future Volume (veh/h)	64	945	169	127	583	164	153	276	125	173	419	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	995	178	134	614	173	161	291	132	182	441	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	1007	449	246	1066	476	256	1007	449	272	1358	136
Arrive On Green	0.05	0.28	0.28	0.07	0.30	0.30	0.07	0.28	0.28	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4715	474
Grp Volume(v), veh/h	67	995	178	134	614	173	161	291	132	182	317	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1785
Q Serve(g_s), s	2.3	17.7	5.8	2.4	9.3	5.4	2.9	4.1	4.1	3.3	4.6	4.7
Cycle Q Clear(g_c), s	2.3	17.7	5.8	2.4	9.3	5.4	2.9	4.1	4.1	3.3	4.6	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	97	1007	449	246	1066	476	256	1007	449	272	980	514
V/C Ratio(X)	0.69	0.99	0.40	0.54	0.58	0.36	0.63	0.29	0.29	0.67	0.32	0.33
Avail Cap(c_a), veh/h	140	1007	449	272	1066	476	272	1007	449	272	980	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	22.7	18.4	28.5	18.8	17.5	28.6	17.8	17.8	28.5	17.8	17.8
Incr Delay (d2), s/veh	8.4	25.4	0.6	1.9	0.8	0.5	4.2	0.7	1.7	6.2	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.0	1.9	1.0	3.4	1.8	1.2	1.5	1.5	1.5	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	48.1	18.9	30.4	19.6	17.9	32.7	18.5	19.5	34.6	18.6	19.5
LnGrp LOS	D	D	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		1240			921			584			668	
Approach Delay, s/veh		43.3			20.8			22.6			23.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.0	22.5	9.2	22.8	8.0	23.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+l1), s	5.3	6.1	4.4	19.7	4.9	6.7	4.3	11.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	2.1	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			29.8									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Future Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	533	112	217	976	0	154	0	198	0	0	1
RTOR Reduction (vph)	0	0	80	0	0	0	0	81	78	0	1	0
Lane Group Flow (vph)	4	533	32	217	976	0	122	36	35	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Effective Green, g (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Actuated g/C Ratio	0.01	0.29	0.29	0.09	0.36		0.31	0.31	0.31		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1023	457	294	1278		517	458	462		45	
v/s Ratio Prot	0.00	0.15		c0.06	c0.28		c0.07	0.02			c0.00	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.17	0.52	0.07	0.74	0.76		0.24	0.08	0.08		0.00	
Uniform Delay, d1	29.0	17.7	15.4	26.5	16.8		15.4	14.6	14.6		28.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.5	0.1	9.3	2.8		1.1	0.3	0.3		0.0	
Delay (s)	32.6	18.2	15.4	35.9	19.5		16.5	15.0	14.9		28.9	
Level of Service	C	B	B	D	B		B	B	B		C	
Approach Delay (s)		17.8			22.5			15.5			28.9	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			59.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			53.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1045	180	256	725	1	146	1	375	0	2	0
Future Volume (vph)	4	1045	180	256	725	1	146	1	375	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1100	189	269	763	1	154	1	395	0	2	0
RTOR Reduction (vph)	0	0	98	0	0	0	0	136	147	0	0	0
Lane Group Flow (vph)	4	1100	91	269	764	0	139	70	58	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	411	425		55	
v/s Ratio Prot	0.00	c0.31		c0.08	c0.22		c0.08	0.05			c0.00	
v/s Ratio Perm			0.06						0.04			
v/c Ratio	0.17	0.91	0.17	1.00	0.53		0.29	0.17	0.14		0.04	
Uniform Delay, d1	31.2	20.1	14.7	29.5	14.4		17.9	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	10.0	0.1	55.9	0.4		1.6	0.9	0.7		0.3	
Delay (s)	34.5	30.1	14.8	85.4	14.8		19.5	18.2	17.8		31.3	
Level of Service	C	C	B	F	B		B	B	B		C	
Approach Delay (s)		27.8			33.2			18.4			31.3	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			27.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			62.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Future Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	3	27	9	29	3	637	90	36	750	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1530	1556	751	1519	1512	682	752	0	0	727	0	0
Stage 1	823	823	-	688	688	-	-	-	-	-	-	-
Stage 2	707	733	-	831	824	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	96	113	411	97	120	450	858	-	-	876	-	-
Stage 1	368	388	-	436	447	-	-	-	-	-	-	-
Stage 2	426	426	-	364	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	108	411	85	115	450	858	-	-	876	-	-
Mov Cap-2 Maneuver	82	108	-	85	115	-	-	-	-	-	-	-
Stage 1	367	372	-	435	446	-	-	-	-	-	-	-
Stage 2	389	425	-	335	371	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	36.9		50.3		0		0.4					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	858	-	-	128	142	876	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.119	0.459	0.041	-	-				
HCM Control Delay (s)	9.2	-	-	36.9	50.3	9.3	-	-				
HCM Lane LOS	A	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	2.1	0.1	-	-				

HCM 6th TWSC
13: 6th St & Indian Hill Blvd

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Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	4	10	5	69	11	50	7	619	40	25	491	1
Future Vol, veh/h	4	10	5	69	11	50	7	619	40	25	491	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	11	5	75	12	54	8	673	43	27	534	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1333	1321	535	1308	1300	695	535	0	0	716	0	0
Stage 1	589	589	-	711	711	-	-	-	-	-	-	-
Stage 2	744	732	-	597	589	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	157	545	136	161	442	1033	-	-	885	-	-
Stage 1	494	495	-	424	436	-	-	-	-	-	-	-
Stage 2	407	427	-	490	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	105	151	545	124	155	442	1033	-	-	885	-	-
Mov Cap-2 Maneuver	105	151	-	124	155	-	-	-	-	-	-	-
Stage 1	490	480	-	421	433	-	-	-	-	-	-	-
Stage 2	344	424	-	460	480	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	29.6		77.8		0.1		0.4	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1033	-	-	167	176	885	-
HCM Lane V/C Ratio	0.007	-	-	0.124	0.803	0.031	-
HCM Control Delay (s)	8.5	-	-	29.6	77.8	9.2	-
HCM Lane LOS	A	-	-	D	F	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	5.4	0.1	-

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Future Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	111	10	60	103	22	11	220	72	26	172	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	10.9	12.1	11
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	28%	32%	12%
Vol Thru, %	73%	66%	56%	78%
Vol Right, %	24%	6%	12%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	154	170	202
LT Vol	10	43	55	24
Through Vol	202	102	95	158
RT Vol	66	9	20	20
Lane Flow Rate	302	167	185	220
Geometry Grp	1	1	1	1
Degree of Util (X)	0.433	0.264	0.288	0.328
Departure Headway (Hd)	5.161	5.675	5.617	5.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	631	637	667
Service Time	3.203	3.724	3.666	3.424
HCM Lane V/C Ratio	0.435	0.265	0.29	0.33
HCM Control Delay	12.1	10.8	10.9	11
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.2	1.1	1.2	1.4

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	17	111	6	93	131	29	16	151	84	25	206	37
Future Vol, veh/h	17	111	6	93	131	29	16	151	84	25	206	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	121	7	101	142	32	17	164	91	27	224	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	13.4	12.5	13.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	13%	37%	9%
Vol Thru, %	60%	83%	52%	77%
Vol Right, %	33%	4%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	134	253	268
LT Vol	16	17	93	25
Through Vol	151	111	131	206
RT Vol	84	6	29	37
Lane Flow Rate	273	146	275	291
Geometry Grp	1	1	1	1
Degree of Util (X)	0.417	0.244	0.442	0.452
Departure Headway (Hd)	5.501	6.037	5.782	5.585
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	649	590	619	641
Service Time	3.572	4.122	3.852	3.655
HCM Lane V/C Ratio	0.421	0.247	0.444	0.454
HCM Control Delay	12.5	11.1	13.4	13.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.1	1	2.3	2.3

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Future Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	122	13	15	252	0	15	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.9	7.9	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	2%	6%	33%
Vol Thru, %	0%	89%	94%	33%
Vol Right, %	36%	10%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	126	246	3
LT Vol	14	2	14	1
Through Vol	0	112	232	1
RT Vol	8	12	0	1
Lane Flow Rate	24	137	267	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.157	0.304	0.004
Departure Headway (Hd)	4.718	4.128	4.095	4.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	857	872	765
Service Time	2.718	2.206	2.147	2.704
HCM Lane V/C Ratio	0.031	0.16	0.306	0.004
HCM Control Delay	7.9	8	8.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	1.3	0

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	311	30	23	214	7	17	2	14	4	2	3
Future Vol, veh/h	2	311	30	23	214	7	17	2	14	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	338	33	25	233	8	18	2	15	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	9.6	8.5	8.4
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	1%	9%	44%
Vol Thru, %	6%	91%	88%	22%
Vol Right, %	42%	9%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	343	244	9
LT Vol	17	2	23	4
Through Vol	2	311	214	2
RT Vol	14	30	7	3
Lane Flow Rate	36	373	265	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.443	0.326	0.014
Departure Headway (Hd)	5.17	4.274	4.425	5.256
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	843	814	680
Service Time	3.207	2.292	2.446	3.297
HCM Lane V/C Ratio	0.052	0.442	0.326	0.015
HCM Control Delay	8.5	10.7	9.6	8.4
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2.3	1.4	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Future Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	105	9	167	209	91	42	468	80	51	468	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	160	14	304	319	271	429	1040	177	417	1153	101
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1699	146	1781	1870	1585	1781	3038	516	1781	3307	289
Grp Volume(v), veh/h	37	0	114	167	209	91	42	273	275	51	251	258
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1777	1781	1777	1818
Q Serve(g_s), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Cycle Q Clear(g_c), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.29	1.00		0.16
Lane Grp Cap(c), veh/h	168	0	174	304	319	271	429	608	609	417	620	634
V/C Ratio(X)	0.22	0.00	0.65	0.55	0.65	0.34	0.10	0.45	0.45	0.12	0.40	0.41
Avail Cap(c_a), veh/h	610	0	631	610	640	543	521	608	609	497	620	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	23.0	19.9	20.3	19.2	10.4	13.4	13.4	10.4	13.0	13.0
Incr Delay (d2), s/veh	0.7	0.0	4.1	1.5	2.3	0.7	0.1	2.4	2.4	0.1	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.4	1.8	2.4	0.9	0.3	2.4	2.4	0.3	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	27.1	21.5	22.6	19.9	10.5	15.8	15.9	10.5	14.9	14.9
LnGrp LOS	C	A	C	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		151			467			590			560	
Approach Delay, s/veh		26.0			21.7			15.5			14.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	22.5		9.5	6.8	22.8		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	8.3		5.1	2.8	7.7		7.5				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.0		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	199	23	114	131	43	24	410	190	106	404	57
Future Volume (veh/h)	51	199	23	114	131	43	24	410	190	106	404	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	209	24	120	138	45	25	432	200	112	425	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	279	32	216	227	192	417	753	345	388	1134	159
Arrive On Green	0.17	0.17	0.17	0.12	0.12	0.12	0.03	0.32	0.32	0.07	0.36	0.36
Sat Flow, veh/h	1781	1647	189	1781	1870	1585	1781	2367	1085	1781	3129	439
Grp Volume(v), veh/h	54	0	233	120	138	45	25	323	309	112	240	245
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	1870	1585	1781	1777	1675	1781	1777	1791
Q Serve(g_s), s	1.5	0.0	6.8	3.6	4.0	1.5	0.5	8.6	8.7	2.3	5.6	5.7
Cycle Q Clear(g_c), s	1.5	0.0	6.8	3.6	4.0	1.5	0.5	8.6	8.7	2.3	5.6	5.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.65	1.00		0.25
Lane Grp Cap(c), veh/h	302	0	311	216	227	192	417	565	533	388	644	649
V/C Ratio(X)	0.18	0.00	0.75	0.56	0.61	0.23	0.06	0.57	0.58	0.29	0.37	0.38
Avail Cap(c_a), veh/h	567	0	584	567	595	504	523	565	533	415	644	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	22.4	23.4	23.6	22.5	12.3	16.1	16.1	12.0	13.3	13.3
Incr Delay (d2), s/veh	0.3	0.0	3.6	2.2	2.6	0.6	0.1	4.2	4.5	0.4	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.8	1.5	1.8	0.5	0.2	3.6	3.5	0.8	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	26.0	25.7	26.2	23.1	12.4	20.3	20.7	12.4	14.9	15.0
LnGrp LOS	C	A	C	C	C	C	B	C	C	B	B	B
Approach Vol, veh/h	287			303			657			597		
Approach Delay, s/veh	24.9			25.5			20.2			14.5		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	22.5		14.1	6.1	25.0		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.3	10.7		8.8	2.5	7.7		6.0				
Green Ext Time (p_c), s	0.0	2.2		0.9	0.0	1.9		1.0				
Intersection Summary												
HCM 6th Ctrl Delay	19.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 					 	 			 	
Traffic Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Future Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	177	20	65	271	77	43	454	49	34	442	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	608	68	105	368	312	155	1692	180	67	1602	224
Arrive On Green	0.05	0.19	0.19	0.06	0.20	0.20	0.04	0.36	0.36	0.04	0.35	0.35
Sat Flow, veh/h	1781	3223	360	1781	1870	1585	3456	4686	498	1781	4528	633
Grp Volume(v), veh/h	52	97	100	65	271	77	43	328	175	34	330	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1870	1585	1728	1702	1781	1781	1702	1756
Q Serve(g_s), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Cycle Q Clear(g_c), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.28	1.00		0.36
Lane Grp Cap(c), veh/h	91	335	341	105	368	312	155	1229	643	67	1204	621
V/C Ratio(X)	0.57	0.29	0.29	0.62	0.74	0.25	0.28	0.27	0.27	0.51	0.27	0.28
Avail Cap(c_a), veh/h	175	628	639	175	662	561	340	1229	643	175	1204	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	17.7	17.7	23.4	19.2	17.3	23.5	11.5	11.5	24.0	11.8	11.8
Incr Delay (d2), s/veh	5.5	0.5	0.5	5.8	2.9	0.4	1.0	0.5	1.0	5.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.9	0.8	2.8	0.7	0.2	1.1	1.3	0.5	1.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	18.2	18.2	29.2	22.1	17.7	24.5	12.0	12.6	29.9	12.3	12.9
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		249			413			546			539	
Approach Delay, s/veh		20.5			22.4			13.2			13.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	22.9	7.5	14.1	6.8	22.5	7.1	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	5.5	3.8	4.4	2.6	5.6	3.5	8.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.7	0.0	2.3	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	323	46	73	138	43	35	428	75	53	587	60
Future Volume (veh/h)	67	323	46	73	138	43	35	428	75	53	587	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	340	48	77	145	45	37	451	79	56	618	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	534	75	116	325	275	138	1558	267	96	1738	176
Arrive On Green	0.06	0.17	0.17	0.07	0.17	0.17	0.04	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	3130	438	1781	1870	1585	3456	4388	751	1781	4713	476
Grp Volume(v), veh/h	71	192	196	77	145	45	37	348	182	56	445	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1792	1781	1870	1585	1728	1702	1735	1781	1702	1785
Q Serve(g_s), s	2.0	5.1	5.2	2.1	3.5	1.2	0.5	3.7	3.8	1.6	4.8	4.9
Cycle Q Clear(g_c), s	2.0	5.1	5.2	2.1	3.5	1.2	0.5	3.7	3.8	1.6	4.8	4.9
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.43	1.00		0.27
Lane Grp Cap(c), veh/h	111	303	306	116	325	275	138	1209	616	96	1256	658
V/C Ratio(X)	0.64	0.63	0.64	0.66	0.45	0.16	0.27	0.29	0.30	0.58	0.35	0.36
Avail Cap(c_a), veh/h	176	631	636	176	664	563	341	1209	616	176	1256	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	19.5	19.6	23.1	18.8	17.8	23.6	11.7	11.8	23.4	11.6	11.6
Incr Delay (d2), s/veh	6.0	2.2	2.2	6.3	1.0	0.3	1.0	0.6	1.2	5.5	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.9	2.0	1.0	1.4	0.4	0.2	1.2	1.3	0.7	1.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	21.7	21.8	29.4	19.7	18.1	24.6	12.3	13.0	29.0	12.4	13.2
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		459			267			567			737	
Approach Delay, s/veh		22.9			22.2			13.4			13.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	22.5	7.8	13.2	6.5	23.2	7.7	13.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	5.8	4.1	7.2	2.5	6.9	4.0	5.5				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.5	0.0	3.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			16.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Future Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	61	54	29	57	23	23	658	57	38	589	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	49	476	80	120	476	47	815	691	70	797	35
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.03	0.44	0.44	0.04	0.45	0.45
Sat Flow, veh/h	0	162	1585	0	398	1585	1781	1870	1585	1781	1778	78
Grp Volume(v), veh/h	139	0	54	86	0	23	23	658	57	38	0	615
Grp Sat Flow(s),veh/h/ln	162	0	1585	398	0	1585	1781	1870	1585	1781	0	1856
Q Serve(g_s), s	0.0	0.0	1.5	0.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Cycle Q Clear(g_c), s	18.0	0.0	1.5	18.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Prop In Lane	0.56		1.00	0.34		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	142	0	476	200	0	476	47	815	691	70	0	832
V/C Ratio(X)	0.98	0.00	0.11	0.43	0.00	0.05	0.49	0.81	0.08	0.55	0.00	0.74
Avail Cap(c_a), veh/h	142	0	476	200	0	476	148	815	691	148	0	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	15.2	17.1	0.0	14.9	28.8	14.7	9.9	28.3	0.0	13.6
Incr Delay (d2), s/veh	67.9	0.0	0.1	1.5	0.0	0.0	7.6	8.4	0.2	6.5	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.5	0.9	0.0	0.2	0.4	8.7	0.4	0.6	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	0.0	15.3	18.5	0.0	15.0	36.4	23.1	10.1	34.8	0.0	19.5
LnGrp LOS	F	A	B	B	A	B	D	C	B	C	A	B
Approach Vol, veh/h		193			109			738			653	
Approach Delay, s/veh		70.5			17.8			22.6			20.4	
Approach LOS		E			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	31.4		22.5	6.8	30.7		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.8	18.4		20.0	3.3	20.4		20.0				
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	1.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	26	32	43	52	31	59	11	490	30	20	580	28
Future Volume (veh/h)	26	32	43	52	31	59	11	490	30	20	580	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	35	47	57	34	64	12	533	33	22	630	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	78	476	98	37	476	27	841	712	46	814	39
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.46	0.46
Sat Flow, veh/h	0	258	1585	0	124	1585	1781	1870	1585	1781	1771	84
Grp Volume(v), veh/h	63	0	47	91	0	64	12	533	33	22	0	660
Grp Sat Flow(s),veh/h/ln	258	0	1585	124	0	1585	1781	1870	1585	1781	0	1855
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	1.8	0.4	13.2	0.7	0.7	0.0	17.9
Cycle Q Clear(g_c), s	18.0	0.0	1.3	18.0	0.0	1.8	0.4	13.2	0.7	0.7	0.0	17.9
Prop In Lane	0.44		1.00	0.63		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	164	0	476	135	0	476	27	841	712	46	0	853
V/C Ratio(X)	0.38	0.00	0.10	0.68	0.00	0.13	0.45	0.63	0.05	0.48	0.00	0.77
Avail Cap(c_a), veh/h	164	0	476	135	0	476	148	841	712	148	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	15.1	22.9	0.0	15.3	29.3	12.7	9.3	28.8	0.0	13.6
Incr Delay (d2), s/veh	1.5	0.0	0.1	12.5	0.0	0.1	11.1	3.6	0.1	7.7	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	1.7	0.0	0.6	0.2	5.7	0.2	0.4	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	0.0	15.2	35.4	0.0	15.4	40.4	16.3	9.4	36.6	0.0	20.3
LnGrp LOS	B	A	B	D	A	B	D	B	A	D	A	C
Approach Vol, veh/h		110			155			578			682	
Approach Delay, s/veh		17.2			27.2			16.5			20.9	
Approach LOS		B			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	32.1		22.5	6.0	31.5		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.4	19.9		20.0	2.7	15.2		20.0				
Green Ext Time (p_c), s	0.0	1.6		0.0	0.0	2.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 19: 1st St & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	17	38	77	36	47	60	611	152	34	555	27
Future Volume (veh/h)	7	17	38	77	36	47	60	611	152	34	555	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	18	41	84	39	51	65	664	165	37	603	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	204	173	255	80	105	544	1174	995	468	1081	52
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.63	0.63	0.04	0.61	0.61
Sat Flow, veh/h	1307	1870	1585	1344	735	962	1781	1870	1585	1781	1770	85
Grp Volume(v), veh/h	8	18	41	84	0	90	65	664	165	37	0	632
Grp Sat Flow(s),veh/h/ln	1307	1870	1585	1344	0	1697	1781	1870	1585	1781	0	1855
Q Serve(g_s), s	0.3	0.5	1.4	3.6	0.0	3.0	0.8	12.3	2.6	0.4	0.0	12.1
Cycle Q Clear(g_c), s	3.3	0.5	1.4	4.1	0.0	3.0	0.8	12.3	2.6	0.4	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	197	204	173	255	0	185	544	1174	995	468	0	1133
V/C Ratio(X)	0.04	0.09	0.24	0.33	0.00	0.49	0.12	0.57	0.17	0.08	0.00	0.56
Avail Cap(c_a), veh/h	447	561	476	512	0	509	597	1174	995	548	0	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.74	0.74	0.74	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	24.0	24.5	25.9	0.0	25.2	4.8	6.4	4.6	4.9	0.0	6.9
Incr Delay (d2), s/veh	0.1	0.2	0.7	0.7	0.0	2.0	0.1	1.5	0.3	0.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.5	1.2	0.0	1.3	0.2	3.9	0.7	0.1	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	24.2	25.1	26.7	0.0	27.1	4.9	7.9	4.9	5.0	0.0	8.9
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	67			174			894			669		
Approach Delay, s/veh	25.1			26.9			7.1			8.7		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.8	42.2	11.0		7.8	41.2	11.0					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.1	23.4	18.0					
Max Q Clear Time (g_c+I1), s	2.4	14.3	5.3		2.8	14.1	6.1					
Green Ext Time (p_c), s	0.0	3.5	0.1		0.0	3.1	0.5					
Intersection Summary												
HCM 6th Ctrl Delay	10.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	48	92	125	57	93	107	503	128	38	505	67
Future Volume (veh/h)	29	48	92	125	57	93	107	503	128	38	505	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	52	100	136	62	101	116	547	139	41	549	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	331	280	309	113	184	474	1041	883	476	852	113
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.56	0.56	0.04	0.53	0.53
Sat Flow, veh/h	1223	1870	1585	1235	640	1043	1781	1870	1585	1781	1617	215
Grp Volume(v), veh/h	32	52	100	136	0	163	116	547	139	41	0	622
Grp Sat Flow(s),veh/h/ln	1223	1870	1585	1235	0	1683	1781	1870	1585	1781	0	1832
Q Serve(g_s), s	1.5	1.4	3.3	6.3	0.0	5.3	1.7	11.0	2.6	0.6	0.0	14.6
Cycle Q Clear(g_c), s	6.8	1.4	3.3	7.7	0.0	5.3	1.7	11.0	2.6	0.6	0.0	14.6
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	228	331	280	309	0	298	474	1041	883	476	0	965
V/C Ratio(X)	0.14	0.16	0.36	0.44	0.00	0.55	0.24	0.53	0.16	0.09	0.00	0.64
Avail Cap(c_a), veh/h	379	561	476	461	0	505	499	1041	883	551	0	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	20.9	21.7	24.2	0.0	22.5	7.3	8.3	6.5	6.5	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.2	0.8	1.0	0.0	1.6	0.2	1.5	0.3	0.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	1.2	1.8	0.0	2.1	0.5	3.9	0.8	0.2	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	21.1	22.5	25.1	0.0	24.1	7.5	9.8	6.8	6.6	0.0	13.5
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		184			299			802			663	
Approach Delay, s/veh		22.7			24.6			9.0			13.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	37.9		15.1	8.8	36.1		15.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	13.0		8.8	3.7	16.6		9.7				
Green Ext Time (p_c), s	0.0	3.0		0.4	0.0	2.4		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				14.0								
HCM 6th LOS				B								

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Future Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	80	33	25	100	45	33	257	30	39	177	17
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10	10.1	14.4	12.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	17%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	76%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	27	74	30	23	92	41	215
LT Vol	30	27	0	0	23	0	0	36
Through Vol	236	0	74	0	0	92	0	163
RT Vol	28	0	0	30	0	0	41	16
Lane Flow Rate	320	29	80	33	25	100	45	234
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.511	0.057	0.145	0.052	0.048	0.179	0.071	0.384
Departure Headway (Hd)	5.751	7.009	6.496	5.778	6.961	6.449	5.731	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	510	551	618	514	555	623	608
Service Time	3.485	4.762	4.249	3.531	4.712	4.199	3.481	3.65
HCM Lane V/C Ratio	0.511	0.057	0.145	0.053	0.049	0.18	0.072	0.385
HCM Control Delay	14.4	10.2	10.4	8.9	10.1	10.6	8.9	12.3
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.9	0.2	0.5	0.2	0.2	0.6	0.2	1.8

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	116	68	42	130	42	42	131	50	42	264	52
Future Vol, veh/h	35	116	68	42	130	42	42	131	50	42	264	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	126	74	46	141	46	46	142	54	46	287	57
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	11.5	11.9	14.8	22.6
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	12%
Vol Thru, %	59%	0%	100%	0%	0%	100%	0%	74%
Vol Right, %	22%	0%	0%	100%	0%	0%	100%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	35	116	68	42	130	42	358
LT Vol	42	35	0	0	42	0	0	42
Through Vol	131	0	116	0	0	130	0	264
RT Vol	50	0	0	68	0	0	42	52
Lane Flow Rate	242	38	126	74	46	141	46	389
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.449	0.081	0.251	0.133	0.098	0.282	0.082	0.697
Departure Headway (Hd)	6.671	7.697	7.18	6.456	7.697	7.18	6.456	6.449
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	541	465	499	554	466	500	554	564
Service Time	4.415	5.447	4.93	4.205	5.446	4.928	4.204	4.149
HCM Lane V/C Ratio	0.447	0.082	0.253	0.134	0.099	0.282	0.083	0.69
HCM Control Delay	14.8	11.1	12.3	10.2	11.3	12.7	9.8	22.6
HCM Lane LOS	B	B	B	B	B	B	A	C
HCM 95th-tile Q	2.3	0.3	1	0.5	0.3	1.1	0.3	5.5

HCM 6th Signalized Intersection Summary 21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Future Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	0	48	9	0	1	125	548	7	1	522	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	113	96	22	0	20	643	2638	34	689	2609	1164
Arrive On Green	0.06	0.00	0.06	0.01	0.00	0.01	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	785	3593	46	854	3554	1585
Grp Volume(v), veh/h	48	0	48	9	0	1	125	271	284	1	522	123
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	785	1777	1862	854	1777	1585
Q Serve(g_s), s	1.8	0.0	2.1	0.4	0.0	0.0	4.1	3.3	3.4	0.0	3.2	1.6
Cycle Q Clear(g_c), s	1.8	0.0	2.1	0.4	0.0	0.0	7.3	3.3	3.4	3.4	3.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	108	113	96	22	0	20	643	1304	1367	689	2609	1164
V/C Ratio(X)	0.45	0.00	0.50	0.40	0.00	0.05	0.19	0.21	0.21	0.00	0.20	0.11
Avail Cap(c_a), veh/h	458	481	408	458	0	408	643	1304	1367	689	2609	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	31.8	0.0	31.9	34.3	0.0	34.1	4.0	2.9	2.9	3.4	2.9	2.7
Incr Delay (d2), s/veh	2.9	0.0	4.0	11.1	0.0	1.0	0.7	0.4	0.3	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	0.2	0.0	0.0	0.5	0.7	0.8	0.0	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	35.9	45.4	0.0	35.2	4.7	3.3	3.3	3.5	3.1	2.9
LnGrp LOS	C	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	96			10			680			646		
Approach Delay, s/veh	35.3			44.4			3.5			3.0		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	55.9			8.7			55.9			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	9.3			4.1			5.4			2.4		
Green Ext Time (p_c), s	3.0			0.2			3.2			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	5.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	3	116	4	0	1	67	449	7	2	428	97
Future Volume (veh/h)	147	3	116	4	0	1	67	449	7	2	428	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	3	126	4	0	1	73	488	8	2	465	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	232	196	12	0	10	631	2421	40	667	2405	1073
Arrive On Green	0.12	0.12	0.12	0.01	0.00	0.01	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	842	3578	59	901	3554	1585
Grp Volume(v), veh/h	160	3	126	4	0	1	73	242	254	2	465	105
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	842	1777	1860	901	1777	1585
Q Serve(g_s), s	6.1	0.1	5.3	0.2	0.0	0.0	2.5	3.6	3.6	0.1	3.4	1.6
Cycle Q Clear(g_c), s	6.1	0.1	5.3	0.2	0.0	0.0	5.9	3.6	3.6	3.6	3.4	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	221	232	196	12	0	10	631	1202	1258	667	2405	1073
V/C Ratio(X)	0.73	0.01	0.64	0.34	0.00	0.10	0.12	0.20	0.20	0.00	0.19	0.10
Avail Cap(c_a), veh/h	471	494	419	458	0	408	631	1202	1258	667	2405	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	29.5	26.9	29.2	34.6	0.0	34.6	5.3	4.2	4.2	4.9	4.2	3.9
Incr Delay (d2), s/veh	4.5	0.0	3.5	16.1	0.0	3.9	0.4	0.4	0.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.1	0.1	0.0	0.0	0.4	1.0	1.0	0.0	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	26.9	32.7	50.7	0.0	38.4	5.7	4.6	4.6	4.9	4.4	4.1
LnGrp LOS	C	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		289			5			569			572	
Approach Delay, s/veh		33.3			48.2			4.7			4.3	
Approach LOS		C			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.9		13.2		51.9		5.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		18.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		7.9		8.1		5.6		2.2				
Green Ext Time (p_c), s		2.5		0.7		2.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				10.5								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Future Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	442	162	190	799	101	165	680	190	78	558	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	723	323	229	948	423	203	1320	589	100	1038	91
Arrive On Green	0.07	0.20	0.20	0.13	0.27	0.27	0.11	0.37	0.37	0.06	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3305	290
Grp Volume(v), veh/h	91	442	162	190	799	101	165	680	190	78	299	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1818
Q Serve(g_s), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Cycle Q Clear(g_c), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	117	723	323	229	948	423	203	1320	589	100	558	571
V/C Ratio(X)	0.78	0.61	0.50	0.83	0.84	0.24	0.81	0.52	0.32	0.78	0.54	0.54
Avail Cap(c_a), veh/h	157	853	380	249	1038	463	226	1320	589	143	558	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	34.5	27.2	26.5	31.9	26.0	21.5	32.5	18.3	16.8	34.9	21.2	21.2
Incr Delay (d2), s/veh	16.0	1.0	1.2	13.0	4.0	0.2	18.4	1.4	1.4	13.9	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.6	2.6	4.1	6.9	1.4	3.9	4.6	2.4	1.7	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	28.1	27.7	44.9	30.0	21.7	50.9	19.8	18.3	48.8	24.4	24.4
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h	695			1090			1035			685		
Approach Delay, s/veh	31.0			31.8			24.5			27.2		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	32.4	14.2	19.8	13.0	28.0	9.4	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.0	22.5	10.5	18.0	9.5	19.0	6.6	21.9				
Max Q Clear Time (g_c+I1), s	5.2	13.2	9.8	10.5	8.8	12.5	5.8	18.0				
Green Ext Time (p_c), s	0.0	3.6	0.0	2.1	0.0	1.9	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	28.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	903	167	206	524	58	149	517	183	130	595	59
Future Volume (veh/h)	103	903	167	206	524	58	149	517	183	130	595	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	982	182	224	570	63	162	562	199	141	647	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1044	466	247	1251	558	189	884	394	167	772	76
Arrive On Green	0.08	0.29	0.29	0.14	0.35	0.35	0.11	0.25	0.25	0.09	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3266	323
Grp Volume(v), veh/h	112	982	182	224	570	63	162	562	199	141	352	359
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1812
Q Serve(g_s), s	4.9	21.6	7.3	9.9	9.9	2.1	7.2	11.3	8.6	6.2	15.1	15.1
Cycle Q Clear(g_c), s	4.9	21.6	7.3	9.9	9.9	2.1	7.2	11.3	8.6	6.2	15.1	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	143	1044	466	247	1251	558	189	884	394	167	420	428
V/C Ratio(X)	0.78	0.94	0.39	0.91	0.46	0.11	0.86	0.64	0.50	0.84	0.84	0.84
Avail Cap(c_a), veh/h	236	1044	466	247	1251	558	189	884	394	167	420	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	36.1	27.6	22.5	33.9	20.0	17.5	35.1	26.8	25.8	35.7	29.1	29.1
Incr Delay (d2), s/veh	8.9	15.6	0.5	30.4	0.2	0.1	29.9	3.5	4.6	25.1	14.2	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.0	2.7	6.2	4.0	0.8	4.6	5.0	3.6	3.8	7.8	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	43.2	23.1	64.3	20.2	17.6	65.1	30.3	30.4	60.7	43.3	43.3
LnGrp LOS	D	D	C	E	C	B	E	C	C	E	D	D
Approach Vol, veh/h	1276			857			923			852		
Approach Delay, s/veh	40.5			31.6			36.4			46.2		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	24.4	15.6	28.0	13.0	23.4	10.9	32.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	19.9	11.1	23.5	8.5	18.9	10.6	24.0				
Max Q Clear Time (g_c+I1), s	8.2	13.3	11.9	23.6	9.2	17.1	6.9	11.9				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	0.8	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay	38.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Future Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	583	37	43	976	82	42	148	17	75	108	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	1411	89	381	1379	116	175	551	57	680	756	641
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	533	3393	215	804	3318	279	219	1363	142	1221	1870	1585
Grp Volume(v), veh/h	61	305	315	43	523	535	207	0	0	75	108	74
Grp Sat Flow(s),veh/h/ln	533	1777	1832	804	1777	1820	1723	0	0	1221	1870	1585
Q Serve(g_s), s	5.3	6.1	6.1	2.0	12.2	12.2	0.0	0.0	0.0	0.0	1.8	1.5
Cycle Q Clear(g_c), s	17.5	6.1	6.1	8.1	12.2	12.2	3.8	0.0	0.0	1.3	1.8	1.5
Prop In Lane	1.00		0.12	1.00		0.15	0.20		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	236	739	761	381	739	757	783	0	0	680	756	641
V/C Ratio(X)	0.26	0.41	0.41	0.11	0.71	0.71	0.26	0.00	0.00	0.11	0.14	0.12
Avail Cap(c_a), veh/h	254	800	824	408	800	819	783	0	0	680	756	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.61	0.61	0.61	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	10.3	10.3	13.2	12.1	12.1	10.0	0.0	0.0	9.3	9.4	9.3
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.1	1.6	1.6	0.8	0.0	0.0	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	2.1	0.3	4.2	4.3	1.5	0.0	0.0	0.5	0.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	10.6	10.6	13.2	13.7	13.7	10.8	0.0	0.0	9.6	9.8	9.7
LnGrp LOS	B	B	B	B	B	B	B	A	A	A	A	A
Approach Vol, veh/h	681			1101			207			257		
Approach Delay, s/veh	11.4			13.7			10.8			9.7		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.7			25.3			24.7			25.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	5.8			19.5			3.8			14.2		
Green Ext Time (p_c), s	0.9			1.3			0.9			4.4		
Intersection Summary												
HCM 6th Ctrl Delay	12.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1035	31	24	639	47	33	54	49	119	132	115
Future Volume (veh/h)	69	1035	31	24	639	47	33	54	49	119	132	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1125	34	26	695	51	36	59	53	129	143	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	1427	43	205	1361	100	203	319	242	702	776	657
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	715	3522	106	485	3357	246	275	770	583	1281	1870	1585
Grp Volume(v), veh/h	75	568	591	26	368	378	148	0	0	129	143	125
Grp Sat Flow(s),veh/h/ln	715	1777	1851	485	1777	1826	1628	0	0	1281	1870	1585
Q Serve(g_s), s	4.4	14.0	14.0	2.5	7.8	7.8	0.0	0.0	0.0	0.0	2.4	2.5
Cycle Q Clear(g_c), s	12.2	14.0	14.0	16.4	7.8	7.8	2.7	0.0	0.0	2.3	2.4	2.5
Prop In Lane	1.00		0.06	1.00		0.13	0.24		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	323	720	750	205	720	740	764	0	0	702	776	657
V/C Ratio(X)	0.23	0.79	0.79	0.13	0.51	0.51	0.19	0.00	0.00	0.18	0.18	0.19
Avail Cap(c_a), veh/h	355	800	833	227	800	822	764	0	0	702	776	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.85	0.85	0.85	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	13.0	13.0	20.2	11.1	11.2	9.4	0.0	0.0	9.2	9.3	9.3
Incr Delay (d2), s/veh	0.1	2.0	2.0	0.2	0.5	0.5	0.6	0.0	0.0	0.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.9	5.1	0.3	2.6	2.7	1.0	0.0	0.0	0.8	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	15.0	15.0	20.4	11.6	11.6	9.9	0.0	0.0	9.8	9.8	9.9
LnGrp LOS	B	B	B	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1234			772			148			397		
Approach Delay, s/veh	15.0			11.9			9.9			9.8		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.2			24.8			25.2			24.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.7			16.0			4.5			18.4		
Green Ext Time (p_c), s	0.6			4.1			1.4			1.8		
Intersection Summary												
HCM 6th Ctrl Delay	13.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Future Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	434	39	41	725	96	104	398	55	60	250	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1109	99	70	812	107	133	999	137	88	548	464
Arrive On Green	0.12	0.34	0.34	0.04	0.26	0.26	0.07	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1781	3299	295	1781	3155	417	1781	3139	431	1781	1870	1585
Grp Volume(v), veh/h	171	233	240	41	408	413	104	224	229	60	250	245
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1777	1795	1781	1777	1793	1781	1870	1585
Q Serve(g_s), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Cycle Q Clear(g_c), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	210	597	611	70	457	462	133	566	571	88	548	464
V/C Ratio(X)	0.81	0.39	0.39	0.59	0.89	0.89	0.78	0.40	0.40	0.68	0.46	0.53
Avail Cap(c_a), veh/h	216	597	611	150	470	474	140	566	571	127	548	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	17.8	17.8	33.1	25.1	25.1	31.8	18.6	18.6	32.7	20.2	20.7
Incr Delay (d2), s/veh	19.1	0.4	0.4	7.6	18.7	18.7	23.5	2.1	2.1	9.1	2.7	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.6	2.7	0.8	8.3	8.3	2.5	2.9	3.0	1.2	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	18.1	18.2	40.6	43.8	43.7	55.4	20.7	20.7	41.8	22.9	24.9
LnGrp LOS	D	B	B	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		644			862			557			555	
Approach Delay, s/veh		26.4			43.6			27.2			25.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	26.8	7.2	28.0	9.7	25.0	12.7	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	20.0	5.9	21.1	5.5	19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s	4.3	9.0	3.6	9.1	6.0	11.0	8.6	17.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	2.0	0.0	1.6	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay				32.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	952	54	72	460	53	78	296	64	88	311	194
Future Volume (veh/h)	176	952	54	72	460	53	78	296	64	88	311	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	1035	59	78	500	58	85	322	70	96	338	211
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1133	65	100	827	96	109	883	189	123	582	493
Arrive On Green	0.13	0.33	0.33	0.06	0.26	0.26	0.06	0.30	0.30	0.07	0.31	0.31
Sat Flow, veh/h	1781	3417	195	1781	3209	371	1781	2910	624	1781	1870	1585
Grp Volume(v), veh/h	191	538	556	78	276	282	85	195	197	96	338	211
Grp Sat Flow(s),veh/h/ln	1781	1777	1835	1781	1777	1804	1781	1777	1758	1781	1870	1585
Q Serve(g_s), s	7.8	21.8	21.8	3.2	10.2	10.3	3.5	6.4	6.6	4.0	11.4	7.9
Cycle Q Clear(g_c), s	7.8	21.8	21.8	3.2	10.2	10.3	3.5	6.4	6.6	4.0	11.4	7.9
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	231	589	608	100	458	465	109	539	533	123	582	493
V/C Ratio(X)	0.83	0.91	0.91	0.78	0.60	0.61	0.78	0.36	0.37	0.78	0.58	0.43
Avail Cap(c_a), veh/h	278	604	624	131	458	465	150	539	533	154	582	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	24.0	24.0	34.9	24.5	24.5	34.7	20.4	20.5	34.4	21.7	20.5
Incr Delay (d2), s/veh	10.6	12.9	12.6	19.6	2.2	2.3	16.1	1.9	2.0	18.0	4.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.1	10.4	1.9	4.2	4.3	2.0	2.8	2.8	2.3	5.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	36.9	36.6	54.5	26.7	26.8	50.8	22.3	22.5	52.3	25.9	23.2
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h	1285			636			477			645		
Approach Delay, s/veh	37.6			30.1			27.5			29.0		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	27.3	8.7	29.4	9.1	27.8	14.2	23.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	19.5	5.5	25.5	6.3	19.7	11.7	19.3				
Max Q Clear Time (g_c+l1), s	6.0	8.6	5.2	23.8	5.5	13.4	9.8	12.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.1	0.0	1.6	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	32.6											
HCM 6th LOS	C											

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	127	53	432	419	27
Future Vol, veh/h	33	127	53	432	419	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	138	58	470	455	29
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	821	242	484	0	-	0
Stage 1	470	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	313	759	1075	-	-	-
Stage 1	595	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	296	759	1075	-	-	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1075	-	574	-	-	
HCM Lane V/C Ratio	0.054	-	0.303	-	-	
HCM Control Delay (s)	8.5	-	14	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.3	-	-	

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	128	61	500	451	32
Future Vol, veh/h	50	128	61	500	451	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	139	66	543	490	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	912	263	525	0	-	0
Stage 1	508	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	273	735	1038	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	256	735	1038	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.4	0.9		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1038	-	482	-	-	
HCM Lane V/C Ratio	0.064	-	0.401	-	-	
HCM Control Delay (s)	8.7	-	17.4	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-	

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	40	0	0	61	0	0
Future Vol, veh/h	40	0	0	61	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	0	0	66	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	22
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1050
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
26: Project Dwy N & Foothill Blvd

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	65	0	0	61	0	0
Future Vol, veh/h	65	0	0	61	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	1082	443776	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	0	0	66	0	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	66	33	-	-
Stage 1	66	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.54	6.94	-	-
Critical Hdwy Stg 1	5.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.02	3.32	-	-
Pot Cap-1 Maneuver	824	1033	0	-
Stage 1	839	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1033	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	0	0	16	0	0	15
Future Vol, veh/h	0	0	16	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	17	0	0	16
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	9	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1070	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1070	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/21/2024

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	0	18	0	0	22
Future Vol, veh/h	0	0	18	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	20	0	0	24

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	10	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1069	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1069	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	18	13	0
Future Vol, veh/h	0	0	0	18	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	19	14	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	7	14	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	909	1137	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	909	1137	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1137	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	18	24	0
Future Vol, veh/h	0	0	0	18	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	19	25	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	13	25	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	901	1124	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	901	1124	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1124	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary

29: Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Future Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	74	0	80	0	488	57	61	564	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	127	198	168	5	1524	177	216	3456	6
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.11	0.00	0.48	0.48	0.06	0.66	0.66
Sat Flow, veh/h	0	-59738	0	1781	1870	1585	1781	3207	373	3456	5263	9
Grp Volume(v), veh/h	0	0	0	74	0	80	0	270	275	61	365	200
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1803	1728	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.21	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	127	198	168	5	844	857	216	2235	1227
V/C Ratio(X)	0.00	0.00	0.00	0.58	0.00	0.48	0.00	0.32	0.32	0.28	0.16	0.16
Avail Cap(c_a), veh/h	0	889	0	235	889	753	235	844	857	456	2235	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	15.9	0.0	6.1	6.2	16.9	2.5	2.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	2.1	0.0	1.0	1.0	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.6	0.0	0.9	0.9	0.2	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.2	0.0	18.0	0.0	7.1	7.1	17.7	2.7	2.8
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h	0			154			545			626		
Approach Delay, s/veh	0.0			19.6			7.1			4.2		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.9	22.5	7.2	1.3	0.0	29.4	8.5					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.6	5.6	3.5	0.0	0.0	3.6	3.8					
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	3.1	0.2					
Intersection Summary												
HCM 6th Ctrl Delay				7.2								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	89	0	74	1	590	75	35	685	0
Future Volume (veh/h)	0	0	0	89	0	74	1	590	75	35	685	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	94	0	78	1	621	79	37	721	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	149	209	177	5	1533	195	148	2679	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.48	0.48	0.04	0.52	0.00
Sat Flow, veh/h	0	-64583	0	1781	1870	1585	1781	3172	403	3456	5274	0
Grp Volume(v), veh/h	0	0	0	94	0	78	1	347	353	37	721	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1798	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	2.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	2.9	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	149	209	177	5	859	869	148	2679	0
V/C Ratio(X)	0.00	0.00	0.00	0.63	0.00	0.44	0.21	0.40	0.41	0.25	0.27	0.00
Avail Cap(c_a), veh/h	0	904	0	239	904	766	239	859	869	464	2679	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	15.5	18.6	6.2	6.2	17.3	4.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.4	0.0	1.7	20.3	1.4	1.4	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.6	0.0	1.4	1.4	0.1	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.9	0.0	17.2	38.9	7.6	7.6	18.1	5.1	0.0
LnGrp LOS	A	A	A	C	A	B	D	A	A	B	A	A
Approach Vol, veh/h	0			172			701			758		
Approach Delay, s/veh	0.0			19.2			7.6			5.8		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.1	22.5	7.6	1.0	4.6	24.0	8.7					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.4	6.7	3.9	0.0	2.0	4.9	3.7					
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	4.1	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	43	414	78	222	507	56	101	44	206	72	76	67
Future Volume (veh/h)	43	414	78	222	507	56	101	44	206	72	76	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	450	85	241	551	61	110	48	224	78	83	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	666	297	289	1081	482	607	756	674	486	801	637
Arrive On Green	0.05	0.19	0.19	0.16	0.30	0.30	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1231	1777	1585	1107	1882	1496
Grp Volume(v), veh/h	47	450	85	241	551	61	110	48	224	78	78	78
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1231	1777	1585	1107	1777	1601
Q Serve(g_s), s	1.6	7.1	2.8	7.9	7.7	1.7	3.6	1.0	5.7	3.0	1.6	1.8
Cycle Q Clear(g_c), s	1.6	7.1	2.8	7.9	7.7	1.7	5.3	1.0	5.7	8.7	1.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	81	666	297	289	1081	482	607	756	674	486	756	681
V/C Ratio(X)	0.58	0.68	0.29	0.83	0.51	0.13	0.18	0.06	0.33	0.16	0.10	0.11
Avail Cap(c_a), veh/h	172	1066	476	312	1344	600	607	756	674	486	756	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	22.7	20.9	24.3	17.2	15.1	12.0	10.2	11.5	14.4	10.4	10.4
Incr Delay (d2), s/veh	6.5	1.2	0.5	15.4	0.3	0.1	0.6	0.1	1.2	0.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	1.0	4.3	2.9	0.6	1.0	0.4	2.0	0.8	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.9	21.5	39.7	17.5	15.2	12.6	10.3	12.7	15.2	10.6	10.8
LnGrp LOS	C	C	C	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		582			853			382			234	
Approach Delay, s/veh		24.4			23.6			12.4			12.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	14.2	15.7		30.0	7.2	22.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	5.8	22.7				
Max Q Clear Time (g_c+I1), s		7.7	9.9	9.1		10.7	3.6	9.7				
Green Ext Time (p_c), s		1.5	0.0	2.2		0.6	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	444	82	210	457	46	102	54	171	59	61	57
Future Volume (veh/h)	36	444	82	210	457	46	102	54	171	59	61	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	483	89	228	497	50	111	59	186	64	66	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	701	312	276	1110	495	623	751	670	513	775	650
Arrive On Green	0.04	0.20	0.20	0.16	0.31	0.31	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1262	1777	1585	1135	1834	1537
Grp Volume(v), veh/h	39	483	89	228	497	50	111	59	186	64	64	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1262	1777	1585	1135	1777	1594
Q Serve(g_s), s	1.3	7.6	2.9	7.4	6.7	1.3	3.5	1.2	4.6	2.3	1.3	1.5
Cycle Q Clear(g_c), s	1.3	7.6	2.9	7.4	6.7	1.3	4.9	1.2	4.6	6.9	1.3	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	71	701	312	276	1110	495	623	751	670	513	751	674
V/C Ratio(X)	0.55	0.69	0.28	0.83	0.45	0.10	0.18	0.08	0.28	0.12	0.08	0.10
Avail Cap(c_a), veh/h	166	1066	476	312	1356	605	623	751	670	513	751	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	22.4	20.5	24.6	16.5	14.6	11.9	10.3	11.3	13.6	10.4	10.4
Incr Delay (d2), s/veh	6.5	1.2	0.5	14.3	0.3	0.1	0.6	0.2	1.0	0.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	1.0	4.0	2.5	0.5	1.0	0.5	1.6	0.6	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	23.6	21.0	38.9	16.8	14.7	12.5	10.5	12.3	14.1	10.6	10.7
LnGrp LOS	C	C	C	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		611			775			356			192	
Approach Delay, s/veh		23.9			23.1			12.1			11.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.9	13.8	16.3		29.9	6.9	23.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	5.6	22.9				
Max Q Clear Time (g_c+I1), s		6.9	9.4	9.6		8.9	3.3	8.7				
Green Ext Time (p_c), s		1.4	0.1	2.3		0.6	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	532	69	87	511	96	108	93	73	108	85	143
Future Volume (veh/h)	75	532	69	87	511	96	108	93	73	108	85	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	578	75	95	555	104	117	101	79	117	92	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	823	367	124	839	374	686	848	719	677	848	719
Arrive On Green	0.06	0.23	0.23	0.07	0.24	0.24	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1304	1870	1585	1294	1870	1585
Grp Volume(v), veh/h	82	578	75	95	555	104	117	101	79	117	92	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1304	1870	1585	1294	1870	1585
Q Serve(g_s), s	2.5	8.2	2.1	2.9	7.8	3.0	3.1	1.7	1.6	3.2	1.6	3.3
Cycle Q Clear(g_c), s	2.5	8.2	2.1	2.9	7.8	3.0	4.7	1.7	1.6	4.9	1.6	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	823	367	124	839	374	686	848	719	677	848	719
V/C Ratio(X)	0.71	0.70	0.20	0.77	0.66	0.28	0.17	0.12	0.11	0.17	0.11	0.22
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	686	848	719	677	848	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.84	0.84	0.84	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	19.4	17.0	25.1	19.0	17.2	10.0	8.7	8.6	10.1	8.6	9.1
Incr Delay (d2), s/veh	6.9	0.9	0.2	9.8	0.8	0.3	0.3	0.1	0.1	0.6	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.2	0.7	1.5	3.0	1.0	0.8	0.6	0.5	0.9	0.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	20.3	17.3	34.9	19.8	17.5	10.2	8.8	8.8	10.6	8.9	9.8
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		735			754			297			364	
Approach Delay, s/veh		21.3			21.4			9.4			9.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	8.3	17.2		29.4	8.1	17.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5				
Max Q Clear Time (g_c+I1), s		6.7	4.9	10.2		6.9	4.5	9.8				
Green Ext Time (p_c), s		0.9	0.0	2.5		1.1	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	552	63	84	432	79	101	87	71	99	119	134
Future Volume (veh/h)	65	552	63	84	432	79	101	87	71	99	119	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	600	68	91	470	86	110	95	77	108	129	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	843	376	122	872	389	646	840	712	677	840	712
Arrive On Green	0.06	0.24	0.24	0.07	0.25	0.25	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1261	1870	1585	1301	1870	1585
Grp Volume(v), veh/h	71	600	68	91	470	86	110	95	77	108	129	146
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1261	1870	1585	1301	1870	1585
Q Serve(g_s), s	2.1	8.5	1.9	2.8	6.3	2.4	3.1	1.6	1.5	2.9	2.2	3.1
Cycle Q Clear(g_c), s	2.1	8.5	1.9	2.8	6.3	2.4	5.4	1.6	1.5	4.5	2.2	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	843	376	122	872	389	646	840	712	677	840	712
V/C Ratio(X)	0.66	0.71	0.18	0.75	0.54	0.22	0.17	0.11	0.11	0.16	0.15	0.21
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	646	840	712	677	840	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.86	0.86	0.86	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	19.2	16.7	25.2	18.0	16.6	10.6	8.8	8.8	10.1	9.0	9.2
Incr Delay (d2), s/veh	5.7	1.0	0.2	8.2	0.4	0.2	0.4	0.2	0.2	0.5	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.3	0.6	1.4	2.4	0.8	0.8	0.6	0.5	0.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	20.3	16.9	33.4	18.5	16.8	10.9	9.0	9.0	10.6	9.4	9.8
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	739			647			282			383		
Approach Delay, s/veh	21.0			20.4			9.7			9.9		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	29.2		8.3	17.5		29.2	7.8	18.0				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0		5.5	18.0		18.0	5.0	18.5				
Max Q Clear Time (g_c+I1), s	7.4		4.8	10.5		6.5	4.1	8.3				
Green Ext Time (p_c), s	0.8		0.0	2.5		1.2	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay	17.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	547	154	483	524	137	137	112	477	149	95	52
Future Volume (veh/h)	35	547	154	483	524	137	137	112	477	149	95	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	595	167	525	570	149	149	122	518	162	103	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	758	338	523	1164	519	563	574	486	434	694	360
Arrive On Green	0.04	0.21	0.21	0.15	0.33	0.33	0.07	0.31	0.31	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2262	1174
Grp Volume(v), veh/h	38	595	167	525	570	149	149	122	518	162	79	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1659
Q Serve(g_s), s	1.5	11.1	6.5	10.6	9.0	4.9	4.0	3.4	21.5	4.4	2.3	2.5
Cycle Q Clear(g_c), s	1.5	11.1	6.5	10.6	9.0	4.9	4.0	3.4	21.5	4.4	2.3	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	66	758	338	523	1164	519	563	574	486	434	545	509
V/C Ratio(X)	0.57	0.78	0.49	1.00	0.49	0.29	0.26	0.21	1.07	0.37	0.15	0.16
Avail Cap(c_a), veh/h	145	914	408	523	1164	519	563	574	486	434	545	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	26.0	24.2	29.7	18.9	17.5	14.8	18.0	24.3	15.0	17.6	17.7
Incr Delay (d2), s/veh	6.6	3.3	1.0	40.1	0.3	0.3	0.2	0.8	58.0	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	2.3	6.9	3.3	1.6	1.5	1.4	14.8	1.6	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	29.3	25.2	69.8	19.2	17.8	15.1	18.8	82.3	15.5	18.2	18.3
LnGrp LOS	D	C	C	F	B	B	B	B	F	B	B	B
Approach Vol, veh/h		800			1244			789			322	
Approach Delay, s/veh		28.9			40.4			59.8			16.9	
Approach LOS		C			D			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	26.0	15.1	19.4	9.5	26.0	7.1	27.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.4	10.6	18.0	5.0	18.4	5.7	22.9				
Max Q Clear Time (g_c+I1), s	6.4	23.5	12.6	13.1	6.0	4.5	3.5	11.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.6	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay				39.9								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	607	123	399	510	122	102	108	493	138	81	27
Future Volume (veh/h)	33	607	123	399	510	122	102	108	493	138	81	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	660	134	434	554	133	111	117	536	150	88	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	807	360	489	1182	527	581	566	480	430	827	261
Arrive On Green	0.04	0.23	0.23	0.14	0.33	0.33	0.06	0.30	0.30	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2657	839
Grp Volume(v), veh/h	36	660	134	434	554	133	111	117	536	150	58	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1719
Q Serve(g_s), s	1.4	12.3	5.0	8.6	8.6	4.3	2.9	3.3	21.2	4.0	1.6	1.7
Cycle Q Clear(g_c), s	1.4	12.3	5.0	8.6	8.6	4.3	2.9	3.3	21.2	4.0	1.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	64	807	360	489	1182	527	581	566	480	430	553	535
V/C Ratio(X)	0.56	0.82	0.37	0.89	0.47	0.25	0.19	0.21	1.12	0.35	0.10	0.11
Avail Cap(c_a), veh/h	145	914	408	489	1182	527	598	566	480	430	553	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	25.7	22.8	29.5	18.5	17.0	15.0	18.1	24.4	15.1	17.2	17.2
Incr Delay (d2), s/veh	6.4	4.5	0.5	17.8	0.3	0.2	0.2	0.8	76.0	0.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	1.7	4.5	3.1	1.4	1.1	1.4	17.0	1.5	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	30.2	23.4	47.3	18.8	17.3	15.2	18.9	100.4	15.5	17.5	17.6
LnGrp LOS	D	C	C	D	B	B	B	B	F	B	B	B
Approach Vol, veh/h		830			1121			764			267	
Approach Delay, s/veh		29.5			29.6			75.5			16.4	
Approach LOS		C			C			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	25.7	14.4	20.4	8.9	26.3	7.0	27.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.1	9.9	18.0	5.1	19.0	5.7	22.2				
Max Q Clear Time (g_c+I1), s	6.0	23.2	10.6	14.3	4.9	3.7	3.4	10.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	0.4	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay			40.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	600	453	63	504	337	175	0	580	90	0	457
Future Volume (veh/h)	127	600	453	63	504	337	175	0	580	90	0	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	138	652	492	68	548	366	190	0	630	98	0	497
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	168	1055	470	93	906	404	816	0	0	816	0	0
Arrive On Green	0.09	0.30	0.30	0.05	0.25	0.25	0.46	0.00	0.00	0.46	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	190		1781	98	
Grp Volume(v), veh/h	138	652	492	68	548	366	190	11.7		98	10.9	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	5.3	11.1	20.8	2.6	9.5	15.7	4.5			2.2		
Cycle Q Clear(g_c), s	5.3	11.1	20.8	2.6	9.5	15.7	4.5			2.2		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	168	1055	470	93	906	404	816			816		
V/C Ratio(X)	0.82	0.62	1.05	0.73	0.61	0.91	0.23			0.12		
Avail Cap(c_a), veh/h	168	1055	470	148	914	408	816			816		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	31.1	21.2	24.6	32.7	23.0	25.3	11.5			10.9		
Incr Delay (d2), s/veh	26.7	1.1	54.0	10.3	1.1	23.3	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.3	4.2	13.8	1.3	3.7	7.8	1.5			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	22.3	78.6	43.0	24.1	48.5	11.7			10.9		
LnGrp LOS	E	C	F	D	C	D	B			B		
Approach Vol, veh/h	1282			982								
Approach Delay, s/veh	47.7			34.5								
Approach LOS	D			C								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	36.6		8.2	25.3	36.6		11.1	22.3				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.5		5.8	18.8	8.5		6.6	18.0				
Max Q Clear Time (g_c+I1), s	4.2		4.6	22.8	6.5		7.3	17.7				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	38.6											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	601	459	48	437	347	130	0	696	76	0	463
Future Volume (veh/h)	173	601	459	48	437	347	130	0	696	76	0	463
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	188	653	499	52	475	377	141	0	757	83	0	503
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	227	1149	513	79	853	380	806	0	0	806	0	0
Arrive On Green	0.13	0.32	0.32	0.04	0.24	0.24	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	141		1781	83	
Grp Volume(v), veh/h	188	653	499	52	475	377	141	12.3		83	11.8	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	7.7	11.4	23.3	2.2	8.8	17.8	3.5			2.0		
Cycle Q Clear(g_c), s	7.7	11.4	23.3	2.2	8.8	17.8	3.5			2.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	227	1149	513	79	853	380	806			806		
V/C Ratio(X)	0.83	0.57	0.97	0.66	0.56	0.99	0.17			0.10		
Avail Cap(c_a), veh/h	249	1149	513	121	853	380	806			806		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	31.9	21.0	25.1	35.3	25.0	28.4	12.2			11.8		
Incr Delay (d2), s/veh	18.8	0.7	32.9	9.1	0.8	43.6	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.3	4.3	12.3	1.1	3.5	10.7	1.2			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	21.7	57.9	44.4	25.8	72.1	12.3			11.8		
LnGrp LOS	D	C	E	D	C	E	B			B		
Approach Vol, veh/h	1340			904								
Approach Delay, s/veh	39.2			46.2								
Approach LOS	D			D								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	38.4		7.8	28.8	38.4		14.1	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.3		5.1	23.4	7.5		10.5	18.0				
Max Q Clear Time (g_c+I1), s	4.0		4.2	25.3	5.5		9.7	19.8				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	39.3											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	0	18	1	0	0	19	466	1	2	466	205
Future Volume (vph)	233	0	18	1	0	0	19	466	1	2	466	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.47	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3538		866	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	253	0	20	1	0	0	21	507	1	2	507	223
RTOR Reduction (vph)	0	111	15	0	0	0	0	0	0	0	0	93
Lane Group Flow (vph)	126	18	3	0	1	0	21	508	0	2	507	130
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Effective Green, g (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Actuated g/C Ratio	0.14	0.14	0.14		0.01		0.04	0.68		0.58	0.58	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	237	227	212		27		66	2388		503	2057	920
v/s Ratio Prot	c0.07	0.01					0.01	c0.14			c0.14	
v/s Ratio Perm			0.00		c0.00					0.00		0.08
v/c Ratio	0.53	0.08	0.01		0.04		0.32	0.21		0.00	0.25	0.14
Uniform Delay, d1	31.9	29.8	29.5		38.8		37.5	4.9		7.0	8.2	7.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.2	0.0		0.6		2.8	0.2		0.0	0.3	0.3
Delay (s)	34.2	30.0	29.6		39.4		40.3	5.1		7.0	8.5	8.0
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.9			39.4			6.5			8.3	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			32.5%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	0	23	4	7	1	12	384	2	2	430	196
Future Volume (vph)	235	0	23	4	7	1	12	384	2	2	430	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1611	1504		1815		1770	3537		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.51	1.00	1.00
Satd. Flow (perm)	1681	1611	1504		1843		1770	3537		944	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	0	25	4	8	1	13	417	2	2	467	213
RTOR Reduction (vph)	0	110	19	0	1	0	0	0	0	0	0	87
Lane Group Flow (vph)	130	18	3	0	12	0	13	419	0	2	467	126
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	11.5	11.5	11.5		1.5		1.5	53.5		47.5	47.5	47.5
Effective Green, g (s)	11.5	11.5	11.5		1.5		1.5	53.5		47.5	47.5	47.5
Actuated g/C Ratio	0.14	0.14	0.14		0.02		0.02	0.67		0.59	0.59	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	241	231	216		34		33	2365		560	2101	939
v/s Ratio Prot	c0.08	0.01					0.01	c0.12			c0.13	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.54	0.08	0.01		0.35		0.39	0.18		0.00	0.22	0.13
Uniform Delay, d1	31.8	29.7	29.4		38.8		38.8	5.0		6.6	7.6	7.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.1	0.0		6.2		7.6	0.2		0.0	0.2	0.3
Delay (s)	34.1	29.8	29.4		45.0		46.4	5.1		6.6	7.8	7.5
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.8			45.0			6.4			7.7	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			12.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			32.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	656	152	150	674	86	200	273	148	130	243	74
Future Volume (veh/h)	64	656	152	150	674	86	200	273	148	130	243	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	713	165	163	733	93	217	297	161	141	264	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	745	172	188	1116	498	249	664	351	177	476	404
Arrive On Green	0.05	0.26	0.26	0.11	0.31	0.31	0.14	0.30	0.30	0.10	0.25	0.25
Sat Flow, veh/h	1781	2865	663	1781	3554	1585	1781	2247	1187	1781	1870	1585
Grp Volume(v), veh/h	70	442	436	163	733	93	217	233	225	141	264	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1751	1781	1777	1585	1781	1777	1657	1781	1870	1585
Q Serve(g_s), s	2.9	18.4	18.4	6.8	13.4	3.2	8.9	8.0	8.3	5.8	9.2	3.0
Cycle Q Clear(g_c), s	2.9	18.4	18.4	6.8	13.4	3.2	8.9	8.0	8.3	5.8	9.2	3.0
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	91	462	455	188	1116	498	249	525	490	177	476	404
V/C Ratio(X)	0.77	0.96	0.96	0.87	0.66	0.19	0.87	0.44	0.46	0.80	0.55	0.20
Avail Cap(c_a), veh/h	124	462	455	188	1116	498	249	525	490	216	476	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	35.1	27.3	27.3	33.0	22.2	18.7	31.6	21.4	21.5	33.1	24.3	21.9
Incr Delay (d2), s/veh	17.9	31.0	31.4	32.5	1.4	0.2	26.5	2.7	3.1	14.0	4.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	11.1	11.0	4.4	5.3	1.1	5.5	3.5	3.4	3.1	4.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	58.4	58.8	65.6	23.6	18.9	58.1	24.1	24.6	47.1	28.3	22.9
LnGrp LOS	D	E	E	E	C	B	E	C	C	D	C	C
Approach Vol, veh/h		948			989			675			485	
Approach Delay, s/veh		58.2			30.1			35.2			32.9	
Approach LOS		E			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	26.7	12.4	24.0	15.0	23.6	8.3	28.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.1	20.5	7.9	19.5	10.5	19.1	5.2	22.2				
Max Q Clear Time (g_c+I1), s	7.8	10.3	8.8	20.4	10.9	11.2	4.9	15.4				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	1.1	0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay				40.2								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary 6: Foothill Blvd & Indian Hill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	663	126	125	580	81	190	239	142	122	227	90
Future Volume (veh/h)	55	663	126	125	580	81	190	239	142	122	227	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	721	137	136	630	88	207	260	154	133	247	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	789	150	169	1115	497	245	700	401	167	520	440
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.14	0.32	0.32	0.09	0.28	0.28
Sat Flow, veh/h	1781	2979	566	1781	3554	1585	1781	2176	1247	1781	1870	1585
Grp Volume(v), veh/h	60	430	428	136	630	88	207	211	203	133	247	98
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	1585	1781	1777	1646	1781	1870	1585
Q Serve(g_s), s	2.7	18.8	18.8	6.0	11.8	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Cycle Q Clear(g_c), s	2.7	18.8	18.8	6.0	11.8	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	82	470	468	169	1115	497	245	571	529	167	520	440
V/C Ratio(X)	0.73	0.91	0.91	0.80	0.56	0.18	0.85	0.37	0.38	0.80	0.48	0.22
Avail Cap(c_a), veh/h	156	478	475	189	1115	497	256	571	529	212	520	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	37.7	28.5	28.5	35.5	22.9	19.9	33.7	20.9	21.0	35.5	24.0	22.2
Incr Delay (d2), s/veh	11.8	21.9	22.1	19.7	0.7	0.2	21.6	1.8	2.1	13.8	2.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.2	10.2	3.4	4.7	1.1	5.2	3.1	3.1	3.1	4.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	50.4	50.6	55.2	23.6	20.1	55.2	22.7	23.1	49.3	26.8	23.3
LnGrp LOS	D	D	D	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		918			854			621			478	
Approach Delay, s/veh		50.5			28.2			33.7			32.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.2	12.1	25.7	15.5	26.7	8.2	29.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	22.5	8.5	21.5	11.5	20.5	7.0	23.0				
Max Q Clear Time (g_c+I1), s	7.9	9.6	8.0	20.8	11.1	10.8	4.7	13.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.4	0.0	1.2	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay				37.2								
HCM 6th LOS				D								

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	865	56	75	842	11	0	0	107	0	0	47
Future Vol, veh/h	46	865	56	75	842	11	0	0	107	0	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	940	61	82	915	12	0	0	116	0	0	51
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	927	0	0	1001	0	0	-	-	470	-	-	458
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	733	-	-	687	-	-	0	0	540	0	0	550
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	733	-	-	687	-	-	-	-	540	-	-	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.9			13.5			12.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	540	733	-	-	687	-	-	550				
HCM Lane V/C Ratio	0.215	0.068	-	-	0.119	-	-	0.093				
HCM Control Delay (s)	13.5	10.3	-	-	10.9	-	-	12.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0.4	-	-	0.3				

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	988	61	91	819	24	0	0	138	46	0	0
Future Vol, veh/h	44	988	61	91	819	24	0	0	138	46	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1074	66	99	890	26	0	0	150	50	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	916	0	0	1140	0	0	-	-	537	1721	-	445
Stage 1	-	-	-	-	-	-	-	-	-	1088	-	-
Stage 2	-	-	-	-	-	-	-	-	-	633	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	740	-	-	609	-	-	0	0	488	57	0	561
Stage 1	-	-	-	-	-	-	0	0	-	230	0	-
Stage 2	-	-	-	-	-	-	0	0	-	434	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	740	-	-	609	-	-	-	-	488	~ 33	-	561
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	~ 33	-	-
Stage 1	-	-	-	-	-	-	-	-	-	215	-	-
Stage 2	-	-	-	-	-	-	-	-	-	281	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.2			15.6			0		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	488	740	-	-	609	-	-	-				
HCM Lane V/C Ratio	0.307	0.065	-	-	0.162	-	-	-				
HCM Control Delay (s)	15.6	10.2	-	-	12.1	-	-	0				
HCM Lane LOS	C	B	-	-	B	-	-	A				
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0.6	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	945	30	37	912	10	37	5	26	27	8	0
Future Volume (veh/h)	9	945	30	37	912	10	37	5	26	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1027	33	40	991	11	40	5	28	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	1437	641	230	1456	16	425	75	242	582	164	0
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	562	3554	1585	532	3600	40	755	180	582	1095	396	0
Grp Volume(v), veh/h	10	1027	33	40	489	513	73	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	562	1777	1585	532	1777	1863	1516	0	0	1490	0	0
Q Serve(g_s), s	0.7	12.1	0.6	3.4	11.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.1	12.1	0.6	15.5	11.3	11.3	1.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.55		0.38	0.76		0.00
Lane Grp Cap(c), veh/h	244	1437	641	230	718	753	742	0	0	746	0	0
V/C Ratio(X)	0.04	0.71	0.05	0.17	0.68	0.68	0.10	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	270	1599	713	255	800	838	742	0	0	746	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.2	12.5	9.1	19.0	12.2	12.2	8.9	0.0	0.0	8.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.4	0.0	0.2	1.3	1.2	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.8	0.2	0.4	3.6	3.7	0.5	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	13.8	9.1	19.2	13.5	13.4	9.2	0.0	0.0	8.8	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1070				1042				73		38	
Approach Delay, s/veh	13.7				13.7				9.2		8.8	
Approach LOS	B				B				A		A	
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			24.7			25.3			24.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	3.3			14.1			2.6			17.5		
Green Ext Time (p_c), s	0.2			4.3			0.1			2.7		
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	959	27	32	974	10	16	2	24	10	4	0
Future Volume (veh/h)	14	959	27	32	974	10	16	2	24	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1042	29	35	1059	11	17	2	26	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1373	612	231	1392	14	307	75	372	572	188	0
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	527	3554	1585	541	3603	37	475	181	898	1047	454	0
Grp Volume(v), veh/h	15	1042	29	35	522	548	45	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	527	1777	1585	541	1777	1864	1555	0	0	1501	0	0
Q Serve(g_s), s	1.1	11.5	0.5	2.7	11.5	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.6	11.5	0.5	14.2	11.5	11.5	0.7	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.38		0.58	0.73		0.00
Lane Grp Cap(c), veh/h	229	1373	612	231	686	720	753	0	0	759	0	0
V/C Ratio(X)	0.07	0.76	0.05	0.15	0.76	0.76	0.06	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	236	1421	634	239	711	745	753	0	0	759	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	0.56	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	12.0	8.6	18.1	12.0	12.0	7.9	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.4	0.0	0.2	2.7	2.5	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.0	0.1	0.3	4.1	4.2	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	14.3	8.7	18.3	14.7	14.5	8.1	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1086				1105				45		15	
Approach Delay, s/veh	14.2				14.7				8.1		7.8	
Approach LOS	B				B				A		A	
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.1			21.9			23.1			21.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	2.7			14.6			2.2			16.2		
Green Ext Time (p_c), s	0.1			2.2			0.0			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	14.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	904	18	21	768	124	5	6	23	110	5	166
Future Volume (veh/h)	165	904	18	21	768	124	5	6	23	110	5	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	983	20	23	835	135	5	7	25	120	5	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1286	26	45	940	419	227	292	457	152	811	687
Arrive On Green	0.12	0.36	0.36	0.03	0.26	0.26	0.29	0.29	0.29	0.09	0.43	0.43
Sat Flow, veh/h	1781	3562	72	1781	3554	1585	550	1012	1585	1781	1870	1585
Grp Volume(v), veh/h	179	490	513	23	835	135	12	0	25	120	5	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1585	1562	0	1585	1781	1870	1585
Q Serve(g_s), s	7.4	18.3	18.3	1.0	16.9	5.1	0.0	0.0	0.9	5.0	0.1	5.4
Cycle Q Clear(g_c), s	7.4	18.3	18.3	1.0	16.9	5.1	0.3	0.0	0.9	5.0	0.1	5.4
Prop In Lane	1.00		0.04	1.00		1.00	0.42		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	642	671	45	940	419	518	0	457	152	811	687
V/C Ratio(X)	0.82	0.76	0.76	0.51	0.89	0.32	0.02	0.00	0.05	0.79	0.01	0.26
Avail Cap(c_a), veh/h	226	642	671	119	971	433	518	0	457	178	811	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.81	0.81	0.81	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	32.1	21.1	21.1	36.1	26.5	22.2	19.1	0.0	19.3	33.6	12.1	13.6
Incr Delay (d2), s/veh	14.3	3.6	3.4	7.0	8.2	0.4	0.1	0.0	0.2	17.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.4	7.7	0.5	7.6	1.8	0.2	0.0	0.3	2.8	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	24.7	24.6	43.1	34.8	22.5	19.2	0.0	19.5	51.4	12.1	14.5
LnGrp LOS	D	C	C	D	C	C	B	A	B	D	B	B
Approach Vol, veh/h		1182			993			37			305	
Approach Delay, s/veh		27.9			33.3			19.4			29.0	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	10.9	26.1	6.4	31.6		37.0	13.6	24.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	19.5	5.0	25.0		31.5	9.5	20.5				
Max Q Clear Time (g_c+I1), s	7.0	2.9	3.0	20.3		7.4	9.4	18.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.5		0.6	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			30.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	832	11	20	789	111	9	3	18	86	1	147
Future Volume (veh/h)	145	832	11	20	789	111	9	3	18	86	1	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	904	12	22	858	121	10	3	20	93	1	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	1280	17	44	964	430	384	104	467	119	796	675
Arrive On Green	0.11	0.36	0.36	0.02	0.27	0.27	0.29	0.29	0.29	0.07	0.43	0.43
Sat Flow, veh/h	1781	3591	48	1781	3554	1585	994	353	1585	1781	1870	1585
Grp Volume(v), veh/h	158	447	469	22	858	121	13	0	20	93	1	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1347	0	1585	1781	1870	1585
Q Serve(g_s), s	6.1	15.2	15.2	0.9	16.2	4.2	0.0	0.0	0.6	3.6	0.0	4.5
Cycle Q Clear(g_c), s	6.1	15.2	15.2	0.9	16.2	4.2	0.3	0.0	0.6	3.6	0.0	4.5
Prop In Lane	1.00		0.03	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	633	664	44	964	430	488	0	467	119	796	675
V/C Ratio(X)	0.81	0.71	0.71	0.50	0.89	0.28	0.03	0.00	0.04	0.78	0.00	0.24
Avail Cap(c_a), veh/h	216	633	664	127	990	442	488	0	467	140	796	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.82	0.82	0.82	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	30.4	19.4	19.4	33.7	24.5	20.1	17.5	0.0	17.6	32.2	11.5	12.8
Incr Delay (d2), s/veh	11.1	2.1	2.0	6.9	8.4	0.3	0.1	0.0	0.2	20.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.8	6.1	0.4	7.2	1.5	0.2	0.0	0.2	2.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	21.4	21.3	40.6	32.9	20.4	17.6	0.0	17.8	52.6	11.5	13.6
LnGrp LOS	D	C	C	D	C	C	B	A	B	D	B	B
Approach Vol, veh/h		1074			1001			33			254	
Approach Delay, s/veh		24.4			31.6			17.7			27.9	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.2	25.1	6.2	29.5		34.3	12.2	23.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	18.5	5.0	23.0		28.5	8.5	19.5				
Max Q Clear Time (g_c+I1), s	5.6	2.6	2.9	17.2		6.5	8.1	18.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.7		0.5	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				27.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	708	121	112	665	41	109	200	102	64	169	87
Future Volume (veh/h)	147	708	121	112	665	41	109	200	102	64	169	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	770	132	122	723	45	118	217	111	70	184	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	1001	447	156	909	406	990	935	461	479	934	462
Arrive On Green	0.11	0.28	0.28	0.09	0.26	0.26	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2134	2307	1136	1052	2304	1138
Grp Volume(v), veh/h	160	770	132	122	723	45	118	165	163	70	140	139
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1067	1777	1666	1052	1777	1665
Q Serve(g_s), s	5.2	11.9	3.9	4.0	11.4	1.3	2.3	3.7	3.9	2.8	3.1	3.2
Cycle Q Clear(g_c), s	5.2	11.9	3.9	4.0	11.4	1.3	5.5	3.7	3.9	6.7	3.1	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.68
Lane Grp Cap(c), veh/h	203	1001	447	156	909	406	990	720	675	479	720	675
V/C Ratio(X)	0.79	0.77	0.30	0.78	0.80	0.11	0.12	0.23	0.24	0.15	0.19	0.21
Avail Cap(c_a), veh/h	282	1185	528	223	1066	476	990	720	675	479	720	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	19.8	16.9	26.8	20.9	17.1	13.4	11.7	11.8	14.0	11.5	11.6
Incr Delay (d2), s/veh	6.7	1.8	0.2	10.7	3.7	0.1	0.2	0.7	0.8	0.6	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.5	1.3	2.0	4.6	0.4	0.5	1.3	1.3	0.7	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	21.5	17.1	37.5	24.5	17.2	13.6	12.4	12.6	14.6	12.1	12.3
LnGrp LOS	C	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1062			890			446			349	
Approach Delay, s/veh		22.7			25.9			12.8			12.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.8	9.8	21.4		28.8	11.3	19.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	7.5	20.0		19.0	9.5	18.0				
Max Q Clear Time (g_c+I1), s		7.5	6.0	13.9		8.7	7.2	13.4				
Green Ext Time (p_c), s		1.8	0.0	2.7		1.3	0.1	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 10: Claremont Blvd & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	125	716	103	118	644	49	84	177	98	54	163	73
Future Volume (veh/h)	125	716	103	118	644	49	84	177	98	54	163	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	778	112	128	700	53	91	192	107	59	177	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	965	431	164	946	422	1030	921	491	501	996	427
Arrive On Green	0.10	0.27	0.27	0.09	0.27	0.27	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2180	2239	1193	1080	2422	1038
Grp Volume(v), veh/h	136	778	112	128	700	53	91	151	148	59	128	128
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1090	1777	1656	1080	1777	1684
Q Serve(g_s), s	4.5	12.2	3.3	4.2	10.8	1.5	1.7	3.3	3.5	2.2	2.7	2.9
Cycle Q Clear(g_c), s	4.5	12.2	3.3	4.2	10.8	1.5	4.6	3.3	3.5	5.7	2.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.62
Lane Grp Cap(c), veh/h	174	965	431	164	946	422	1030	731	681	501	731	692
V/C Ratio(X)	0.78	0.81	0.26	0.78	0.74	0.13	0.09	0.21	0.22	0.12	0.18	0.19
Avail Cap(c_a), veh/h	252	1096	489	252	1096	489	1030	731	681	501	731	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	20.4	17.1	26.6	20.1	16.7	12.7	11.4	11.4	13.3	11.2	11.3
Incr Delay (d2), s/veh	7.0	3.0	0.2	8.1	2.3	0.1	0.2	0.6	0.7	0.5	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.8	1.1	2.0	4.2	0.5	0.4	1.2	1.2	0.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	23.4	17.4	34.8	22.4	16.8	12.9	12.0	12.2	13.8	11.7	11.8
LnGrp LOS	C	C	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1026			881			390			315	
Approach Delay, s/veh		24.0			23.9			12.3			12.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.2	10.0	20.8		29.2	10.4	20.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	8.5	18.5		19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s		6.6	6.2	14.2		7.7	6.5	12.8				
Green Ext Time (p_c), s		1.7	0.1	2.0		1.2	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	687	147	128	628	161	150	271	94	147	309	49
Future Volume (veh/h)	34	687	147	128	628	161	150	271	94	147	309	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	723	155	135	661	169	158	285	99	155	325	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	912	407	255	1042	465	265	1054	470	264	1321	205
Arrive On Green	0.04	0.26	0.26	0.07	0.29	0.29	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4457	693
Grp Volume(v), veh/h	36	723	155	135	661	169	158	285	99	155	246	131
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1746
Q Serve(g_s), s	1.2	11.5	4.9	2.3	9.8	5.1	2.7	3.7	2.8	2.6	3.3	3.5
Cycle Q Clear(g_c), s	1.2	11.5	4.9	2.3	9.8	5.1	2.7	3.7	2.8	2.6	3.3	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	67	912	407	255	1042	465	265	1054	470	264	1009	517
V/C Ratio(X)	0.54	0.79	0.38	0.53	0.63	0.36	0.60	0.27	0.21	0.59	0.24	0.25
Avail Cap(c_a), veh/h	147	1053	470	285	1053	470	285	1054	470	285	1009	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	21.1	18.6	27.1	18.6	17.0	27.1	16.3	16.0	27.1	16.2	16.3
Incr Delay (d2), s/veh	6.6	3.7	0.6	1.7	1.2	0.5	3.0	0.6	1.0	2.7	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.6	1.6	0.9	3.7	1.7	1.1	1.4	1.0	1.1	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	24.7	19.2	28.8	19.9	17.5	30.1	17.0	17.0	29.9	16.8	17.4
LnGrp LOS	D	C	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h	914			965			542			532		
Approach Delay, s/veh	24.2			20.7			20.8			20.8		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.0	20.1	9.2	22.5	6.8	22.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	5.7	4.3	13.5	4.7	5.5	3.2	11.8				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.1	0.0	1.7	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay	21.8											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	708	114	110	650	134	122	222	93	104	283	34
Future Volume (veh/h)	46	708	114	110	650	134	122	222	93	104	283	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	745	120	116	684	141	128	234	98	109	298	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	928	414	245	1017	454	252	1070	477	240	1377	163
Arrive On Green	0.05	0.26	0.26	0.07	0.29	0.29	0.07	0.30	0.30	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4630	546
Grp Volume(v), veh/h	48	745	120	116	684	141	128	234	98	109	217	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1772
Q Serve(g_s), s	1.6	11.9	3.7	2.0	10.3	4.2	2.2	3.0	2.8	1.8	2.9	3.0
Cycle Q Clear(g_c), s	1.6	11.9	3.7	2.0	10.3	4.2	2.2	3.0	2.8	1.8	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	82	928	414	245	1017	454	252	1070	477	240	1013	527
V/C Ratio(X)	0.59	0.80	0.29	0.47	0.67	0.31	0.51	0.22	0.21	0.45	0.21	0.22
Avail Cap(c_a), veh/h	147	1057	472	286	1057	472	286	1070	477	286	1013	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	20.9	17.9	27.0	19.1	16.9	27.0	15.8	15.8	27.1	15.9	16.0
Incr Delay (d2), s/veh	6.6	4.1	0.4	1.4	1.6	0.4	1.6	0.5	1.0	1.3	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.8	1.2	0.8	3.9	1.4	0.9	1.1	1.0	0.7	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	25.0	18.3	28.4	20.7	17.3	28.6	16.3	16.7	28.4	16.4	17.0
LnGrp LOS	C	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		913			941			460			443	
Approach Delay, s/veh		24.6			21.1			19.8			19.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	22.7	8.8	20.3	8.9	22.5	7.3	21.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.8	5.0	4.0	13.9	4.2	5.0	3.6	12.3				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.9	0.0	1.5	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			21.8									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	805	172	310	772	0	172	0	355	1	0	0
Future Volume (vph)	15	805	172	310	772	0	172	0	355	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1457	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1457	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	847	181	326	813	0	181	0	374	1	0	0
RTOR Reduction (vph)	0	0	101	0	0	0	0	129	139	0	0	0
Lane Group Flow (vph)	16	847	80	326	813	0	163	69	55	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		55	
v/s Ratio Prot	0.01	c0.24		c0.09	c0.23		c0.10	0.05				
v/s Ratio Perm			0.05						0.04		c0.00	
v/c Ratio	0.67	0.70	0.15	1.22	0.57		0.34	0.17	0.13		0.02	
Uniform Delay, d1	31.4	18.2	14.6	29.5	14.6		18.2	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	52.8	1.8	0.1	126.5	0.5		2.0	0.9	0.6		0.1	
Delay (s)	84.2	20.0	14.7	156.0	15.2		20.2	18.2	17.7		31.1	
Level of Service	F	B	B	F	B		C	B	B		C	
Approach Delay (s)		20.1			55.5			18.6			31.1	
Approach LOS		C			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			34.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	794	179	296	728	0	166	0	337	0	0	2
Future Volume (vph)	14	794	179	296	728	0	166	0	337	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	836	188	312	766	0	175	0	355	0	0	2
RTOR Reduction (vph)	0	0	107	0	0	0	0	122	133	0	2	0
Lane Group Flow (vph)	15	836	81	312	766	0	157	66	52	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		47	
v/s Ratio Prot	0.01	c0.24		c0.09	c0.22		c0.09	0.05			c0.00	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.62	0.69	0.15	1.16	0.53		0.33	0.16	0.12		0.00	
Uniform Delay, d1	31.4	18.1	14.6	29.5	14.4		18.2	17.2	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	1.7	0.1	106.8	0.4		1.9	0.8	0.6		0.0	
Delay (s)	72.7	19.8	14.7	136.3	14.8		20.0	18.1	17.6		31.0	
Level of Service	E	B	B	F	B		C	B	B		C	
Approach Delay (s)		19.7			50.0			18.5			31.0	
Approach LOS		B			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			56.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	9	24	10	45	3	568	24	28	529	6
Future Vol, veh/h	0	9	9	24	10	45	3	568	24	28	529	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	26	11	49	3	617	26	30	575	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1305	1288	579	1285	1278	630	582	0	0	643	0	0
Stage 1	639	639	-	636	636	-	-	-	-	-	-	-
Stage 2	666	649	-	649	642	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	137	164	515	142	166	482	992	-	-	942	-	-
Stage 1	464	470	-	466	472	-	-	-	-	-	-	-
Stage 2	449	466	-	458	469	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	114	158	515	129	160	482	992	-	-	942	-	-
Mov Cap-2 Maneuver	114	158	-	129	160	-	-	-	-	-	-	-
Stage 1	463	455	-	465	471	-	-	-	-	-	-	-
Stage 2	393	465	-	426	454	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	21.2		29.5		0		0.4					
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	992	-	-	242	231	942	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.081	0.372	0.032	-	-				
HCM Control Delay (s)	8.6	-	-	21.2	29.5	8.9	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	1.6	0.1	-	-				

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	3	6	3	27	10	55	6	617	23	18	512	0
Future Vol, veh/h	3	6	3	27	10	55	6	617	23	18	512	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	7	3	29	11	60	7	671	25	20	557	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1330	1307	557	1300	1295	684	557	0	0	696	0	0
Stage 1	597	597	-	698	698	-	-	-	-	-	-	-
Stage 2	733	710	-	602	597	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	132	160	530	138	162	449	1014	-	-	900	-	-
Stage 1	490	491	-	431	442	-	-	-	-	-	-	-
Stage 2	412	437	-	486	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	106	155	530	130	157	449	1014	-	-	900	-	-
Mov Cap-2 Maneuver	106	155	-	130	157	-	-	-	-	-	-	-
Stage 1	487	480	-	428	439	-	-	-	-	-	-	-
Stage 2	346	434	-	466	480	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	28.7			31.4			0.1			0.3		
HCM LOS	D			D								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1014	-	-	165	234	900	-
HCM Lane V/C Ratio	0.006	-	-	0.079	0.427	0.022	-
HCM Control Delay (s)	8.6	-	-	28.7	31.4	9.1	-
HCM Lane LOS	A	-	-	D	D	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	2	0.1	-

Intersection

Intersection Delay, s/veh 11.1
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	95	4	74	111	18	7	180	75	20	179	9
Future Vol, veh/h	10	95	4	74	111	18	7	180	75	20	179	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	103	4	80	121	20	8	196	82	22	195	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	11.3	11.5	11
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	9%	36%	10%
Vol Thru, %	69%	87%	55%	86%
Vol Right, %	29%	4%	9%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	109	203	208
LT Vol	7	10	74	20
Through Vol	180	95	111	179
RT Vol	75	4	18	9
Lane Flow Rate	285	118	221	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.402	0.187	0.337	0.334
Departure Headway (Hd)	5.087	5.669	5.505	5.323
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	631	653	674
Service Time	3.124	3.713	3.544	3.362
HCM Lane V/C Ratio	0.404	0.187	0.338	0.335
HCM Control Delay	11.5	10	11.3	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.9	0.7	1.5	1.5

Intersection

Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	67	11	81	112	20	32	178	65	16	141	16
Future Vol, veh/h	3	67	11	81	112	20	32	178	65	16	141	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	73	12	88	122	22	35	193	71	17	153	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	11.2	11.6	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	4%	38%	9%
Vol Thru, %	65%	83%	53%	82%
Vol Right, %	24%	14%	9%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	81	213	173
LT Vol	32	3	81	16
Through Vol	178	67	112	141
RT Vol	65	11	20	16
Lane Flow Rate	299	88	232	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.417	0.135	0.345	0.273
Departure Headway (Hd)	5.02	5.521	5.363	5.227
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	649	671	688
Service Time	3.02	3.562	3.396	3.259
HCM Lane V/C Ratio	0.415	0.136	0.346	0.273
HCM Control Delay	11.6	9.4	11.2	10.2
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.5	1.5	1.1

HCM 6th AWSC
15: Mills Ave & 6st St

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Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	175	17	27	200	5	19	0	9	2	5	0
Future Vol, veh/h	3	175	17	27	200	5	19	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	190	18	29	217	5	21	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	2%	12%	29%
Vol Thru, %	0%	90%	86%	71%
Vol Right, %	32%	9%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	195	232	7
LT Vol	19	3	27	2
Through Vol	0	175	200	5
RT Vol	9	17	5	0
Lane Flow Rate	30	212	252	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.244	0.292	0.011
Departure Headway (Hd)	4.889	4.141	4.17	5.038
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	852	850	714
Service Time	2.89	2.236	2.255	3.04
HCM Lane V/C Ratio	0.041	0.249	0.296	0.011
HCM Control Delay	8.1	8.6	9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1	1.2	0

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	164	18	16	228	4	15	0	11	2	4	3
Future Vol, veh/h	6	164	18	16	228	4	15	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	178	20	17	248	4	16	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.1	8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	58%	3%	6%	22%
Vol Thru, %	0%	87%	92%	44%
Vol Right, %	42%	10%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	188	248	9
LT Vol	15	6	16	2
Through Vol	0	164	228	4
RT Vol	11	18	4	3
Lane Flow Rate	28	204	270	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.236	0.311	0.013
Departure Headway (Hd)	4.831	4.153	4.158	4.84
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	850	855	744
Service Time	2.831	2.248	2.239	2.842
HCM Lane V/C Ratio	0.038	0.24	0.316	0.013
HCM Control Delay	8	8.6	9.1	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.9	1.3	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	131	31	91	136	51	42	306	105	54	295	86
Future Volume (veh/h)	54	131	31	91	136	51	42	306	105	54	295	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	138	33	96	143	54	44	322	111	57	311	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	199	48	225	237	201	477	890	301	468	954	274
Arrive On Green	0.14	0.14	0.14	0.13	0.13	0.13	0.05	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1459	349	1781	1870	1585	1781	2606	882	1781	2723	783
Grp Volume(v), veh/h	57	0	171	96	143	54	44	218	215	57	201	201
Grp Sat Flow(s),veh/h/ln	1781	0	1808	1781	1870	1585	1781	1777	1712	1781	1777	1729
Q Serve(g_s), s	1.5	0.0	4.8	2.6	3.8	1.6	0.8	4.8	5.0	1.1	4.4	4.5
Cycle Q Clear(g_c), s	1.5	0.0	4.8	2.6	3.8	1.6	0.8	4.8	5.0	1.1	4.4	4.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.52	1.00		0.45
Lane Grp Cap(c), veh/h	243	0	247	225	237	201	477	607	585	468	622	606
V/C Ratio(X)	0.23	0.00	0.69	0.43	0.60	0.27	0.09	0.36	0.37	0.12	0.32	0.33
Avail Cap(c_a), veh/h	608	0	617	608	639	541	566	607	585	541	622	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	21.7	21.2	21.8	20.8	10.3	13.0	13.1	10.2	12.5	12.6
Incr Delay (d2), s/veh	0.5	0.0	3.5	1.3	2.5	0.7	0.1	1.6	1.8	0.1	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.0	1.1	1.7	0.6	0.3	1.8	1.8	0.3	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	25.2	22.5	24.2	21.5	10.4	14.7	14.8	10.3	13.9	14.1
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		228			293			477			459	
Approach Delay, s/veh		24.1			23.2			14.4			13.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	22.5		11.7	6.9	23.0		11.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.1	7.0		6.8	2.8	6.5		5.8				
Green Ext Time (p_c), s	0.0	1.8		0.7	0.0	1.7		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				17.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	132	40	86	134	42	34	286	89	45	306	67
Future Volume (veh/h)	66	132	40	86	134	42	34	286	89	45	306	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	139	42	91	141	44	36	301	94	47	322	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	200	60	221	232	197	472	916	281	475	1016	221
Arrive On Green	0.14	0.14	0.14	0.12	0.12	0.12	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1379	417	1781	1870	1585	1781	2678	821	1781	2902	631
Grp Volume(v), veh/h	69	0	181	91	141	44	36	198	197	47	195	198
Grp Sat Flow(s),veh/h/ln	1781	0	1795	1781	1870	1585	1781	1777	1723	1781	1777	1757
Q Serve(g_s), s	1.8	0.0	5.0	2.5	3.8	1.3	0.7	4.3	4.5	0.9	4.2	4.3
Cycle Q Clear(g_c), s	1.8	0.0	5.0	2.5	3.8	1.3	0.7	4.3	4.5	0.9	4.2	4.3
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.48	1.00		0.36
Lane Grp Cap(c), veh/h	258	0	260	221	232	197	472	608	589	475	622	615
V/C Ratio(X)	0.27	0.00	0.70	0.41	0.61	0.22	0.08	0.33	0.33	0.10	0.31	0.32
Avail Cap(c_a), veh/h	609	0	614	609	639	542	571	608	589	560	622	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	21.4	21.3	21.8	20.8	10.5	12.8	12.9	10.3	12.5	12.5
Incr Delay (d2), s/veh	0.6	0.0	3.4	1.2	2.5	0.6	0.1	1.4	1.5	0.1	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.0	1.0	1.7	0.5	0.2	1.6	1.6	0.3	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	24.8	22.5	24.4	21.3	10.5	14.3	14.4	10.4	13.8	13.9
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		250			276			431			440	
Approach Delay, s/veh		23.6			23.3			14.0			13.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	22.5		12.1	6.5	22.9		11.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	6.5		7.0	2.7	6.3		5.8				
Green Ext Time (p_c), s	0.0	1.6		0.8	0.0	1.6		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				17.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	160	37	48	146	46	42	349	31	29	520	62
Future Volume (veh/h)	90	160	37	48	146	46	42	349	31	29	520	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	168	39	51	154	48	44	367	33	31	547	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	448	102	91	248	210	160	1835	163	63	1730	203
Arrive On Green	0.07	0.16	0.16	0.05	0.13	0.13	0.05	0.38	0.38	0.04	0.37	0.37
Sat Flow, veh/h	1781	2878	652	1781	1870	1585	3456	4775	423	1781	4633	543
Grp Volume(v), veh/h	95	102	105	51	154	48	44	260	140	31	400	212
Grp Sat Flow(s),veh/h/ln	1781	1777	1753	1781	1870	1585	1728	1702	1794	1781	1702	1773
Q Serve(g_s), s	2.5	2.5	2.6	1.3	3.8	1.3	0.6	2.5	2.5	0.8	4.0	4.1
Cycle Q Clear(g_c), s	2.5	2.5	2.6	1.3	3.8	1.3	0.6	2.5	2.5	0.8	4.0	4.1
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.24	1.00		0.31
Lane Grp Cap(c), veh/h	133	277	273	91	248	210	160	1308	690	63	1271	662
V/C Ratio(X)	0.71	0.37	0.38	0.56	0.62	0.23	0.28	0.20	0.20	0.49	0.31	0.32
Avail Cap(c_a), veh/h	185	663	655	185	698	592	358	1308	690	185	1271	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	18.2	18.3	22.3	19.8	18.7	22.2	9.9	9.9	22.8	10.7	10.7
Incr Delay (d2), s/veh	7.6	0.8	0.9	5.2	2.5	0.5	0.9	0.3	0.7	5.9	0.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	0.9	0.6	1.5	0.4	0.2	0.7	0.8	0.4	1.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	19.1	19.2	27.6	22.3	19.3	23.1	10.2	10.6	28.7	11.4	12.0
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		302			253			444			643	
Approach Delay, s/veh		22.3			22.8			11.6			12.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	23.0	7.0	12.0	6.7	22.5	8.1	10.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.8	4.5	3.3	4.6	2.6	6.1	4.5	5.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	2.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.6									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	176	44	53	151	37	41	340	36	26	481	47
Future Volume (veh/h)	59	176	44	53	151	37	41	340	36	26	481	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	185	46	56	159	39	43	358	38	27	506	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	396	96	98	254	215	158	1850	193	56	1801	172
Arrive On Green	0.06	0.14	0.14	0.06	0.14	0.14	0.05	0.39	0.39	0.03	0.38	0.38
Sat Flow, veh/h	1781	2835	688	1781	1870	1585	3456	4697	490	1781	4739	453
Grp Volume(v), veh/h	62	114	117	56	159	39	43	258	138	27	362	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1870	1585	1728	1702	1782	1781	1702	1789
Q Serve(g_s), s	1.6	2.8	2.9	1.5	3.8	1.0	0.6	2.4	2.4	0.7	3.5	3.6
Cycle Q Clear(g_c), s	1.6	2.8	2.9	1.5	3.8	1.0	0.6	2.4	2.4	0.7	3.5	3.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.27	1.00		0.25
Lane Grp Cap(c), veh/h	105	248	244	98	254	215	158	1341	702	56	1293	680
V/C Ratio(X)	0.59	0.46	0.48	0.57	0.63	0.18	0.27	0.19	0.20	0.48	0.28	0.28
Avail Cap(c_a), veh/h	188	675	664	188	711	602	365	1341	702	188	1293	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	18.7	18.8	21.8	19.3	18.1	21.8	9.4	9.4	22.6	10.2	10.2
Incr Delay (d2), s/veh	5.2	1.3	1.5	5.1	2.5	0.4	0.9	0.3	0.6	6.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.0	1.1	0.7	1.5	0.3	0.2	0.7	0.8	0.3	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	20.1	20.3	27.0	21.9	18.5	22.8	9.7	10.1	28.8	10.7	11.3
LnGrp LOS	C	C	C	C	C	B	C	A	B	C	B	B
Approach Vol, veh/h	293			254			439			582		
Approach Delay, s/veh	21.6			22.5			11.1			11.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	23.2	7.1	11.1	6.7	22.5	7.3	10.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.7	4.4	3.5	4.9	2.6	5.6	3.6	5.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.9	0.0	2.5	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	15.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	20	24	46	37	24	37	18	533	15	21	532	20
Future Volume (veh/h)	20	24	46	37	24	37	18	533	15	21	532	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	26	50	40	26	40	20	579	16	23	578	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	80	469	108	48	469	42	846	717	47	815	31
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.46	0.46
Sat Flow, veh/h	19	270	1585	38	161	1585	1781	1870	1585	1781	1790	68
Grp Volume(v), veh/h	48	0	50	66	0	40	20	579	16	23	0	600
Grp Sat Flow(s),veh/h/ln	289	0	1585	199	0	1585	1781	1870	1585	1781	0	1858
Q Serve(g_s), s	0.5	0.0	1.4	0.7	0.0	1.1	0.7	14.7	0.3	0.8	0.0	15.6
Cycle Q Clear(g_c), s	17.8	0.0	1.4	17.8	0.0	1.1	0.7	14.7	0.3	0.8	0.0	15.6
Prop In Lane	0.46		1.00	0.61		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	173	0	469	155	0	469	42	846	717	47	0	846
V/C Ratio(X)	0.28	0.00	0.11	0.42	0.00	0.09	0.48	0.68	0.02	0.49	0.00	0.71
Avail Cap(c_a), veh/h	179	0	476	161	0	476	148	846	717	148	0	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	15.3	19.4	0.0	15.2	28.9	13.0	9.1	28.8	0.0	13.1
Incr Delay (d2), s/veh	0.9	0.0	0.1	1.8	0.0	0.1	8.1	4.5	0.1	7.6	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.7	0.0	0.4	0.4	6.5	0.1	0.4	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	15.4	21.2	0.0	15.3	37.0	17.5	9.1	36.4	0.0	18.1
LnGrp LOS	B	A	B	C	A	B	D	B	A	D	A	B
Approach Vol, veh/h		98			106			615			623	
Approach Delay, s/veh		16.7			19.0			17.9			18.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	31.7		22.4	6.1	31.5		22.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.7	17.6		19.8	2.8	16.7		19.8				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	2.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	17	15	38	25	24	28	14	446	12	21	561	17
Future Volume (veh/h)	17	15	38	25	24	28	14	446	12	21	561	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	16	41	27	26	30	15	485	13	23	610	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	71	181	112	75	181	33	1186	1005	47	1161	34
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.02	0.63	0.63	0.03	0.64	0.64
Sat Flow, veh/h	190	617	1585	186	658	1585	1781	1870	1585	1781	1807	53
Grp Volume(v), veh/h	34	0	41	53	0	30	15	485	13	23	0	628
Grp Sat Flow(s),veh/h/ln	806	0	1585	844	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.1	0.0	1.4	0.1	0.0	1.0	0.5	7.7	0.2	0.8	0.0	10.9
Cycle Q Clear(g_c), s	5.4	0.0	1.4	5.4	0.0	1.0	0.5	7.7	0.2	0.8	0.0	10.9
Prop In Lane	0.53		1.00	0.51		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	181	187	0	181	33	1186	1005	47	0	1195
V/C Ratio(X)	0.18	0.00	0.23	0.28	0.00	0.17	0.46	0.41	0.01	0.49	0.00	0.53
Avail Cap(c_a), veh/h	472	0	476	477	0	476	148	1186	1005	148	0	1195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	24.2	24.3	0.0	24.0	29.1	5.4	4.1	28.8	0.0	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.8	0.0	0.4	9.6	1.0	0.0	7.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.7	0.0	0.4	0.3	2.6	0.1	0.4	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	24.8	25.1	0.0	24.4	38.7	6.5	4.1	36.4	0.0	7.5
LnGrp LOS	C	A	C	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		75			83			513			651	
Approach Delay, s/veh		24.7			24.9			7.4			8.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	42.9		11.4	6.1	42.5		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.5	12.9		7.4	2.8	9.7		7.4				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	2.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	41	85	131	51	105	116	487	178	37	471	89
Future Volume (veh/h)	33	41	85	131	51	105	116	487	178	37	471	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	45	92	142	55	114	126	529	193	40	512	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	332	281	317	96	200	482	1042	883	472	802	152
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.56	0.56	0.04	0.52	0.52
Sat Flow, veh/h	1216	1870	1585	1252	543	1125	1781	1870	1585	1781	1529	290
Grp Volume(v), veh/h	36	45	92	142	0	169	126	529	193	40	0	609
Grp Sat Flow(s),veh/h/ln	1216	1870	1585	1252	0	1668	1781	1870	1585	1781	0	1818
Q Serve(g_s), s	1.7	1.2	3.0	6.5	0.0	5.6	1.8	10.5	3.7	0.6	0.0	14.4
Cycle Q Clear(g_c), s	7.2	1.2	3.0	7.7	0.0	5.6	1.8	10.5	3.7	0.6	0.0	14.4
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	223	332	281	317	0	296	482	1042	883	472	0	954
V/C Ratio(X)	0.16	0.14	0.33	0.45	0.00	0.57	0.26	0.51	0.22	0.08	0.00	0.64
Avail Cap(c_a), veh/h	372	561	476	470	0	500	503	1042	883	548	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.77	0.77	0.77	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	20.8	21.5	24.0	0.0	22.6	7.3	8.2	6.7	6.4	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.2	0.7	1.0	0.0	1.7	0.2	1.4	0.4	0.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.5	1.1	1.9	0.0	2.2	0.5	3.7	1.1	0.2	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	21.0	22.2	25.0	0.0	24.3	7.5	9.6	7.1	6.5	0.0	13.5
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		173			311			848			649	
Approach Delay, s/veh		22.7			24.6			8.7			13.0	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	37.9		15.1	8.9	36.0		15.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	12.5		9.2	3.8	16.4		9.7				
Green Ext Time (p_c), s	0.0	3.2		0.4	0.0	2.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				13.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	44	120	111	69	69	147	475	127	34	404	66
Future Volume (veh/h)	52	44	120	111	69	69	147	475	127	34	404	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	48	130	121	75	75	160	516	138	37	439	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	311	263	294	143	143	568	1067	904	505	833	137
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.08	0.57	0.57	0.04	0.53	0.53
Sat Flow, veh/h	1237	1870	1585	1206	858	858	1781	1870	1585	1781	1567	257
Grp Volume(v), veh/h	57	48	130	121	0	150	160	516	138	37	0	511
Grp Sat Flow(s),veh/h/ln	1237	1870	1585	1206	0	1716	1781	1870	1585	1781	0	1824
Q Serve(g_s), s	2.6	1.3	4.5	5.7	0.0	4.8	2.3	9.8	2.5	0.5	0.0	10.9
Cycle Q Clear(g_c), s	7.4	1.3	4.5	7.0	0.0	4.8	2.3	9.8	2.5	0.5	0.0	10.9
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	227	311	263	294	0	285	568	1067	904	505	0	969
V/C Ratio(X)	0.25	0.15	0.49	0.41	0.00	0.53	0.28	0.48	0.15	0.07	0.00	0.53
Avail Cap(c_a), veh/h	392	561	476	455	0	515	593	1067	904	585	0	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	21.4	22.7	24.4	0.0	22.9	6.3	7.6	6.1	6.2	0.0	9.2
Incr Delay (d2), s/veh	0.6	0.2	1.4	0.9	0.0	1.5	0.2	1.4	0.3	0.1	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.6	1.7	1.6	0.0	2.0	0.7	3.4	0.7	0.2	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	21.6	24.2	25.3	0.0	24.4	6.5	9.0	6.4	6.2	0.0	11.2
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h	235			271			814			548		
Approach Delay, s/veh	24.3			24.8			8.1			10.9		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.8	38.7	14.5		9.2	36.4	14.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.5	23.0	18.0					
Max Q Clear Time (g_c+I1), s	2.5	11.8	9.4		4.3	12.9	9.0					
Green Ext Time (p_c), s	0.0	3.0	0.5		0.0	2.5	0.9					
Intersection Summary												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

Intersection												
Intersection Delay, s/veh	11.1											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	74	55	14	86	42	60	140	33	30	146	28
Future Vol, veh/h	33	74	55	14	86	42	60	140	33	30	146	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	80	60	15	93	46	65	152	36	33	159	30
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.6	9.7	12.4	11.7
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	26%	100%	0%	0%	100%	0%	0%	15%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	72%
Vol Right, %	14%	0%	0%	100%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	33	74	55	14	86	42	204
LT Vol	60	33	0	0	14	0	0	30
Through Vol	140	0	74	0	0	86	0	146
RT Vol	33	0	0	55	0	0	42	28
Lane Flow Rate	253	36	80	60	15	93	46	222
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.407	0.067	0.139	0.091	0.029	0.162	0.07	0.356
Departure Headway (Hd)	5.782	6.723	6.213	5.498	6.759	6.248	5.533	5.776
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	623	533	577	651	530	574	647	623
Service Time	3.512	4.464	3.953	3.237	4.499	3.988	3.272	3.507
HCM Lane V/C Ratio	0.406	0.068	0.139	0.092	0.028	0.162	0.071	0.356
HCM Control Delay	12.4	9.9	10	8.8	9.7	10.2	8.7	11.7
HCM Lane LOS	B	A	A	A	A	B	A	B
HCM 95th-tile Q	2	0.2	0.5	0.3	0.1	0.6	0.2	1.6

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	91	65	27	126	56	49	151	23	44	161	41
Future Vol, veh/h	45	91	65	27	126	56	49	151	23	44	161	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	99	71	29	137	61	53	164	25	48	175	45
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.3	10.7	13.6	14.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	68%	0%	100%	0%	0%	100%	0%	65%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	45	91	65	27	126	56	246
LT Vol	49	45	0	0	27	0	0	44
Through Vol	151	0	91	0	0	126	0	161
RT Vol	23	0	0	65	0	0	56	41
Lane Flow Rate	242	49	99	71	29	137	61	267
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.422	0.096	0.18	0.115	0.058	0.249	0.098	0.458
Departure Headway (Hd)	6.264	7.076	6.563	5.845	7.056	6.543	5.825	6.161
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	504	544	610	505	546	612	583
Service Time	4.024	4.848	4.335	3.616	4.828	4.315	3.596	3.92
HCM Lane V/C Ratio	0.423	0.097	0.182	0.116	0.057	0.251	0.1	0.458
HCM Control Delay	13.6	10.6	10.8	9.4	10.3	11.5	9.2	14.1
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.1	0.3	0.7	0.4	0.2	1	0.3	2.4

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	2	74	4	1	5	58	374	4	2	323	94
Future Volume (veh/h)	86	2	74	4	1	5	58	374	4	2	323	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	2	80	4	1	5	63	407	4	2	351	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	153	130	18	5	20	742	2569	25	762	2533	1130
Arrive On Green	0.08	0.08	0.08	0.01	0.01	0.01	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1781	1870	1585	1439	360	1585	938	3605	35	975	3554	1585
Grp Volume(v), veh/h	93	2	80	5	0	5	63	200	211	2	351	102
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1798	0	1585	938	1777	1864	975	1777	1585
Q Serve(g_s), s	3.5	0.1	3.4	0.2	0.0	0.2	1.6	2.6	2.6	0.0	2.2	1.4
Cycle Q Clear(g_c), s	3.5	0.1	3.4	0.2	0.0	0.2	3.8	2.6	2.6	2.6	2.2	1.4
Prop In Lane	1.00		1.00	0.80		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	146	153	130	23	0	20	742	1266	1328	762	2533	1130
V/C Ratio(X)	0.64	0.01	0.62	0.22	0.00	0.25	0.08	0.16	0.16	0.00	0.14	0.09
Avail Cap(c_a), veh/h	471	494	419	462	0	408	742	1266	1328	762	2533	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	31.1	29.5	31.1	34.2	0.0	34.2	3.8	3.3	3.3	3.7	3.2	3.1
Incr Delay (d2), s/veh	4.6	0.0	4.7	4.8	0.0	6.4	0.2	0.3	0.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	1.4	0.1	0.0	0.1	0.2	0.6	0.6	0.0	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	29.6	35.8	39.0	0.0	40.6	4.0	3.5	3.5	3.7	3.3	3.2
LnGrp LOS	D	C	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	175			10			474			455		
Approach Delay, s/veh	35.7			39.8			3.6			3.3		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	54.4			10.2			54.4			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	5.8			5.5			4.6			2.2		
Green Ext Time (p_c), s	2.2			0.4			2.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.8											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	3	78	3	0	5	55	320	1	5	361	79
Future Volume (veh/h)	83	3	78	3	0	5	55	320	1	5	361	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	3	85	3	0	5	60	348	1	5	392	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	156	132	18	0	16	724	2593	7	808	2535	1131
Arrive On Green	0.08	0.08	0.08	0.01	0.00	0.01	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	916	3635	10	1032	3554	1585
Grp Volume(v), veh/h	90	3	85	3	0	5	60	170	179	5	392	86
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	916	1777	1868	1032	1777	1585
Q Serve(g_s), s	3.4	0.1	3.6	0.1	0.0	0.2	1.6	2.1	2.1	0.1	2.5	1.2
Cycle Q Clear(g_c), s	3.4	0.1	3.6	0.1	0.0	0.2	4.1	2.1	2.1	2.2	2.5	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	149	156	132	18	0	16	724	1268	1333	808	2535	1131
V/C Ratio(X)	0.61	0.02	0.64	0.16	0.00	0.31	0.08	0.13	0.13	0.01	0.15	0.08
Avail Cap(c_a), veh/h	471	494	419	458	0	408	724	1268	1333	808	2535	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	31.0	29.4	31.1	34.3	0.0	34.4	3.9	3.2	3.2	3.5	3.2	3.0
Incr Delay (d2), s/veh	3.9	0.0	5.1	4.1	0.0	10.2	0.2	0.2	0.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5	0.1	0.0	0.1	0.2	0.5	0.5	0.0	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	29.5	36.2	38.4	0.0	44.6	4.1	3.4	3.4	3.5	3.4	3.2
LnGrp LOS	C	C	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		178			8			409			483	
Approach Delay, s/veh		35.4			42.3			3.5			3.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.4		10.3		54.4		5.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		18.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		6.1		5.6		4.5		2.2				
Green Ext Time (p_c), s		1.8		0.4		2.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			9.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	567	167	160	366	61	113	564	364	134	472	64
Future Volume (veh/h)	103	567	167	160	366	61	113	564	364	134	472	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	616	182	174	398	66	123	613	396	146	513	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	782	349	213	922	411	150	1087	485	173	1002	136
Arrive On Green	0.08	0.22	0.22	0.12	0.26	0.26	0.08	0.31	0.31	0.10	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3143	427
Grp Volume(v), veh/h	112	616	182	174	398	66	123	613	396	146	289	294
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1793
Q Serve(g_s), s	4.3	11.4	7.1	6.7	6.5	2.3	4.8	10.1	16.2	5.6	9.3	9.3
Cycle Q Clear(g_c), s	4.3	11.4	7.1	6.7	6.5	2.3	4.8	10.1	16.2	5.6	9.3	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	143	782	349	213	922	411	150	1087	485	173	566	572
V/C Ratio(X)	0.78	0.79	0.52	0.82	0.43	0.16	0.82	0.56	0.82	0.84	0.51	0.51
Avail Cap(c_a), veh/h	181	914	408	216	985	439	150	1087	485	173	566	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	31.6	25.7	24.0	30.1	21.6	20.0	31.5	20.4	22.5	31.1	19.4	19.4
Incr Delay (d2), s/veh	15.8	4.0	1.2	19.4	0.3	0.2	28.8	2.1	14.1	24.5	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.0	2.6	3.9	2.6	0.8	3.2	4.2	7.5	3.5	4.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	29.7	25.3	49.4	21.9	20.2	60.3	22.5	36.6	55.6	22.0	22.0
LnGrp LOS	D	C	C	D	C	C	E	C	D	E	C	C
Approach Vol, veh/h	910			638			1132			729		
Approach Delay, s/veh	31.0			29.2			31.5			28.7		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	25.9	12.9	19.9	10.4	26.8	10.1	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.8	18.7	8.5	18.0	5.9	19.6	7.1	19.4				
Max Q Clear Time (g_c+l1), s	7.6	18.2	8.7	13.4	6.8	11.3	6.3	8.5				
Green Ext Time (p_c), s	0.0	0.3	0.0	2.0	0.0	2.3	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	30.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	947	161	145	456	76	143	466	438	131	420	63
Future Volume (veh/h)	96	947	161	145	456	76	143	466	438	131	420	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1029	175	158	496	83	155	507	476	142	457	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1133	505	188	1244	555	188	987	440	174	837	124
Arrive On Green	0.07	0.32	0.32	0.21	0.70	0.70	0.11	0.28	0.28	0.10	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3105	460
Grp Volume(v), veh/h	104	1029	175	158	496	83	155	507	476	142	260	265
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1788
Q Serve(g_s), s	5.2	25.0	7.6	7.7	5.2	1.6	7.7	10.8	25.0	7.0	11.3	11.4
Cycle Q Clear(g_c), s	5.2	25.0	7.6	7.7	5.2	1.6	7.7	10.8	25.0	7.0	11.3	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	133	1133	505	188	1244	555	188	987	440	174	479	482
V/C Ratio(X)	0.78	0.91	0.35	0.84	0.40	0.15	0.82	0.51	1.08	0.82	0.54	0.55
Avail Cap(c_a), veh/h	234	1165	520	208	1244	555	220	987	440	188	479	482
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	40.9	29.4	23.5	34.8	9.6	9.0	39.4	27.4	32.5	39.8	28.1	28.2
Incr Delay (d2), s/veh	9.6	10.3	0.4	21.7	0.2	0.1	19.2	1.9	66.4	20.0	3.9	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	11.8	2.8	4.1	1.7	0.5	4.3	4.7	17.4	4.0	5.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	39.6	23.9	56.5	9.8	9.1	58.6	29.3	98.9	59.9	32.0	32.1
LnGrp LOS	D	D	C	E	A	A	E	C	F	E	C	C
Approach Vol, veh/h	1308			737			1138			667		
Approach Delay, s/veh	38.4			19.7			62.4			38.0		
Approach LOS	D			B			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	29.5	14.0	33.2	14.0	28.8	11.2	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	22.5	10.5	29.5	11.1	20.9	11.8	28.2				
Max Q Clear Time (g_c+I1), s	9.0	27.0	9.7	27.0	9.7	13.4	7.2	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.1	1.9	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay	41.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	927	28	14	491	79	23	53	26	80	59	82
Future Volume (veh/h)	74	927	28	14	491	79	23	53	26	80	59	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1008	30	15	534	86	25	58	28	87	64	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	1271	38	217	1107	178	209	445	188	753	821	696
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	804	3523	105	544	3067	492	252	1014	427	1311	1870	1585
Grp Volume(v), veh/h	80	508	530	15	309	311	111	0	0	87	64	89
Grp Sat Flow(s),veh/h/ln	804	1777	1851	544	1777	1782	1693	0	0	1311	1870	1585
Q Serve(g_s), s	3.9	11.5	11.5	1.1	6.0	6.1	0.0	0.0	0.0	0.0	0.9	1.5
Cycle Q Clear(g_c), s	9.9	11.5	11.5	12.7	6.0	6.1	1.7	0.0	0.0	1.3	0.9	1.5
Prop In Lane	1.00		0.06	1.00		0.28	0.23		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	341	641	668	217	641	643	842	0	0	753	821	696
V/C Ratio(X)	0.23	0.79	0.79	0.07	0.48	0.48	0.13	0.00	0.00	0.12	0.08	0.13
Avail Cap(c_a), veh/h	373	711	741	238	711	713	842	0	0	753	821	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	0.91	0.91	0.91	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	12.9	12.9	18.5	11.1	11.1	7.5	0.0	0.0	7.4	7.3	7.5
Incr Delay (d2), s/veh	0.2	3.8	3.6	0.1	0.5	0.5	0.3	0.0	0.0	0.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.3	4.5	0.1	2.0	2.0	0.6	0.0	0.0	0.4	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	16.6	16.5	18.7	11.6	11.7	7.9	0.0	0.0	7.8	7.5	7.9
LnGrp LOS	B	B	B	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1118			635			111			240		
Approach Delay, s/veh	16.5			11.8			7.9			7.7		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.3			20.7			24.3			20.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	3.7			13.5			3.5			14.7		
Green Ext Time (p_c), s	0.4			2.7			0.7			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	13.6											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1377	30	26	558	55	22	52	36	89	78	72
Future Volume (veh/h)	59	1377	30	26	558	55	22	52	36	89	78	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	1497	33	28	607	60	24	57	39	97	85	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	1771	39	165	1627	161	148	324	192	600	658	558
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	769	3555	78	340	3267	322	215	920	546	1300	1870	1585
Grp Volume(v), veh/h	64	747	783	28	330	337	120	0	0	97	85	78
Grp Sat Flow(s),veh/h/ln	769	1777	1856	340	1777	1812	1681	0	0	1300	1870	1585
Q Serve(g_s), s	3.4	21.9	22.0	4.7	6.9	6.9	0.0	0.0	0.0	0.0	1.9	2.0
Cycle Q Clear(g_c), s	10.2	21.9	22.0	26.6	6.9	6.9	2.8	0.0	0.0	2.2	1.9	2.0
Prop In Lane	1.00		0.04	1.00		0.18	0.20		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	415	885	925	165	885	903	663	0	0	600	658	558
V/C Ratio(X)	0.15	0.84	0.85	0.17	0.37	0.37	0.18	0.00	0.00	0.16	0.13	0.14
Avail Cap(c_a), veh/h	436	933	975	174	933	951	663	0	0	600	658	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.86	0.86	0.86	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	13.0	13.1	24.6	9.3	9.3	13.5	0.0	0.0	13.3	13.2	13.3
Incr Delay (d2), s/veh	0.1	3.0	2.9	0.4	0.2	0.2	0.6	0.0	0.0	0.6	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.8	8.2	0.4	2.3	2.3	1.1	0.0	0.0	0.9	0.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	16.0	16.0	25.0	9.5	9.5	14.1	0.0	0.0	13.9	13.6	13.8
LnGrp LOS	B	B	B	C	A	A	B	A	A	B	B	B
Approach Vol, veh/h	1594			695			120			260		
Approach Delay, s/veh	15.9			10.1			14.1			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.6			34.4			25.6			34.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	4.8			24.0			4.2			28.6		
Green Ext Time (p_c), s	0.5			5.6			0.9			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	811	39	39	355	46	76	206	68	50	179	118
Future Volume (veh/h)	158	811	39	39	355	46	76	206	68	50	179	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	882	42	42	386	50	83	224	74	54	195	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	972	46	73	753	97	106	933	300	85	638	541
Arrive On Green	0.08	0.28	0.28	0.04	0.24	0.24	0.06	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	1781	3453	164	1781	3166	407	1781	2644	850	1781	1870	1585
Grp Volume(v), veh/h	172	454	470	42	215	221	83	149	149	54	195	128
Grp Sat Flow(s),veh/h/ln	1781	1777	1841	1781	1777	1797	1781	1777	1717	1781	1870	1585
Q Serve(g_s), s	5.5	16.0	16.0	1.5	6.8	6.9	3.0	3.8	4.0	1.9	5.0	3.8
Cycle Q Clear(g_c), s	5.5	16.0	16.0	1.5	6.8	6.9	3.0	3.8	4.0	1.9	5.0	3.8
Prop In Lane	1.00		0.09	1.00		0.23	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	151	500	518	73	422	427	106	627	606	85	638	541
V/C Ratio(X)	1.14	0.91	0.91	0.58	0.51	0.52	0.78	0.24	0.25	0.63	0.31	0.24
Avail Cap(c_a), veh/h	151	506	524	137	492	498	137	627	606	137	638	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	22.5	22.5	30.6	21.5	21.5	30.1	14.9	14.9	30.4	15.8	15.4
Incr Delay (d2), s/veh	101.6	14.0	13.6	7.0	1.0	1.0	19.2	0.9	1.0	7.5	1.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	7.7	7.9	0.7	2.7	2.7	1.8	1.5	1.6	1.0	2.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.3	36.5	36.1	37.6	22.4	22.5	49.3	15.7	15.9	37.9	17.0	16.4
LnGrp LOS	F	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		1096			478			381			377	
Approach Delay, s/veh		51.2			23.8			23.1			19.8	
Approach LOS		D			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	27.4	7.2	22.8	8.4	26.7	10.0	20.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.5	5.0	18.5	5.0	18.5	5.5	18.0				
Max Q Clear Time (g_c+I1), s	3.9	6.0	3.5	18.0	5.0	7.0	7.5	8.9				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.3	0.0	1.2	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay				35.9								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1241	45	39	424	70	84	248	64	79	217	131
Future Volume (veh/h)	187	1241	45	39	424	70	84	248	64	79	217	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1349	49	42	461	76	91	270	70	86	236	142
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1418	51	68	934	153	116	756	192	110	498	422
Arrive On Green	0.14	0.41	0.41	0.04	0.31	0.31	0.07	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	1781	3497	127	1781	3056	501	1781	2805	714	1781	1870	1585
Grp Volume(v), veh/h	203	685	713	42	267	270	91	169	171	86	236	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1780	1781	1777	1742	1781	1870	1585
Q Serve(g_s), s	8.9	29.8	29.9	1.9	9.8	9.9	4.0	6.1	6.4	3.8	8.5	5.8
Cycle Q Clear(g_c), s	8.9	29.8	29.9	1.9	9.8	9.9	4.0	6.1	6.4	3.8	8.5	5.8
Prop In Lane	1.00		0.07	1.00		0.28	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	245	721	749	68	543	544	116	479	470	110	498	422
V/C Ratio(X)	0.83	0.95	0.95	0.62	0.49	0.50	0.78	0.35	0.36	0.78	0.47	0.34
Avail Cap(c_a), veh/h	385	724	753	114	543	544	118	479	470	118	498	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	23.0	23.0	37.9	22.7	22.7	36.8	23.6	23.7	37.0	24.7	23.7
Incr Delay (d2), s/veh	4.3	13.5	13.5	9.0	0.7	0.7	27.7	2.0	2.2	26.4	3.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	13.5	14.0	0.9	3.9	3.9	2.6	2.7	2.8	2.5	4.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	36.5	36.5	46.9	23.4	23.4	64.5	25.6	25.8	63.3	27.9	25.8
LnGrp LOS	D	D	D	D	C	C	E	C	C	E	C	C
Approach Vol, veh/h	1601			579			431			464		
Approach Delay, s/veh	36.7			25.1			33.9			33.8		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	26.1	7.5	36.9	9.7	25.8	15.5	29.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.3	19.0	5.1	32.6	5.3	19.0	17.3	20.4				
Max Q Clear Time (g_c+I1), s	5.8	8.4	3.9	31.9	6.0	10.5	10.9	11.9				
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.0	1.2	0.3	2.0				
Intersection Summary												
HCM 6th Ctrl Delay	33.7											
HCM 6th LOS	C											

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	71	70	383	354	36
Future Vol, veh/h	29	71	70	383	354	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	77	76	416	385	39
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	765	212	424	0	-	0
Stage 1	405	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	340	793	1132	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	317	793	1132	-	-	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	599	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.1	1.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1132	-	552	-	-	
HCM Lane V/C Ratio	0.067	-	0.197	-	-	
HCM Control Delay (s)	8.4	-	13.1	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-	

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	68	55	327	339	38
Future Vol, veh/h	31	68	55	327	339	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	74	60	355	368	41
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	687	205	409	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	381	802	1146	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	361	802	1146	-	-	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.6	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1146	-	580	-	-	
HCM Lane V/C Ratio	0.052	-	0.186	-	-	
HCM Control Delay (s)	8.3	-	12.6	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-	

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	74	0	0	75	0	0
Future Vol, veh/h	74	0	0	75	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	0	0	82	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	40
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1022
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	66	0	0	67	0	0
Future Vol, veh/h	66	0	0	67	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	0	0	73	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	36
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1029
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/21/2024

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	27	0	0	28
Future Vol, veh/h	0	0	27	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	29	0	0	30

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	15	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1061	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1061	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	22	0	0	23
Future Vol, veh/h	0	0	22	0	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	24	0	0	25
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	12	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1065	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	25	26	0
Future Vol, veh/h	0	0	0	25	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	26	27	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	14	27	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	900	1122	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	900	1122	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1122	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/21/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	27	29	0
Future Vol, veh/h	0	0	0	27	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	29	32	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	16	32	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	897	1116	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	897	1116	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1116	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/19/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	0	38	2	477	38	28	627	0
Future Volume (veh/h)	0	0	0	45	0	38	2	477	38	28	627	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	47	0	40	2	502	40	29	660	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	93	152	128	5	1684	134	121	2744	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.08	0.00	0.51	0.51	0.04	0.54	0.00
Sat Flow, veh/h	0	-64965	0	1781	1870	1585	1781	3335	265	3456	5274	0
Grp Volume(v), veh/h	0	0	0	47	0	40	2	267	275	29	660	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1823	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	3.1	3.1	0.3	2.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	3.1	3.1	0.3	2.4	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	93	152	128	5	898	921	121	2744	0
V/C Ratio(X)	0.00	0.00	0.00	0.51	0.00	0.31	0.40	0.30	0.30	0.24	0.24	0.00
Avail Cap(c_a), veh/h	0	945	0	250	945	801	250	898	921	485	2744	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.4	0.0	15.4	17.7	5.1	5.1	16.7	4.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	1.4	44.5	0.8	0.8	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	0.3	0.1	0.8	0.9	0.1	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.6	0.0	16.8	62.3	6.0	6.0	17.7	4.6	0.0
LnGrp LOS	A	A	A	C	A	B	E	A	A	B	A	A
Approach Vol, veh/h	0			87			544			689		
Approach Delay, s/veh	0.0			18.9			6.2			5.1		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	6.4	1.0	4.6	23.6	7.4					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	5.1	2.9	0.0	2.0	4.4	2.8					
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.0	3.8	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				6.5								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	63	1	33	0	537	51	22	714	0
Future Volume (veh/h)	0	1	0	63	1	33	0	537	51	22	714	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	68	1	36	0	584	55	24	776	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	80	0	116	404	342	4	1416	133	101	2902	0
Arrive On Green	0.00	0.04	0.00	0.07	0.22	0.22	0.00	0.43	0.43	0.03	0.57	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	1781	3283	309	3456	5274	0
Grp Volume(v), veh/h	0	1	0	68	1	36	0	316	323	24	776	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1815	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.8	0.0	5.1	5.1	0.3	3.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	0.8	0.0	5.1	5.1	0.3	3.2	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	0	80	0	116	404	342	4	767	783	101	2902	0
V/C Ratio(X)	0.00	0.01	0.00	0.58	0.00	0.11	0.00	0.41	0.41	0.24	0.27	0.00
Avail Cap(c_a), veh/h	0	807	0	213	807	684	213	767	783	414	2902	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	19.1	0.0	18.9	12.8	13.1	0.0	8.2	8.2	19.8	4.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	4.6	0.0	0.1	0.0	1.6	1.6	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.2	0.0	1.8	1.8	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.2	0.0	23.5	12.8	13.3	0.0	9.8	9.8	21.0	4.8	0.0
LnGrp LOS	A	B	A	C	B	B	A	A	A	C	A	A
Approach Vol, veh/h	1			105			639			800		
Approach Delay, s/veh	19.2			19.9			9.8			5.3		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	7.2	6.3	0.0	28.2	13.5					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	7.1	3.5	2.0	0.0	5.2	2.8					
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	4.4	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	8.2											
HCM 6th LOS	A											

APPENDIX D

OPENING YEAR WITH PROJECT LEVEL-OF-SERVICE

WORKSHEET

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Future Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	251	403	836	73	142	53	307	39	187	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	759	338	425	1475	658	438	605	539	297	908	283
Arrive On Green	0.04	0.21	0.21	0.24	0.42	0.42	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1133	1777	1585	1022	2667	830
Grp Volume(v), veh/h	36	493	251	403	836	73	142	53	307	39	123	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1133	1777	1585	1022	1777	1721
Q Serve(g_s), s	1.3	8.2	9.6	14.5	11.7	1.8	6.6	1.3	10.3	2.1	3.2	3.3
Cycle Q Clear(g_c), s	1.3	8.2	9.6	14.5	11.7	1.8	10.0	1.3	10.3	12.4	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	65	759	338	425	1475	658	438	605	539	297	605	586
V/C Ratio(X)	0.55	0.65	0.74	0.95	0.57	0.11	0.32	0.09	0.57	0.13	0.20	0.21
Avail Cap(c_a), veh/h	153	984	439	425	1525	680	438	605	539	297	605	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	23.3	23.9	24.4	14.5	11.7	18.8	14.6	17.5	22.6	15.2	15.2
Incr Delay (d2), s/veh	7.0	1.0	4.8	26.3	0.4	0.1	1.8	0.3	3.9	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	3.8	8.8	4.3	0.6	1.8	0.5	4.0	0.6	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	24.3	28.7	50.7	14.9	11.7	20.5	14.8	21.4	23.5	15.9	16.1
LnGrp LOS	D	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		780			1312			502			286	
Approach Delay, s/veh		26.3			25.7			20.5			17.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	20.0	18.4		26.6	6.9	31.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	15.5	18.0		18.0	5.6	27.9				
Max Q Clear Time (g_c+I1), s		12.3	16.5	11.6		14.4	3.3	13.7				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.5	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			24.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	722	102	177	453	56	179	74	237	49	55	36
Future Volume (veh/h)	60	722	102	177	453	56	179	74	237	49	55	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	785	111	192	492	61	195	80	258	53	60	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	964	430	238	1243	554	574	658	587	378	792	473
Arrive On Green	0.06	0.27	0.27	0.13	0.35	0.35	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1296	1777	1585	1042	2141	1277
Grp Volume(v), veh/h	65	785	111	192	492	61	195	80	258	53	49	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1296	1777	1585	1042	1777	1641
Q Serve(g_s), s	2.1	12.4	3.3	6.3	6.3	1.6	6.9	1.8	7.3	2.4	1.1	1.2
Cycle Q Clear(g_c), s	2.1	12.4	3.3	6.3	6.3	1.6	8.1	1.8	7.3	9.8	1.1	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	98	964	430	238	1243	554	574	658	587	378	658	607
V/C Ratio(X)	0.66	0.81	0.26	0.81	0.40	0.11	0.34	0.12	0.44	0.14	0.07	0.08
Avail Cap(c_a), veh/h	193	1066	476	285	1250	557	574	658	587	378	658	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.4	17.1	25.2	14.7	13.2	14.9	12.5	14.2	17.9	12.2	12.3
Incr Delay (d2), s/veh	7.4	4.6	0.3	12.5	0.2	0.1	1.5	0.3	2.2	0.8	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	1.1	3.3	2.3	0.5	2.1	0.7	2.7	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	25.0	17.4	37.7	14.9	13.3	16.4	12.8	16.4	18.7	12.5	12.5
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		961			745			533			152	
Approach Delay, s/veh		24.8			20.7			15.8			14.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.7	12.5	20.8		26.7	7.8	25.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.9	9.6	18.0		18.9	6.5	21.1				
Max Q Clear Time (g_c+I1), s		10.1	8.3	14.4		11.8	4.1	8.3				
Green Ext Time (p_c), s		1.9	0.1	1.9		0.4	0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Future Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
Arrive On Green	0.06	0.28	0.28	0.12	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	997	1870	1585	1147	1870	1585
Grp Volume(v), veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	997	1870	1585	1147	1870	1585
Q Serve(g_s), s	2.4	6.5	4.7	5.6	15.9	0.9	6.8	2.6	2.9	3.4	4.4	5.1
Cycle Q Clear(g_c), s	2.4	6.5	4.7	5.6	15.9	0.9	11.3	2.6	2.9	6.0	4.4	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	987	440	215	1207	538	422	705	597	503	705	597
V/C Ratio(X)	0.70	0.47	0.35	0.80	0.84	0.07	0.33	0.17	0.19	0.18	0.28	0.32
Avail Cap(c_a), veh/h	163	1066	476	282	1303	581	422	705	597	503	705	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.73	0.73	0.73	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	18.0	17.4	25.7	18.3	13.4	17.0	12.5	12.5	14.4	13.0	13.2
Incr Delay (d2), s/veh	6.6	0.3	0.4	8.3	3.6	0.0	0.8	0.2	0.3	0.8	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	1.6	2.7	6.4	0.3	1.5	1.0	1.0	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	18.3	17.7	34.0	21.9	13.4	17.8	12.7	12.8	15.2	14.0	14.6
LnGrp LOS	C	B	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		691			1223			373			477	
Approach Delay, s/veh		19.8			23.4			14.6			14.5	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.1	11.7	21.2		27.1	8.0	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	9.5	18.0		19.0	5.5	22.0				
Max Q Clear Time (g_c+I1), s		13.3	7.6	8.5		8.0	4.4	17.9				
Green Ext Time (p_c), s		0.9	0.1	2.5		1.6	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay				19.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	769	86	96	491	58	156	100	113	71	76	89
Future Volume (veh/h)	97	769	86	96	491	58	156	100	113	71	76	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	836	93	104	534	63	170	109	123	77	83	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
Arrive On Green	0.08	0.29	0.29	0.07	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1315	1870	1585	1284	1870	1585
Grp Volume(v), veh/h	105	836	93	104	534	63	170	109	123	77	83	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1315	1870	1585	1284	1870	1585
Q Serve(g_s), s	3.2	11.9	2.4	3.2	6.9	1.6	5.2	2.1	2.8	2.3	1.6	2.2
Cycle Q Clear(g_c), s	3.2	11.9	2.4	3.2	6.9	1.6	6.8	2.1	2.8	4.4	1.6	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
V/C Ratio(X)	0.78	0.80	0.20	0.78	0.51	0.14	0.28	0.15	0.20	0.13	0.11	0.16
Avail Cap(c_a), veh/h	165	1169	522	162	1163	519	601	722	612	578	722	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.86	0.86	0.86	0.47	0.47	0.47	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	17.9	14.6	25.0	16.2	14.3	13.0	11.0	11.2	12.4	10.8	11.0
Incr Delay (d2), s/veh	11.3	2.3	0.1	15.8	0.3	0.1	0.6	0.2	0.3	0.5	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.6	0.8	1.8	2.5	0.5	1.4	0.8	0.9	0.7	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	20.2	14.7	40.9	16.5	14.4	13.6	11.2	11.6	12.9	11.2	11.6
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h	1034			701			402			257		
Approach Delay, s/veh	21.3			19.9			12.3			11.8		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	25.7		8.6	20.7		25.7		8.6	20.6			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.4		5.0	18.1		18.4		5.1	18.0			
Max Q Clear Time (g_c+I1), s	8.8		5.2	13.9		6.4		5.2	8.9			
Green Ext Time (p_c), s	1.1		0.0	2.2		0.8		0.0	2.5			
Intersection Summary												
HCM 6th Ctrl Delay	18.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Future Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	448	170	592	957	100	229	74	433	102	88	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	609	271	668	1180	526	571	630	534	477	610	495
Arrive On Green	0.03	0.17	0.17	0.19	0.33	0.33	0.07	0.34	0.34	0.06	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1862	1513
Grp Volume(v), veh/h	32	448	170	592	957	100	229	74	433	102	84	83
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1598
Q Serve(g_s), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Cycle Q Clear(g_c), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	58	609	271	668	1180	526	571	630	534	477	582	523
V/C Ratio(X)	0.55	0.74	0.63	0.89	0.81	0.19	0.40	0.12	0.81	0.21	0.14	0.16
Avail Cap(c_a), veh/h	119	853	380	668	1303	581	571	630	534	491	582	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.5	28.8	29.4	22.9	17.9	16.3	17.2	22.7	15.0	17.8	17.9
Incr Delay (d2), s/veh	7.8	2.0	2.3	13.6	3.7	0.2	0.4	0.4	11.8	0.2	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.7	2.8	6.0	7.4	1.1	2.5	0.9	7.9	1.0	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	31.5	31.1	43.1	26.5	18.0	16.8	17.5	34.5	15.2	18.3	18.6
LnGrp LOS	D	C	C	D	C	B	B	B	C	B	B	B
Approach Vol, veh/h		650			1649			736			269	
Approach Delay, s/veh		32.0			32.0			27.3			17.2	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	29.8	19.0	17.3	9.6	29.1	6.9	29.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.5	14.5	18.0	5.1	19.4	5.0	27.5				
Max Q Clear Time (g_c+I1), s	4.8	20.7	14.5	11.0	7.1	4.8	3.3	20.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.7	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	778	174	490	490	148	159	138	607	103	74	43
Future Volume (veh/h)	53	778	174	490	490	148	159	138	607	103	74	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	846	189	533	533	161	173	150	660	112	80	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	918	410	595	1379	615	556	585	496	351	623	340
Arrive On Green	0.04	0.26	0.26	0.17	0.39	0.39	0.09	0.31	0.31	0.06	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2218	1211
Grp Volume(v), veh/h	58	846	189	533	533	161	173	150	660	112	63	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1652
Q Serve(g_s), s	2.9	20.9	9.0	13.6	9.7	6.2	6.1	5.4	28.1	4.0	2.4	2.6
Cycle Q Clear(g_c), s	2.9	20.9	9.0	13.6	9.7	6.2	6.1	5.4	28.1	4.0	2.4	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	76	918	410	595	1379	615	556	585	496	351	499	464
V/C Ratio(X)	0.77	0.92	0.46	0.90	0.39	0.26	0.31	0.26	1.33	0.32	0.13	0.14
Avail Cap(c_a), veh/h	143	928	414	595	1379	615	559	585	496	351	499	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.5	28.1	36.5	19.8	18.8	19.6	23.1	30.9	21.1	24.1	24.2
Incr Delay (d2), s/veh	10.9	10.9	0.6	16.1	0.2	0.2	0.3	0.9	161.1	0.5	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.7	3.3	6.7	3.7	2.1	2.4	2.4	32.0	1.6	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	43.4	28.7	52.6	20.0	19.0	19.9	24.0	192.1	21.6	24.6	24.8
LnGrp LOS	D	D	C	D	C	B	B	C	F	C	C	C
Approach Vol, veh/h		1093			1227			983			239	
Approach Delay, s/veh		41.4			34.0			136.1			23.3	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.6	20.0	27.8	12.5	29.8	8.3	39.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	27.9	15.5	23.5	8.1	24.9	7.2	31.8				
Max Q Clear Time (g_c+I1), s	6.0	30.1	15.6	22.9	8.1	4.6	4.9	11.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.5	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			63.9									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Future Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	112	312	555	33	839	726	186	0	480	47	0	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	142	1060	473	58	893	398	891	0	0	891	0	0
Arrive On Green	0.08	0.30	0.30	0.03	0.25	0.25	0.50	0.00	0.00	0.50	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	186		1781	47	
Grp Volume(v), veh/h	112	312	555	33	839	726	186	11.3		47	10.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Cycle Q Clear(g_c), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	142	1060	473	58	893	398	891			891		
V/C Ratio(X)	0.79	0.29	1.17	0.57	0.94	1.82	0.21			0.05		
Avail Cap(c_a), veh/h	143	1060	473	114	893	398	891			891		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	36.2	21.6	28.1	38.2	29.4	29.9	11.1			10.3		
Incr Delay (d2), s/veh	25.1	0.2	98.6	8.5	17.3	380.1	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	2.1	21.1	0.7	9.3	49.0	1.6			0.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	21.7	126.6	46.7	46.7	410.1	11.3			10.3		
LnGrp LOS	E	C	F	D	D	F	B			B		
Approach Vol, veh/h	979			1598								
Approach Delay, s/veh	85.7			211.8								
Approach LOS	F			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	44.5		7.1	28.4	44.5		10.9	24.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.4		5.1	21.4	9.5		6.4	20.1				
Max Q Clear Time (g_c+I1), s	3.1		3.5	25.9	6.7		6.9	22.1				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	151.2											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	164	845	478	33	486	395	128	0	859	80	0	518
Future Volume (veh/h)	164	845	478	33	486	395	128	0	859	80	0	518
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	178	918	520	36	528	429	139	0	934	87	0	563
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	216	1108	494	61	800	357	864	0	0	864	0	0
Arrive On Green	0.12	0.31	0.31	0.03	0.22	0.22	0.49	0.00	0.00	0.49	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	139		1781	87	
Grp Volume(v), veh/h	178	918	520	36	528	429	139	11.6		87	11.2	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	7.8	19.2	24.9	1.6	10.8	18.0	3.5			2.1		
Cycle Q Clear(g_c), s	7.8	19.2	24.9	1.6	10.8	18.0	3.5			2.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	216	1108	494	61	800	357	864			864		
V/C Ratio(X)	0.82	0.83	1.05	0.59	0.66	1.20	0.16			0.10		
Avail Cap(c_a), veh/h	256	1108	494	111	800	357	864			864		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	34.3	25.5	27.5	38.1	28.2	31.0	11.5			11.1		
Incr Delay (d2), s/veh	16.9	5.4	55.0	8.6	2.0	115.1	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.2	8.1	16.0	0.8	4.4	17.7	1.2			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	30.9	82.5	46.7	30.2	146.1	11.6			11.2		
LnGrp LOS	D	C	F	D	C	F	B			B		
Approach Vol, veh/h		1616			993							
Approach Delay, s/veh		49.8			80.9							
Approach LOS		D			F							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	43.3		7.3	29.4	43.3		14.2	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.5		5.0	24.5	8.5		11.5	18.0				
Max Q Clear Time (g_c+I1), s	4.1		3.6	26.9	5.5		9.8	20.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			57.6									
HCM 6th LOS			E									

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	309
Future Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1770		1770	3538			3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1863		1770	3538			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	2	15	1	0	0	12	504	1	0	459	336
RTOR Reduction (vph)	0	1	12	0	0	0	0	0	0	0	0	125
Lane Group Flow (vph)	104	102	1	0	1	0	12	505	0	0	459	211
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Effective Green, g (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Actuated g/C Ratio	0.11	0.11	0.11		0.01		0.02	0.70			0.63	0.63
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	191	183	171		27		33	2485			2220	993
v/s Ratio Prot	0.06	c0.06					0.01	c0.14			0.13	
v/s Ratio Perm			0.00		c0.00							0.13
v/c Ratio	0.54	0.56	0.01		0.04		0.36	0.20			0.21	0.21
Uniform Delay, d1	33.5	33.5	31.4		38.8		38.8	4.1			6.4	6.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	3.7	0.0		0.6		6.7	0.2			0.2	0.5
Delay (s)	36.6	37.2	31.5		39.4		45.5	4.3			6.6	6.9
Level of Service	D	D	C		D		D	A			A	A
Approach Delay (s)		36.6			39.4			5.3			6.7	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			38.7%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	0	21	3	9	1	19	523	1	1	473	217
Future Volume (vph)	335	0	21	3	9	1	19	523	1	1	473	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1825		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1845		1770	3538		816	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	364	0	23	3	10	1	21	568	1	1	514	236
RTOR Reduction (vph)	0	119	17	0	1	0	0	0	0	0	0	107
Lane Group Flow (vph)	182	65	4	0	13	0	21	569	0	1	514	129
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.7	13.7	13.7		1.5		3.0	51.3		43.8	43.8	43.8
Effective Green, g (s)	13.7	13.7	13.7		1.5		3.0	51.3		43.8	43.8	43.8
Actuated g/C Ratio	0.17	0.17	0.17		0.02		0.04	0.64		0.55	0.55	0.55
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	287	276	257		34		66	2268		446	1937	866
v/s Ratio Prot	c0.11	0.04					0.01	c0.16			c0.15	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.63	0.24	0.01		0.38		0.32	0.25		0.00	0.27	0.15
Uniform Delay, d1	30.8	28.6	27.5		38.8		37.5	6.1		8.2	9.6	8.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.5	0.4	0.0		7.0		2.8	0.3		0.0	0.3	0.4
Delay (s)	35.3	29.1	27.6		45.8		40.3	6.4		8.2	9.9	9.3
Level of Service	D	C	C		D		D	A		A	A	A
Approach Delay (s)		31.9			45.8			7.6			9.7	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			14.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			39.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Future Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	653	130	100	824	150	158	353	90	199	421	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	780	155	128	911	406	194	817	206	238	590	500
Arrive On Green	0.08	0.26	0.26	0.07	0.26	0.26	0.11	0.29	0.29	0.13	0.32	0.32
Sat Flow, veh/h	1781	2954	587	1781	3554	1585	1781	2812	708	1781	1870	1585
Grp Volume(v), veh/h	111	392	391	100	824	150	158	221	222	199	421	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1585	1781	1777	1743	1781	1870	1585
Q Serve(g_s), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Cycle Q Clear(g_c), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	141	469	466	128	911	406	194	516	507	238	590	500
V/C Ratio(X)	0.79	0.84	0.84	0.78	0.90	0.37	0.81	0.43	0.44	0.84	0.71	0.36
Avail Cap(c_a), veh/h	154	486	482	131	924	412	202	516	507	249	590	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	33.9	26.1	26.1	34.2	27.0	22.9	32.7	21.6	21.6	31.7	22.7	19.8
Incr Delay (d2), s/veh	21.6	11.8	12.1	25.5	12.1	0.6	21.2	2.6	2.7	16.3	5.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.6	7.6	2.6	8.1	2.1	3.8	3.3	3.4	4.5	7.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	37.9	38.2	59.8	39.1	23.5	53.8	24.1	24.4	48.0	28.2	21.4
LnGrp LOS	E	D	D	E	D	C	D	C	C	D	C	C
Approach Vol, veh/h		894			1074			601			800	
Approach Delay, s/veh		40.2			38.8			32.0			31.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	26.3	9.9	24.3	12.7	28.1	10.4	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	20.5	5.5	20.5	8.5	22.5	6.5	19.5				
Max Q Clear Time (g_c+I1), s	10.2	9.8	6.1	17.7	8.5	16.9	6.6	18.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.3	0.0	1.6	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	819	126	110	721	114	205	306	127	146	240	84
Future Volume (veh/h)	56	819	126	110	721	114	205	306	127	146	240	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	890	137	120	784	124	223	333	138	159	261	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	959	148	148	1243	554	258	734	299	193	488	414
Arrive On Green	0.04	0.31	0.31	0.17	0.70	0.70	0.15	0.30	0.30	0.11	0.26	0.26
Sat Flow, veh/h	1781	3087	475	1781	3554	1585	1781	2464	1002	1781	1870	1585
Grp Volume(v), veh/h	61	512	515	120	784	124	223	238	233	159	261	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	3.1	25.1	25.1	5.8	10.7	2.5	11.0	9.8	10.1	7.9	10.8	4.1
Cycle Q Clear(g_c), s	3.1	25.1	25.1	5.8	10.7	2.5	11.0	9.8	10.1	7.9	10.8	4.1
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	79	552	555	148	1243	554	258	529	503	193	488	414
V/C Ratio(X)	0.78	0.93	0.93	0.81	0.63	0.22	0.86	0.45	0.46	0.82	0.53	0.22
Avail Cap(c_a), veh/h	168	563	565	168	1243	554	287	529	503	232	488	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	42.6	30.0	30.0	36.9	10.4	9.2	37.6	25.6	25.7	39.3	28.6	26.1
Incr Delay (d2), s/veh	14.9	21.6	21.6	22.8	1.0	0.2	21.2	2.8	3.0	16.7	3.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.3	13.4	3.2	2.8	0.8	6.2	4.4	4.3	4.3	5.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	51.6	51.6	59.6	11.4	9.4	58.8	28.4	28.8	56.0	32.3	27.2
LnGrp LOS	E	D	D	E	B	A	E	C	C	E	C	C
Approach Vol, veh/h		1088			1028			694			511	
Approach Delay, s/veh		51.9			16.8			38.3			38.8	
Approach LOS		D			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	31.3	12.0	32.5	17.6	28.0	8.5	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.7	23.3	8.5	28.5	14.5	20.5	8.5	28.5				
Max Q Clear Time (g_c+I1), s	9.9	12.1	7.8	27.1	13.0	12.8	5.1	12.7				
Green Ext Time (p_c), s	0.1	2.1	0.0	0.8	0.1	1.1	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Future Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	920	87	139	1193	11	0	0	102	0	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	1007	0	0	-	-	460	-	-	597
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	575	-	-	684	-	-	0	0	548	0	0	446
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	684	-	-	-	-	548	-	-	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.2			13.1			13.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	548	575	-	-	684	-	-	446				
HCM Lane V/C Ratio	0.186	0.042	-	-	0.203	-	-	0.019				
HCM Control Delay (s)	13.1	11.5	-	-	11.6	-	-	13.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.8	-	-	0.1				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	1078	59	74	959	5	0	0	127	0	0	28
Future Vol, veh/h	22	1078	59	74	959	5	0	0	127	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	1172	64	80	1042	5	0	0	138	0	0	30
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1047	0	0	1236	0	0	-	-	586	-	-	521
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	660	-	-	559	-	-	0	0	454	0	0	500
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	660	-	-	559	-	-	-	-	454	-	-	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.9			16.4			12.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	454	660	-	-	559	-	-	500				
HCM Lane V/C Ratio	0.304	0.036	-	-	0.144	-	-	0.061				
HCM Control Delay (s)	16.4	10.7	-	-	12.5	-	-	12.7				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.5	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Future Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	932	90	79	1337	12	11	3	18	12	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	1617	721	288	1642	15	254	96	337	437	267	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	404	3554	1585	601	3609	32	434	252	882	871	699	0
Grp Volume(v), veh/h	4	932	90	79	658	691	32	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	404	1777	1585	601	1777	1865	1569	0	0	1570	0	0
Q Serve(g_s), s	0.5	10.7	1.8	6.2	17.6	17.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	10.7	1.8	16.8	17.6	17.6	0.7	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.34		0.56	0.60		0.00
Lane Grp Cap(c), veh/h	185	1617	721	288	808	848	686	0	0	704	0	0
V/C Ratio(X)	0.02	0.58	0.12	0.27	0.81	0.81	0.05	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	203	1777	793	315	888	932	686	0	0	704	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	11.1	8.7	17.3	13.0	13.0	10.7	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.2	2.1	2.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.5	0.8	6.2	6.4	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	11.5	8.7	17.5	15.1	15.0	10.9	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	C	B	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1026			1428			32			20		
Approach Delay, s/veh	11.3			15.2			10.9			10.7		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.5			29.5			25.5			29.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			27.5			18.5			27.5		
Max Q Clear Time (g_c+I1), s	2.7			20.1			2.4			19.6		
Green Ext Time (p_c), s	0.1			3.9			0.0			5.4		
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1384	21	12	983	12	85	10	86	28	8	0
Future Volume (veh/h)	9	1384	21	12	983	12	85	10	86	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1504	23	13	1068	13	92	11	93	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1788	797	168	1809	22	307	60	252	479	131	0
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.00
Sat Flow, veh/h	522	3554	1585	349	3596	44	631	174	727	1074	376	0
Grp Volume(v), veh/h	10	1504	23	13	528	553	196	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	522	1777	1585	349	1777	1862	1531	0	0	1451	0	0
Q Serve(g_s), s	0.8	21.9	0.4	2.0	12.6	12.6	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	21.9	0.4	23.9	12.6	12.6	5.5	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.47		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	273	1788	797	168	894	937	619	0	0	609	0	0
V/C Ratio(X)	0.04	0.84	0.03	0.08	0.59	0.59	0.32	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	293	1925	859	182	962	1009	619	0	0	609	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.3	12.8	7.5	23.1	10.5	10.5	14.5	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	3.3	0.0	0.1	0.5	0.5	1.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.9	0.1	0.2	4.2	4.4	2.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	16.2	7.5	23.2	11.1	11.0	15.9	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1537			1094			196			39		
Approach Delay, s/veh	16.1			11.2			15.9			13.3		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			34.7			25.3			34.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	7.5			23.9			2.9			25.9		
Green Ext Time (p_c), s	0.8			6.3			0.1			3.7		
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Future Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	699	7	10	1020	129	2	1	10	153	4	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1538	15	22	1126	502	261	118	407	186	769	651
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.32	0.26	0.26	0.26	0.10	0.41	0.41
Sat Flow, veh/h	1781	3605	36	1781	3554	1585	756	459	1585	1781	1870	1585
Grp Volume(v), veh/h	183	345	361	10	1020	129	3	0	10	153	4	377
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1215	0	1585	1781	1870	1585
Q Serve(g_s), s	9.0	12.4	12.4	0.5	24.8	5.4	0.0	0.0	0.4	7.6	0.1	16.5
Cycle Q Clear(g_c), s	9.0	12.4	12.4	0.5	24.8	5.4	0.1	0.0	0.4	7.6	0.1	16.5
Prop In Lane	1.00		0.02	1.00		1.00	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	758	795	22	1126	502	378	0	407	186	769	651
V/C Ratio(X)	0.84	0.45	0.45	0.46	0.91	0.26	0.01	0.00	0.02	0.82	0.01	0.58
Avail Cap(c_a), veh/h	247	758	795	99	1165	520	378	0	407	208	769	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.71	0.71	0.71	1.00	0.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	38.6	18.3	18.3	44.1	29.5	22.9	24.9	0.0	25.0	39.5	15.6	20.5
Incr Delay (d2), s/veh	17.1	0.3	0.3	10.2	7.5	0.2	0.0	0.0	0.1	19.5	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.8	5.0	0.3	11.0	2.0	0.1	0.0	0.2	4.2	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	18.7	18.7	54.3	37.0	23.1	24.9	0.0	25.1	58.9	15.7	23.9
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		889			1159			13			534	
Approach Delay, s/veh		26.3			35.6			25.1			33.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	27.6	5.6	42.9		41.5	15.5	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	19.5	5.0	37.0		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	9.6	2.4	2.5	14.4		18.5	11.0	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1		1.2	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1098	7	28	768	148	11	7	23	127	4	163
Future Volume (veh/h)	173	1098	7	28	768	148	11	7	23	127	4	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1193	8	30	835	161	12	8	25	138	4	177
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	1322	9	54	955	426	296	181	448	172	815	690
Arrive On Green	0.13	0.37	0.37	0.03	0.27	0.27	0.28	0.28	0.28	0.10	0.44	0.44
Sat Flow, veh/h	1781	3619	24	1781	3554	1585	792	638	1585	1781	1870	1585
Grp Volume(v), veh/h	188	586	615	30	835	161	20	0	25	138	4	177
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1431	0	1585	1781	1870	1585
Q Serve(g_s), s	8.2	25.0	25.0	1.3	18.0	6.6	0.0	0.0	0.9	6.1	0.1	5.7
Cycle Q Clear(g_c), s	8.2	25.0	25.0	1.3	18.0	6.6	0.6	0.0	0.9	6.1	0.1	5.7
Prop In Lane	1.00		0.01	1.00		1.00	0.60		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	649	682	54	955	426	477	0	448	172	815	690
V/C Ratio(X)	0.83	0.90	0.90	0.55	0.87	0.38	0.04	0.00	0.06	0.80	0.00	0.26
Avail Cap(c_a), veh/h	265	655	688	114	1008	450	477	0	448	189	815	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.85	0.85	0.85	1.00	0.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	34.1	24.0	24.0	38.2	28.0	23.8	20.8	0.0	20.9	35.4	12.8	14.3
Incr Delay (d2), s/veh	9.3	8.7	8.4	7.3	7.2	0.5	0.2	0.0	0.2	19.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	11.0	11.5	0.7	8.0	2.4	0.3	0.0	0.3	3.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	32.8	32.4	45.6	35.2	24.3	21.0	0.0	21.1	54.7	12.8	15.2
LnGrp LOS	D	C	C	D	D	C	C	A	C	D	B	B
Approach Vol, veh/h		1389			1026			45			319	
Approach Delay, s/veh		34.0			33.8			21.1			32.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.2	27.1	6.9	33.7		39.3	14.7	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	18.9	5.1	29.5		31.9	11.9	22.7				
Max Q Clear Time (g_c+I1), s	8.1	2.9	3.3	27.0		7.7	10.2	20.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.7		0.5	0.1	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Future Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	495	143	165	848	37	196	253	77	65	312	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1040	464	207	1010	450	752	988	294	434	931	342
Arrive On Green	0.12	0.29	0.29	0.12	0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1860	2699	803	1050	2544	935
Grp Volume(v), veh/h	178	495	143	165	848	37	196	165	165	65	216	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	930	1777	1726	1050	1777	1702
Q Serve(g_s), s	5.8	6.9	4.2	5.4	13.5	1.0	5.1	3.9	4.0	2.8	5.3	5.4
Cycle Q Clear(g_c), s	5.8	6.9	4.2	5.4	13.5	1.0	10.6	3.9	4.0	6.8	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.55
Lane Grp Cap(c), veh/h	223	1040	464	207	1010	450	752	650	632	434	650	623
V/C Ratio(X)	0.80	0.48	0.31	0.80	0.84	0.08	0.26	0.25	0.26	0.15	0.33	0.34
Avail Cap(c_a), veh/h	282	1143	510	258	1096	489	752	650	632	434	650	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.4	16.5	25.8	20.2	15.7	17.6	13.3	13.3	15.7	13.7	13.8
Incr Delay (d2), s/veh	10.7	0.3	0.3	12.8	5.6	0.1	0.8	0.9	1.0	0.7	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	1.4	2.8	5.6	0.3	1.0	1.5	1.5	0.7	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	17.7	16.8	38.7	25.8	15.8	18.5	14.2	14.3	16.5	15.1	15.3
LnGrp LOS	D	B	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		816			1050			526			494	
Approach Delay, s/veh		21.6			27.5			15.8			15.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	11.5	22.1		26.5	12.0	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	8.7	19.3		18.5	9.5	18.5				
Max Q Clear Time (g_c+I1), s		12.6	7.4	8.9		8.8	7.8	15.5				
Green Ext Time (p_c), s		1.5	0.1	2.6		1.9	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	161	978	168	122	624	49	157	261	131	77	198	77
Future Volume (veh/h)	161	978	168	122	624	49	157	261	131	77	198	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	1063	183	133	678	53	171	284	142	84	215	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1188	530	169	1089	486	832	801	390	362	872	330
Arrive On Green	0.12	0.33	0.33	0.09	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2096	2316	1128	961	2521	954
Grp Volume(v), veh/h	175	1063	183	133	678	53	171	216	210	84	149	150
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1048	1777	1667	961	1777	1699
Q Serve(g_s), s	5.7	17.0	5.2	4.4	9.8	1.4	3.8	5.4	5.7	4.3	3.6	3.8
Cycle Q Clear(g_c), s	5.7	17.0	5.2	4.4	9.8	1.4	7.6	5.4	5.7	10.0	3.6	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.56
Lane Grp Cap(c), veh/h	219	1188	530	169	1089	486	832	614	576	362	614	587
V/C Ratio(X)	0.80	0.89	0.35	0.79	0.62	0.11	0.21	0.35	0.36	0.23	0.24	0.25
Avail Cap(c_a), veh/h	267	1214	542	193	1089	486	832	614	576	362	614	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	19.0	15.0	26.6	17.8	14.9	16.8	14.6	14.7	18.4	14.0	14.1
Incr Delay (d2), s/veh	7.4	5.0	0.2	17.2	1.1	0.1	0.5	1.5	1.7	1.5	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.7	1.6	2.5	3.6	0.5	0.9	2.1	2.1	1.0	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	23.9	15.2	43.7	18.9	15.0	17.4	16.2	16.4	19.9	15.0	15.1
LnGrp LOS	C	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1421			864			597			383	
Approach Delay, s/veh		23.9			22.5			16.6			16.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.2	10.2	24.6		25.2	11.9	22.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	9.0	18.0				
Max Q Clear Time (g_c+I1), s		9.6	6.4	19.0		12.0	7.7	11.8				
Green Ext Time (p_c), s		2.4	0.0	1.0		1.2	0.1	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Future Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	91	103	811	177	148	358	89	99	297	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	876	391	238	987	440	266	1112	496	234	1352	212
Arrive On Green	0.04	0.25	0.25	0.07	0.28	0.28	0.08	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4451	698
Grp Volume(v), veh/h	36	493	91	103	811	177	148	358	89	99	225	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1745
Q Serve(g_s), s	1.2	7.2	2.7	1.7	12.7	5.4	2.4	4.6	2.4	1.6	2.9	3.0
Cycle Q Clear(g_c), s	1.2	7.2	2.7	1.7	12.7	5.4	2.4	4.6	2.4	1.6	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	67	876	391	238	987	440	266	1112	496	234	1034	530
V/C Ratio(X)	0.54	0.56	0.23	0.43	0.82	0.40	0.56	0.32	0.18	0.42	0.22	0.23
Avail Cap(c_a), veh/h	150	1080	481	292	1080	481	292	1112	496	292	1034	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	19.5	17.8	26.5	20.0	17.4	26.4	15.6	14.8	26.5	15.4	15.4
Incr Delay (d2), s/veh	6.5	0.6	0.3	1.2	4.8	0.6	1.9	0.8	0.8	1.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	0.9	0.7	5.1	1.8	1.0	1.7	0.9	0.6	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	20.1	18.1	27.7	24.9	18.0	28.3	16.3	15.6	27.7	15.9	16.4
LnGrp LOS	C	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h	620			1091			595			444		
Approach Delay, s/veh	20.6			24.0			19.2			18.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	23.0	8.6	19.1	9.1	22.5	6.7	21.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	6.6	3.7	9.2	4.4	5.0	3.2	14.7				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.2	0.0	1.5	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	21.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	960	169	127	584	164	153	276	125	173	420	44
Future Volume (veh/h)	79	960	169	127	584	164	153	276	125	173	420	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1011	178	134	615	173	161	291	132	182	442	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1007	449	246	1045	466	256	1007	449	272	1355	139
Arrive On Green	0.06	0.28	0.28	0.07	0.29	0.29	0.07	0.28	0.28	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4705	482
Grp Volume(v), veh/h	83	1011	178	134	615	173	161	291	132	182	318	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1784
Q Serve(g_s), s	2.9	18.0	5.8	2.4	9.4	5.5	2.9	4.1	4.1	3.3	4.7	4.8
Cycle Q Clear(g_c), s	2.9	18.0	5.8	2.4	9.4	5.5	2.9	4.1	4.1	3.3	4.7	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	108	1007	449	246	1045	466	256	1007	449	272	980	514
V/C Ratio(X)	0.77	1.00	0.40	0.54	0.59	0.37	0.63	0.29	0.29	0.67	0.32	0.33
Avail Cap(c_a), veh/h	140	1007	449	272	1045	466	272	1007	449	272	980	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	22.8	18.4	28.5	19.1	17.8	28.6	17.8	17.8	28.5	17.8	17.8
Incr Delay (d2), s/veh	17.3	29.4	0.6	1.9	0.9	0.5	4.2	0.7	1.7	6.2	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	10.6	1.9	1.0	3.5	1.8	1.2	1.5	1.5	1.5	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	52.1	18.9	30.4	20.0	18.3	32.7	18.5	19.5	34.6	18.6	19.5
LnGrp LOS	D	F	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1272			922			584			670	
Approach Delay, s/veh		47.1			21.2			22.6			23.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.0	22.5	9.2	22.8	8.3	23.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.3	6.1	4.4	20.0	4.9	6.8	4.9	11.4				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	2.1	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			31.4									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Future Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	533	112	217	976	0	154	0	198	0	0	1
RTOR Reduction (vph)	0	0	80	0	0	0	0	81	78	0	1	0
Lane Group Flow (vph)	4	533	32	217	976	0	122	36	35	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Effective Green, g (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Actuated g/C Ratio	0.01	0.29	0.29	0.09	0.36		0.31	0.31	0.31		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1023	457	294	1278		517	458	462		45	
v/s Ratio Prot	0.00	0.15		c0.06	c0.28		c0.07	0.02			c0.00	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.17	0.52	0.07	0.74	0.76		0.24	0.08	0.08		0.00	
Uniform Delay, d1	29.0	17.7	15.4	26.5	16.8		15.4	14.6	14.6		28.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.5	0.1	9.3	2.8		1.1	0.3	0.3		0.0	
Delay (s)	32.6	18.2	15.4	35.9	19.5		16.5	15.0	14.9		28.9	
Level of Service	C	B	B	D	B		B	B	B		C	
Approach Delay (s)		17.8			22.5			15.5			28.9	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			59.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			53.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1060	180	265	726	1	146	1	375	0	2	0
Future Volume (vph)	4	1060	180	265	726	1	146	1	375	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1116	189	279	764	1	154	1	395	0	2	0
RTOR Reduction (vph)	0	0	98	0	0	0	0	136	147	0	0	0
Lane Group Flow (vph)	4	1116	91	279	765	0	139	70	58	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	411	425		55	
v/s Ratio Prot	0.00	c0.32		c0.08	c0.22		c0.08	0.05			c0.00	
v/s Ratio Perm			0.06						0.04			
v/c Ratio	0.17	0.92	0.17	1.04	0.53		0.29	0.17	0.14		0.04	
Uniform Delay, d1	31.2	20.2	14.7	29.5	14.4		17.9	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	11.5	0.1	66.1	0.4		1.6	0.9	0.7		0.3	
Delay (s)	34.5	31.7	14.8	95.6	14.8		19.5	18.2	17.8		31.3	
Level of Service	C	C	B	F	B		B	B	B		C	
Approach Delay (s)		29.3			36.4			18.4			31.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			29.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			62.7%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Future Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	3	27	9	29	3	637	90	36	750	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1530	1556	751	1519	1512	682	752	0	0	727	0	0
Stage 1	823	823	-	688	688	-	-	-	-	-	-	-
Stage 2	707	733	-	831	824	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	96	113	411	97	120	450	858	-	-	876	-	-
Stage 1	368	388	-	436	447	-	-	-	-	-	-	-
Stage 2	426	426	-	364	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	82	108	411	85	115	450	858	-	-	876	-	-
Mov Cap-2 Maneuver	82	108	-	85	115	-	-	-	-	-	-	-
Stage 1	367	372	-	435	446	-	-	-	-	-	-	-
Stage 2	389	425	-	335	371	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.9		50.3		0		0.4	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	858	-	-	128 142	876	-	-
HCM Lane V/C Ratio	0.004	-	-	0.119 0.459	0.041	-	-
HCM Control Delay (s)	9.2	-	-	36.9 50.3	9.3	-	-
HCM Lane LOS	A	-	-	E F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4 2.1	0.1	-	-

Intersection												
Int Delay, s/veh	10.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	10	5	76	11	50	7	619	41	25	491	1
Future Vol, veh/h	4	10	5	76	11	50	7	619	41	25	491	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	11	5	83	12	54	8	673	45	27	534	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1334	1323	535	1309	1301	696	535	0	0	718	0	0
Stage 1	589	589	-	712	712	-	-	-	-	-	-	-
Stage 2	745	734	-	597	589	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	156	545	136	161	442	1033	-	-	883	-	-
Stage 1	494	495	-	423	436	-	-	-	-	-	-	-
Stage 2	406	426	-	490	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	150	545	123	155	442	1033	-	-	883	-	-
Mov Cap-2 Maneuver	105	150	-	123	155	-	-	-	-	-	-	-
Stage 1	490	480	-	420	433	-	-	-	-	-	-	-
Stage 2	344	423	-	460	480	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	29.6		92.4		0.1		0.4					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1033	-	-	167	171	883	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.124	0.871	0.031	-	-				
HCM Control Delay (s)	8.5	-	-	29.6	92.4	9.2	-	-				
HCM Lane LOS	A	-	-	D	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	6.2	0.1	-	-				

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Future Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	111	10	60	103	22	11	220	72	26	172	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	10.9	12.1	11
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	28%	32%	12%
Vol Thru, %	73%	66%	56%	78%
Vol Right, %	24%	6%	12%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	154	170	202
LT Vol	10	43	55	24
Through Vol	202	102	95	158
RT Vol	66	9	20	20
Lane Flow Rate	302	167	185	220
Geometry Grp	1	1	1	1
Degree of Util (X)	0.433	0.264	0.288	0.328
Departure Headway (Hd)	5.161	5.675	5.617	5.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	631	637	667
Service Time	3.203	3.724	3.666	3.424
HCM Lane V/C Ratio	0.435	0.265	0.29	0.33
HCM Control Delay	12.1	10.8	10.9	11
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.2	1.1	1.2	1.4

Intersection

Intersection Delay, s/veh 12.9
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	112	6	93	138	29	16	151	84	25	206	37
Future Vol, veh/h	17	112	6	93	138	29	16	151	84	25	206	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	122	7	101	150	32	17	164	91	27	224	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	13.7	12.6	13.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	13%	36%	9%
Vol Thru, %	60%	83%	53%	77%
Vol Right, %	33%	4%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	135	260	268
LT Vol	16	17	93	25
Through Vol	151	112	138	206
RT Vol	84	6	29	37
Lane Flow Rate	273	147	283	291
Geometry Grp	1	1	1	1
Degree of Util (X)	0.419	0.247	0.455	0.455
Departure Headway (Hd)	5.534	6.063	5.792	5.618
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	647	587	619	638
Service Time	3.609	4.15	3.866	3.69
HCM Lane V/C Ratio	0.422	0.25	0.457	0.456
HCM Control Delay	12.6	11.2	13.7	13.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.1	1	2.4	2.4

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Future Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	122	13	15	252	0	15	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.9	7.9	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	2%	6%	33%
Vol Thru, %	0%	89%	94%	33%
Vol Right, %	36%	10%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	126	246	3
LT Vol	14	2	14	1
Through Vol	0	112	232	1
RT Vol	8	12	0	1
Lane Flow Rate	24	137	267	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.157	0.304	0.004
Departure Headway (Hd)	4.718	4.128	4.095	4.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	857	872	765
Service Time	2.718	2.206	2.147	2.704
HCM Lane V/C Ratio	0.031	0.16	0.306	0.004
HCM Control Delay	7.9	8	8.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	1.3	0

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	312	30	23	221	7	17	2	14	4	2	3
Future Vol, veh/h	2	312	30	23	221	7	17	2	14	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	339	33	25	240	8	18	2	15	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	9.7	8.5	8.4
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	1%	9%	44%
Vol Thru, %	6%	91%	88%	22%
Vol Right, %	42%	9%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	344	251	9
LT Vol	17	2	23	4
Through Vol	2	312	221	2
RT Vol	14	30	7	3
Lane Flow Rate	36	374	273	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.445	0.336	0.014
Departure Headway (Hd)	5.188	4.282	4.427	5.274
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	689	841	813	677
Service Time	3.227	2.301	2.448	3.318
HCM Lane V/C Ratio	0.052	0.445	0.336	0.015
HCM Control Delay	8.5	10.7	9.7	8.4
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2.3	1.5	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Future Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	105	9	167	209	91	42	468	80	51	468	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	160	14	304	319	271	429	1040	177	417	1153	101
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1699	146	1781	1870	1585	1781	3038	516	1781	3307	289
Grp Volume(v), veh/h	37	0	114	167	209	91	42	273	275	51	251	258
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1777	1781	1777	1818
Q Serve(g_s), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Cycle Q Clear(g_c), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.29	1.00		0.16
Lane Grp Cap(c), veh/h	168	0	174	304	319	271	429	608	609	417	620	634
V/C Ratio(X)	0.22	0.00	0.65	0.55	0.65	0.34	0.10	0.45	0.45	0.12	0.40	0.41
Avail Cap(c_a), veh/h	610	0	631	610	640	543	521	608	609	497	620	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	23.0	19.9	20.3	19.2	10.4	13.4	13.4	10.4	13.0	13.0
Incr Delay (d2), s/veh	0.7	0.0	4.1	1.5	2.3	0.7	0.1	2.4	2.4	0.1	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.4	1.8	2.4	0.9	0.3	2.4	2.4	0.3	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	27.1	21.5	22.6	19.9	10.5	15.8	15.9	10.5	14.9	14.9
LnGrp LOS	C	A	C	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		151			467			590			560	
Approach Delay, s/veh		26.0			21.7			15.5			14.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	22.5		9.5	6.8	22.8		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	8.3		5.1	2.8	7.7		7.5				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.0		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	199	23	114	131	44	24	412	190	121	426	64
Future Volume (veh/h)	52	199	23	114	131	44	24	412	190	121	426	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	209	24	120	138	46	25	434	200	127	448	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	279	32	216	227	192	405	751	343	391	1130	168
Arrive On Green	0.17	0.17	0.17	0.12	0.12	0.12	0.03	0.32	0.32	0.08	0.36	0.36
Sat Flow, veh/h	1781	1647	189	1781	1870	1585	1781	2370	1082	1781	3103	461
Grp Volume(v), veh/h	55	0	233	120	138	46	25	324	310	127	255	260
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	1870	1585	1781	1777	1676	1781	1777	1787
Q Serve(g_s), s	1.5	0.0	6.9	3.6	4.0	1.5	0.5	8.7	8.8	2.6	6.1	6.1
Cycle Q Clear(g_c), s	1.5	0.0	6.9	3.6	4.0	1.5	0.5	8.7	8.8	2.6	6.1	6.1
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.65	1.00		0.26
Lane Grp Cap(c), veh/h	302	0	311	216	227	192	405	563	531	391	647	651
V/C Ratio(X)	0.18	0.00	0.75	0.56	0.61	0.24	0.06	0.58	0.58	0.33	0.39	0.40
Avail Cap(c_a), veh/h	564	0	582	564	592	502	510	563	531	412	647	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	22.5	23.5	23.7	22.6	12.5	16.2	16.3	12.0	13.4	13.4
Incr Delay (d2), s/veh	0.3	0.0	3.6	2.2	2.6	0.6	0.1	4.3	4.6	0.5	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.9	1.5	1.8	0.6	0.2	3.6	3.5	0.9	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	26.1	25.8	26.3	23.2	12.5	20.5	20.9	12.5	15.2	15.3
LnGrp LOS	C	A	C	C	C	C	B	C	C	B	B	B
Approach Vol, veh/h	288			304			659			642		
Approach Delay, s/veh	25.0			25.6			20.4			14.7		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	22.5		14.1	6.1	25.2		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.6	10.8		8.9	2.5	8.1		6.0				
Green Ext Time (p_c), s	0.0	2.2		0.9	0.0	2.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay	20.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Future Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	177	20	65	271	77	43	454	49	34	442	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	608	68	105	368	312	155	1692	180	67	1602	224
Arrive On Green	0.05	0.19	0.19	0.06	0.20	0.20	0.04	0.36	0.36	0.04	0.35	0.35
Sat Flow, veh/h	1781	3223	360	1781	1870	1585	3456	4686	498	1781	4528	633
Grp Volume(v), veh/h	52	97	100	65	271	77	43	328	175	34	330	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1870	1585	1728	1702	1781	1781	1702	1756
Q Serve(g_s), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Cycle Q Clear(g_c), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.28	1.00		0.36
Lane Grp Cap(c), veh/h	91	335	341	105	368	312	155	1229	643	67	1204	621
V/C Ratio(X)	0.57	0.29	0.29	0.62	0.74	0.25	0.28	0.27	0.27	0.51	0.27	0.28
Avail Cap(c_a), veh/h	175	628	639	175	662	561	340	1229	643	175	1204	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	17.7	17.7	23.4	19.2	17.3	23.5	11.5	11.5	24.0	11.8	11.8
Incr Delay (d2), s/veh	5.5	0.5	0.5	5.8	2.9	0.4	1.0	0.5	1.0	5.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.9	0.8	2.8	0.7	0.2	1.1	1.3	0.5	1.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	18.2	18.2	29.2	22.1	17.7	24.5	12.0	12.6	29.9	12.3	12.9
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		249			413			546			539	
Approach Delay, s/veh		20.5			22.4			13.2			13.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	22.9	7.5	14.1	6.8	22.5	7.1	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	5.5	3.8	4.4	2.6	5.6	3.5	8.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.7	0.0	2.3	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	330	53	73	139	43	36	429	75	53	609	60
Future Volume (veh/h)	67	330	53	73	139	43	36	429	75	53	609	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	347	56	77	146	45	38	452	79	56	641	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	538	86	116	334	283	141	1549	265	96	1730	169
Arrive On Green	0.06	0.18	0.18	0.07	0.18	0.18	0.04	0.35	0.35	0.05	0.37	0.37
Sat Flow, veh/h	1781	3068	491	1781	1870	1585	3456	4390	750	1781	4730	461
Grp Volume(v), veh/h	71	200	203	77	146	45	38	348	183	56	460	244
Grp Sat Flow(s),veh/h/ln	1781	1777	1782	1781	1870	1585	1728	1702	1735	1781	1702	1787
Q Serve(g_s), s	2.0	5.3	5.4	2.2	3.5	1.2	0.5	3.8	3.9	1.6	5.1	5.1
Cycle Q Clear(g_c), s	2.0	5.3	5.4	2.2	3.5	1.2	0.5	3.8	3.9	1.6	5.1	5.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.43	1.00		0.26
Lane Grp Cap(c), veh/h	111	312	313	116	334	283	141	1201	612	96	1245	654
V/C Ratio(X)	0.64	0.64	0.65	0.66	0.44	0.16	0.27	0.29	0.30	0.59	0.37	0.37
Avail Cap(c_a), veh/h	175	627	629	175	660	559	339	1201	612	175	1245	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	19.5	19.6	23.3	18.7	17.7	23.7	11.9	11.9	23.6	11.9	11.9
Incr Delay (d2), s/veh	6.0	2.2	2.3	6.4	0.9	0.3	1.0	0.6	1.2	5.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	2.1	1.0	1.4	0.4	0.2	1.2	1.4	0.7	1.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	21.7	21.9	29.7	19.6	18.0	24.7	12.5	13.2	29.2	12.7	13.5
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h	474			268			569			760		
Approach Delay, s/veh	22.9			22.2			13.5			14.2		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	22.5	7.8	13.5	6.6	23.2	7.7	13.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	5.9	4.2	7.4	2.5	7.1	4.0	5.5				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.5	0.0	3.1	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	17.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Future Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	61	54	29	57	23	23	658	57	38	589	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	49	476	80	120	476	47	815	691	70	797	35
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.03	0.44	0.44	0.04	0.45	0.45
Sat Flow, veh/h	0	162	1585	0	398	1585	1781	1870	1585	1781	1778	78
Grp Volume(v), veh/h	139	0	54	86	0	23	23	658	57	38	0	615
Grp Sat Flow(s),veh/h/ln	162	0	1585	398	0	1585	1781	1870	1585	1781	0	1856
Q Serve(g_s), s	0.0	0.0	1.5	0.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Cycle Q Clear(g_c), s	18.0	0.0	1.5	18.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Prop In Lane	0.56		1.00	0.34		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	142	0	476	200	0	476	47	815	691	70	0	832
V/C Ratio(X)	0.98	0.00	0.11	0.43	0.00	0.05	0.49	0.81	0.08	0.55	0.00	0.74
Avail Cap(c_a), veh/h	142	0	476	200	0	476	148	815	691	148	0	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	15.2	17.1	0.0	14.9	28.8	14.7	9.9	28.3	0.0	13.6
Incr Delay (d2), s/veh	67.9	0.0	0.1	1.5	0.0	0.0	7.6	8.4	0.2	6.5	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.5	0.9	0.0	0.2	0.4	8.7	0.4	0.6	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	0.0	15.3	18.5	0.0	15.0	36.4	23.1	10.1	34.8	0.0	19.5
LnGrp LOS	F	A	B	B	A	B	D	C	B	C	A	B
Approach Vol, veh/h		193			109			738			653	
Approach Delay, s/veh		70.5			17.8			22.6			20.4	
Approach LOS		E			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	31.4		22.5	6.8	30.7		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.8	18.4		20.0	3.3	20.4		20.0				
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	1.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	27	32	43	52	31	59	11	490	37	20	580	28
Future Volume (veh/h)	27	32	43	52	31	59	11	490	37	20	580	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	35	47	57	34	64	12	533	40	22	630	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	75	476	98	37	476	27	841	712	46	814	39
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.46	0.46
Sat Flow, veh/h	0	250	1585	0	124	1585	1781	1870	1585	1781	1771	84
Grp Volume(v), veh/h	64	0	47	91	0	64	12	533	40	22	0	660
Grp Sat Flow(s),veh/h/ln	250	0	1585	124	0	1585	1781	1870	1585	1781	0	1855
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	1.8	0.4	13.2	0.9	0.7	0.0	17.9
Cycle Q Clear(g_c), s	18.0	0.0	1.3	18.0	0.0	1.8	0.4	13.2	0.9	0.7	0.0	17.9
Prop In Lane	0.45		1.00	0.63		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	162	0	476	135	0	476	27	841	712	46	0	853
V/C Ratio(X)	0.39	0.00	0.10	0.68	0.00	0.13	0.45	0.63	0.06	0.48	0.00	0.77
Avail Cap(c_a), veh/h	162	0	476	135	0	476	148	841	712	148	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	15.1	22.9	0.0	15.3	29.3	12.7	9.3	28.8	0.0	13.6
Incr Delay (d2), s/veh	1.6	0.0	0.1	12.5	0.0	0.1	11.1	3.6	0.2	7.7	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	1.7	0.0	0.6	0.2	5.7	0.3	0.4	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	15.2	35.4	0.0	15.4	40.4	16.3	9.5	36.6	0.0	20.3
LnGrp LOS	B	A	B	D	A	B	D	B	A	D	A	C
Approach Vol, veh/h		111			155			585			682	
Approach Delay, s/veh		17.3			27.2			16.4			20.9	
Approach LOS		B			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	32.1		22.5	6.0	31.5		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.4	19.9		20.0	2.7	15.2		20.0				
Green Ext Time (p_c), s	0.0	1.6		0.0	0.0	2.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 19: 1st St & Indian Hill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	17	38	77	36	47	60	611	152	34	555	27
Future Volume (veh/h)	7	17	38	77	36	47	60	611	152	34	555	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	18	41	84	39	51	65	664	165	37	603	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	204	173	255	80	105	544	1174	995	468	1081	52
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.63	0.63	0.04	0.61	0.61
Sat Flow, veh/h	1307	1870	1585	1344	735	962	1781	1870	1585	1781	1770	85
Grp Volume(v), veh/h	8	18	41	84	0	90	65	664	165	37	0	632
Grp Sat Flow(s),veh/h/ln	1307	1870	1585	1344	0	1697	1781	1870	1585	1781	0	1855
Q Serve(g_s), s	0.3	0.5	1.4	3.6	0.0	3.0	0.8	12.3	2.6	0.4	0.0	12.1
Cycle Q Clear(g_c), s	3.3	0.5	1.4	4.1	0.0	3.0	0.8	12.3	2.6	0.4	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	197	204	173	255	0	185	544	1174	995	468	0	1133
V/C Ratio(X)	0.04	0.09	0.24	0.33	0.00	0.49	0.12	0.57	0.17	0.08	0.00	0.56
Avail Cap(c_a), veh/h	447	561	476	512	0	509	597	1174	995	548	0	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.74	0.74	0.74	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	24.0	24.5	25.9	0.0	25.2	4.8	6.4	4.6	4.9	0.0	6.9
Incr Delay (d2), s/veh	0.1	0.2	0.7	0.7	0.0	2.0	0.1	1.5	0.3	0.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.5	1.2	0.0	1.3	0.2	3.9	0.7	0.1	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	24.2	25.1	26.7	0.0	27.1	4.9	7.9	4.9	5.0	0.0	8.9
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	67			174			894			669		
Approach Delay, s/veh	25.1			26.9			7.1			8.7		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	42.2		11.0	7.8	41.2		11.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.4	14.3		5.3	2.8	14.1		6.1				
Green Ext Time (p_c), s	0.0	3.5		0.1	0.0	3.1		0.5				
Intersection Summary												
HCM 6th Ctrl Delay	10.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	49	92	125	64	93	107	503	128	38	505	67
Future Volume (veh/h)	29	49	92	125	64	93	107	503	128	38	505	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	53	100	136	70	101	116	547	139	41	549	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	333	282	310	123	178	473	1040	881	475	850	113
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.56	0.56	0.04	0.53	0.53
Sat Flow, veh/h	1214	1870	1585	1234	692	999	1781	1870	1585	1781	1617	215
Grp Volume(v), veh/h	32	53	100	136	0	171	116	547	139	41	0	622
Grp Sat Flow(s),veh/h/ln	1214	1870	1585	1234	0	1691	1781	1870	1585	1781	0	1832
Q Serve(g_s), s	1.5	1.4	3.3	6.3	0.0	5.6	1.7	11.0	2.6	0.6	0.0	14.6
Cycle Q Clear(g_c), s	7.0	1.4	3.3	7.7	0.0	5.6	1.7	11.0	2.6	0.6	0.0	14.6
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	224	333	282	310	0	301	473	1040	881	475	0	963
V/C Ratio(X)	0.14	0.16	0.35	0.44	0.00	0.57	0.25	0.53	0.16	0.09	0.00	0.65
Avail Cap(c_a), veh/h	372	561	476	461	0	507	498	1040	881	550	0	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	20.9	21.6	24.1	0.0	22.6	7.3	8.4	6.5	6.5	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.2	0.8	1.0	0.0	1.7	0.2	1.5	0.3	0.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	1.2	1.8	0.0	2.2	0.5	3.9	0.8	0.2	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	21.1	22.4	25.1	0.0	24.2	7.5	9.9	6.8	6.6	0.0	13.6
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		185			307			802			663	
Approach Delay, s/veh		22.7			24.6			9.0			13.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	37.8		15.2	8.8	36.0		15.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	13.0		9.0	3.7	16.6		9.7				
Green Ext Time (p_c), s	0.0	3.0		0.4	0.0	2.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Future Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	80	33	25	100	45	33	257	30	39	177	17
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10	10.1	14.4	12.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	17%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	76%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	27	74	30	23	92	41	215
LT Vol	30	27	0	0	23	0	0	36
Through Vol	236	0	74	0	0	92	0	163
RT Vol	28	0	0	30	0	0	41	16
Lane Flow Rate	320	29	80	33	25	100	45	234
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.511	0.057	0.145	0.052	0.048	0.179	0.071	0.384
Departure Headway (Hd)	5.751	7.009	6.496	5.778	6.961	6.449	5.731	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	510	551	618	514	555	623	608
Service Time	3.485	4.762	4.249	3.531	4.712	4.199	3.481	3.65
HCM Lane V/C Ratio	0.511	0.057	0.145	0.053	0.049	0.18	0.072	0.385
HCM Control Delay	14.4	10.2	10.4	8.9	10.1	10.6	8.9	12.3
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.9	0.2	0.5	0.2	0.2	0.6	0.2	1.8

Intersection												
Intersection Delay, s/veh	16.4											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	117	68	42	137	42	42	131	50	42	264	52
Future Vol, veh/h	35	117	68	42	137	42	42	131	50	42	264	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	127	74	46	149	46	46	142	54	46	287	57
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	11.5	12.1	14.9	23
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	12%
Vol Thru, %	59%	0%	100%	0%	0%	100%	0%	74%
Vol Right, %	22%	0%	0%	100%	0%	0%	100%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	35	117	68	42	137	42	358
LT Vol	42	35	0	0	42	0	0	42
Through Vol	131	0	117	0	0	137	0	264
RT Vol	50	0	0	68	0	0	42	52
Lane Flow Rate	242	38	127	74	46	149	46	389
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.452	0.082	0.255	0.133	0.098	0.298	0.082	0.701
Departure Headway (Hd)	6.713	7.73	7.213	6.488	7.714	7.196	6.472	6.487
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	463	497	551	464	499	552	560
Service Time	4.458	5.481	4.964	4.239	5.465	4.948	4.223	4.187
HCM Lane V/C Ratio	0.451	0.082	0.256	0.134	0.099	0.299	0.083	0.695
HCM Control Delay	14.9	11.2	12.4	10.2	11.3	13	9.8	23
HCM Lane LOS	B	B	B	B	B	B	A	C
HCM 95th-tile Q	2.3	0.3	1	0.5	0.3	1.2	0.3	5.5

HCM 6th Signalized Intersection Summary 21: E 1st St/Huntington Dr & Claremont Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Future Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	0	48	9	0	1	125	548	7	1	522	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	113	96	22	0	20	643	2638	34	689	2609	1164
Arrive On Green	0.06	0.00	0.06	0.01	0.00	0.01	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	785	3593	46	854	3554	1585
Grp Volume(v), veh/h	48	0	48	9	0	1	125	271	284	1	522	123
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	785	1777	1862	854	1777	1585
Q Serve(g_s), s	1.8	0.0	2.1	0.4	0.0	0.0	4.1	3.3	3.4	0.0	3.2	1.6
Cycle Q Clear(g_c), s	1.8	0.0	2.1	0.4	0.0	0.0	7.3	3.3	3.4	3.4	3.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	108	113	96	22	0	20	643	1304	1367	689	2609	1164
V/C Ratio(X)	0.45	0.00	0.50	0.40	0.00	0.05	0.19	0.21	0.21	0.00	0.20	0.11
Avail Cap(c_a), veh/h	458	481	408	458	0	408	643	1304	1367	689	2609	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	31.8	0.0	31.9	34.3	0.0	34.1	4.0	2.9	2.9	3.4	2.9	2.7
Incr Delay (d2), s/veh	2.9	0.0	4.0	11.1	0.0	1.0	0.7	0.4	0.3	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	0.2	0.0	0.0	0.5	0.7	0.8	0.0	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	35.9	45.4	0.0	35.2	4.7	3.3	3.3	3.5	3.1	2.9
LnGrp LOS	C	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	96			10			680			646		
Approach Delay, s/veh	35.3			44.4			3.5			3.0		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	55.9			8.7			55.9			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	9.3			4.1			5.4			2.4		
Green Ext Time (p_c), s	3.0			0.2			3.2			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	5.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	3	116	4	0	1	67	449	7	2	443	104
Future Volume (veh/h)	148	3	116	4	0	1	67	449	7	2	443	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	3	126	4	0	1	73	488	8	2	482	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	197	12	0	10	617	2419	40	666	2403	1072
Arrive On Green	0.12	0.12	0.12	0.01	0.00	0.01	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	823	3578	59	901	3554	1585
Grp Volume(v), veh/h	161	3	126	4	0	1	73	242	254	2	482	113
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	823	1777	1860	901	1777	1585
Q Serve(g_s), s	6.1	0.1	5.3	0.2	0.0	0.0	2.6	3.6	3.6	0.1	3.6	1.7
Cycle Q Clear(g_c), s	6.1	0.1	5.3	0.2	0.0	0.0	6.1	3.6	3.6	3.6	3.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	222	233	197	12	0	10	617	1201	1257	666	2403	1072
V/C Ratio(X)	0.73	0.01	0.64	0.34	0.00	0.10	0.12	0.20	0.20	0.00	0.20	0.11
Avail Cap(c_a), veh/h	471	494	419	458	0	408	617	1201	1257	666	2403	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	29.5	26.9	29.1	34.6	0.0	34.6	5.4	4.3	4.3	4.9	4.2	4.0
Incr Delay (d2), s/veh	4.5	0.0	3.4	16.1	0.0	3.9	0.4	0.4	0.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.1	0.1	0.0	0.0	0.4	1.0	1.0	0.0	0.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	26.9	32.6	50.7	0.0	38.4	5.8	4.6	4.6	4.9	4.4	4.1
LnGrp LOS	C	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	290			5			569			597		
Approach Delay, s/veh	33.3			48.2			4.8			4.4		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	51.8			13.2			51.8			5.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	8.1			8.1			5.6			2.2		
Green Ext Time (p_c), s	2.5			0.7			2.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	10.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Future Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	442	162	190	799	101	165	680	190	78	558	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	723	323	229	948	423	203	1320	589	100	1038	91
Arrive On Green	0.07	0.20	0.20	0.13	0.27	0.27	0.11	0.37	0.37	0.06	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3305	290
Grp Volume(v), veh/h	91	442	162	190	799	101	165	680	190	78	299	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1818
Q Serve(g_s), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Cycle Q Clear(g_c), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	117	723	323	229	948	423	203	1320	589	100	558	571
V/C Ratio(X)	0.78	0.61	0.50	0.83	0.84	0.24	0.81	0.52	0.32	0.78	0.54	0.54
Avail Cap(c_a), veh/h	157	853	380	249	1038	463	226	1320	589	143	558	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	34.5	27.2	26.5	31.9	26.0	21.5	32.5	18.3	16.8	34.9	21.2	21.2
Incr Delay (d2), s/veh	16.0	1.0	1.2	13.0	4.0	0.2	18.4	1.4	1.4	13.9	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.6	2.6	4.1	6.9	1.4	3.9	4.6	2.4	1.7	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	28.1	27.7	44.9	30.0	21.7	50.9	19.8	18.3	48.8	24.4	24.4
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h	695			1090			1035			685		
Approach Delay, s/veh	31.0			31.8			24.5			27.2		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	32.4	14.2	19.8	13.0	28.0	9.4	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.0	22.5	10.5	18.0	9.5	19.0	6.6	21.9				
Max Q Clear Time (g_c+I1), s	5.2	13.2	9.8	10.5	8.8	12.5	5.8	18.0				
Green Ext Time (p_c), s	0.0	3.6	0.0	2.1	0.0	1.9	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	28.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	903	167	213	524	58	149	517	183	130	595	59
Future Volume (veh/h)	103	903	167	213	524	58	149	517	183	130	595	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	982	182	232	570	63	162	562	199	141	647	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1035	462	256	1260	562	189	875	390	167	764	75
Arrive On Green	0.08	0.29	0.29	0.14	0.35	0.35	0.11	0.25	0.25	0.09	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3266	323
Grp Volume(v), veh/h	112	982	182	232	570	63	162	562	199	141	352	359
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1812
Q Serve(g_s), s	4.9	21.7	7.4	10.3	9.9	2.1	7.2	11.3	8.7	6.2	15.1	15.2
Cycle Q Clear(g_c), s	4.9	21.7	7.4	10.3	9.9	2.1	7.2	11.3	8.7	6.2	15.1	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	143	1035	462	256	1260	562	189	875	390	167	415	424
V/C Ratio(X)	0.78	0.95	0.39	0.91	0.45	0.11	0.86	0.64	0.51	0.84	0.85	0.85
Avail Cap(c_a), veh/h	236	1035	462	256	1260	562	189	875	390	167	415	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	36.1	27.8	22.7	33.7	19.8	17.4	35.1	27.0	26.0	35.7	29.3	29.3
Incr Delay (d2), s/veh	8.9	17.0	0.5	29.6	0.2	0.1	29.9	3.6	4.7	25.1	15.1	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.2	2.7	6.4	3.9	0.8	4.6	5.1	3.7	3.8	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	44.8	23.2	63.3	20.1	17.4	65.1	30.6	30.7	60.7	44.4	44.3
LnGrp LOS	D	D	C	E	C	B	E	C	C	E	D	D
Approach Vol, veh/h	1276			865			923			852		
Approach Delay, s/veh	41.7			31.5			36.7			47.1		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	24.2	16.0	27.8	13.0	23.2	10.9	32.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	19.7	11.5	23.3	8.5	18.7	10.6	24.2				
Max Q Clear Time (g_c+I1), s	8.2	13.3	12.3	23.7	9.2	17.2	6.9	11.9				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	0.7	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay	39.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Future Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	583	37	43	976	82	42	148	17	75	108	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	1411	89	381	1379	116	175	551	57	680	756	641
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	533	3393	215	804	3318	279	219	1363	142	1221	1870	1585
Grp Volume(v), veh/h	61	305	315	43	523	535	207	0	0	75	108	74
Grp Sat Flow(s),veh/h/ln	533	1777	1832	804	1777	1820	1723	0	0	1221	1870	1585
Q Serve(g_s), s	5.3	6.1	6.1	2.0	12.2	12.2	0.0	0.0	0.0	0.0	1.8	1.5
Cycle Q Clear(g_c), s	17.5	6.1	6.1	8.1	12.2	12.2	3.8	0.0	0.0	1.3	1.8	1.5
Prop In Lane	1.00		0.12	1.00		0.15	0.20		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	236	739	761	381	739	757	783	0	0	680	756	641
V/C Ratio(X)	0.26	0.41	0.41	0.11	0.71	0.71	0.26	0.00	0.00	0.11	0.14	0.12
Avail Cap(c_a), veh/h	254	800	824	408	800	819	783	0	0	680	756	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.61	0.61	0.61	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	10.3	10.3	13.2	12.1	12.1	10.0	0.0	0.0	9.3	9.4	9.3
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.1	1.6	1.6	0.8	0.0	0.0	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	2.1	0.3	4.2	4.3	1.5	0.0	0.0	0.5	0.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	10.6	10.6	13.2	13.7	13.7	10.8	0.0	0.0	9.6	9.8	9.7
LnGrp LOS	B	B	B	B	B	B	B	A	A	A	A	A
Approach Vol, veh/h	681			1101			207			257		
Approach Delay, s/veh	11.4			13.7			10.8			9.7		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.7			25.3			24.7			25.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	5.8			19.5			3.8			14.2		
Green Ext Time (p_c), s	0.9			1.3			0.9			4.4		
Intersection Summary												
HCM 6th Ctrl Delay	12.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 23: College Ave & Arrow Hwy

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1036	31	24	639	47	33	54	49	119	132	115
Future Volume (veh/h)	69	1036	31	24	639	47	33	54	49	119	132	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1126	34	26	695	51	36	59	53	129	143	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	1428	43	205	1361	100	203	319	242	702	775	657
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	715	3522	106	484	3357	246	275	770	583	1281	1870	1585
Grp Volume(v), veh/h	75	568	592	26	368	378	148	0	0	129	143	125
Grp Sat Flow(s),veh/h/ln	715	1777	1851	484	1777	1826	1628	0	0	1281	1870	1585
Q Serve(g_s), s	4.4	14.0	14.0	2.5	7.8	7.8	0.0	0.0	0.0	0.0	2.4	2.5
Cycle Q Clear(g_c), s	12.2	14.0	14.0	16.5	7.8	7.8	2.7	0.0	0.0	2.3	2.4	2.5
Prop In Lane	1.00		0.06	1.00		0.13	0.24		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	323	721	751	205	721	740	764	0	0	702	775	657
V/C Ratio(X)	0.23	0.79	0.79	0.13	0.51	0.51	0.19	0.00	0.00	0.18	0.18	0.19
Avail Cap(c_a), veh/h	355	800	833	227	800	822	764	0	0	702	775	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	0.84	0.84	0.84	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	13.0	13.0	20.2	11.1	11.1	9.4	0.0	0.0	9.2	9.3	9.3
Incr Delay (d2), s/veh	0.1	2.0	1.9	0.2	0.5	0.5	0.6	0.0	0.0	0.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.9	5.1	0.3	2.6	2.7	1.0	0.0	0.0	0.8	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	15.0	14.9	20.4	11.6	11.6	9.9	0.0	0.0	9.8	9.8	9.9
LnGrp LOS	B	B	B	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1235			772			148			397		
Approach Delay, s/veh	15.0			11.9			9.9			9.9		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.2			24.8			25.2			24.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.7			16.0			4.5			18.5		
Green Ext Time (p_c), s	0.6			4.1			1.4			1.8		
Intersection Summary												
HCM 6th Ctrl Delay	13.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Future Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	434	39	41	725	96	104	398	55	60	250	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1109	99	70	812	107	133	999	137	88	548	464
Arrive On Green	0.12	0.34	0.34	0.04	0.26	0.26	0.07	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1781	3299	295	1781	3155	417	1781	3139	431	1781	1870	1585
Grp Volume(v), veh/h	171	233	240	41	408	413	104	224	229	60	250	245
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1777	1795	1781	1777	1793	1781	1870	1585
Q Serve(g_s), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Cycle Q Clear(g_c), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	210	597	611	70	457	462	133	566	571	88	548	464
V/C Ratio(X)	0.81	0.39	0.39	0.59	0.89	0.89	0.78	0.40	0.40	0.68	0.46	0.53
Avail Cap(c_a), veh/h	216	597	611	150	470	474	140	566	571	127	548	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	17.8	17.8	33.1	25.1	25.1	31.8	18.6	18.6	32.7	20.2	20.7
Incr Delay (d2), s/veh	19.1	0.4	0.4	7.6	18.7	18.7	23.5	2.1	2.1	9.1	2.7	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.6	2.7	0.8	8.3	8.3	2.5	2.9	3.0	1.2	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	18.1	18.2	40.6	43.8	43.7	55.4	20.7	20.7	41.8	22.9	24.9
LnGrp LOS	D	B	B	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		644			862			557			555	
Approach Delay, s/veh		26.4			43.6			27.2			25.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	26.8	7.2	28.0	9.7	25.0	12.7	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	20.0	5.9	21.1	5.5	19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s	4.3	9.0	3.6	9.1	6.0	11.0	8.6	17.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	2.0	0.0	1.6	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	952	54	72	460	53	78	297	64	88	318	201
Future Volume (veh/h)	177	952	54	72	460	53	78	297	64	88	318	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	1035	59	78	500	58	85	323	70	96	346	218
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1133	65	100	825	95	109	884	189	123	582	493
Arrive On Green	0.13	0.33	0.33	0.06	0.26	0.26	0.06	0.30	0.30	0.07	0.31	0.31
Sat Flow, veh/h	1781	3417	195	1781	3209	371	1781	2912	623	1781	1870	1585
Grp Volume(v), veh/h	192	538	556	78	276	282	85	195	198	96	346	218
Grp Sat Flow(s),veh/h/ln	1781	1777	1835	1781	1777	1804	1781	1777	1758	1781	1870	1585
Q Serve(g_s), s	7.9	21.8	21.8	3.2	10.2	10.3	3.5	6.5	6.6	4.0	11.7	8.2
Cycle Q Clear(g_c), s	7.9	21.8	21.8	3.2	10.2	10.3	3.5	6.5	6.6	4.0	11.7	8.2
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	232	589	608	100	457	464	109	539	533	123	582	493
V/C Ratio(X)	0.83	0.91	0.91	0.78	0.60	0.61	0.78	0.36	0.37	0.78	0.59	0.44
Avail Cap(c_a), veh/h	278	604	624	131	457	464	150	539	533	154	582	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	24.0	24.0	34.9	24.5	24.5	34.7	20.4	20.5	34.4	21.8	20.6
Incr Delay (d2), s/veh	10.7	12.9	12.6	19.6	2.2	2.3	16.1	1.9	2.0	18.0	4.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.1	10.4	1.9	4.3	4.4	2.0	2.8	2.8	2.3	5.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	36.9	36.6	54.5	26.8	26.8	50.8	22.3	22.5	52.3	26.3	23.5
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h	1286			636			478			660		
Approach Delay, s/veh	37.6			30.2			27.5			29.1		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	27.3	8.7	29.4	9.1	27.8	14.3	23.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	19.5	5.5	25.5	6.3	19.7	11.7	19.3				
Max Q Clear Time (g_c+I1), s	6.0	8.6	5.2	23.8	5.5	13.7	9.9	12.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.1	0.0	1.6	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	32.7											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	0	127	0	0	0	53	432	0	0	419	27
Future Volume (veh/h)	33	0	127	0	0	0	53	432	0	0	419	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	0	138	0	0	0	58	470	0	0	455	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	0	185	2	2	0	81	2739	1222	2	2378	1061
Arrive On Green	0.06	0.00	0.12	0.00	0.00	0.00	0.05	0.77	0.00	0.00	0.67	0.67
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	0	138	0	0	0	58	470	0	0	455	29
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.5	0.0	6.7	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.9	0.5
Cycle Q Clear(g_c), s	1.5	0.0	6.7	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.9	0.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	0	185	2	2	0	81	2739	1222	2	2378	1061
V/C Ratio(X)	0.33	0.00	0.75	0.00	0.00	0.00	0.72	0.17	0.00	0.00	0.19	0.03
Avail Cap(c_a), veh/h	401	0	614	111	421	0	154	2739	1222	111	2378	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh	36.0	0.0	34.2	0.0	0.0	0.0	37.7	2.4	0.0	0.0	5.0	4.5
Incr Delay (d2), s/veh	1.7	0.0	5.9	0.0	0.0	0.0	11.3	0.1	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.9	0.0	0.0	0.0	1.3	0.5	0.0	0.0	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	40.0	0.0	0.0	0.0	49.0	2.6	0.0	0.0	5.2	4.5
LnGrp LOS	D	A	D	A	A	A	D	A	A	A	A	A
Approach Vol, veh/h	174			0			528			484		
Approach Delay, s/veh	39.6			0.0			7.7			5.1		
Approach LOS	D						A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	66.2	0.0	13.8	8.1	58.0	9.4	4.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	5.0	31.0	6.9	19.1	18.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	4.8	0.0	8.7	4.6	5.9	3.5	0.0				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.8	0.0	2.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	11.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	128	45	7	30	61	522	3	5	451	32
Future Volume (veh/h)	50	1	128	45	7	30	61	522	3	5	451	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	1	139	49	8	33	66	567	3	5	490	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1	188	74	31	130	86	2159	963	12	2011	897
Arrive On Green	0.06	0.12	0.12	0.04	0.10	0.10	0.05	0.61	0.61	0.01	0.57	0.57
Sat Flow, veh/h	1781	11	1575	1781	319	1315	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	54	0	140	49	0	41	66	567	3	5	490	35
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1634	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	0.0	6.8	2.2	0.0	1.9	2.9	6.0	0.1	0.2	5.6	0.8
Cycle Q Clear(g_c), s	2.3	0.0	6.8	2.2	0.0	1.9	2.9	6.0	0.1	0.2	5.6	0.8
Prop In Lane	1.00		0.99	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	190	74	0	161	86	2159	963	12	2011	897
V/C Ratio(X)	0.49	0.00	0.74	0.66	0.00	0.25	0.77	0.26	0.00	0.43	0.24	0.04
Avail Cap(c_a), veh/h	401	0	585	145	0	368	160	2159	963	111	2011	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	36.3	0.0	34.0	37.8	0.0	33.3	37.6	7.3	6.2	39.6	8.7	7.7
Incr Delay (d2), s/veh	3.3	0.0	5.5	9.8	0.0	0.8	13.5	0.3	0.0	21.7	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.9	1.1	0.0	0.8	1.5	1.9	0.0	0.2	1.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	39.5	47.5	0.0	34.1	51.1	7.6	6.2	61.3	9.0	7.8
LnGrp LOS	D	A	D	D	A	C	D	A	A	E	A	A
Approach Vol, veh/h	194			90			636			530		
Approach Delay, s/veh	39.6			41.4			12.1			9.4		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	53.1	7.8	14.1	8.3	49.8	9.5	12.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	6.5	29.5	7.2	18.8	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.2	8.0	4.2	8.8	4.9	7.6	4.3	3.9				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.8	0.0	2.4	0.1	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	16.6											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	40	0	0	61	0	0
Future Vol, veh/h	40	0	0	61	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	0	0	66	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	22
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1050
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	72	0	2	62	0	22
Future Vol, veh/h	72	0	2	62	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	0	2	67	0	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	78
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.14	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.22	-
Pot Cap-1 Maneuver	-	1518	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1518	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1024	-	-	1518	-
HCM Lane V/C Ratio	0.023	-	-	0.001	-
HCM Control Delay (s)	8.6	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/22/2024

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	0	0	16	0	0	15
Future Vol, veh/h	0	0	16	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	17	0	0	16

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	9	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1070	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1070	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕			↕↕
Traffic Vol, veh/h	0	22	21	0	0	67
Future Vol, veh/h	0	22	21	0	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	23	0	0	73
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	12	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1065	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.5	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	- 1065	-			
HCM Lane V/C Ratio	-	- 0.022	-			
HCM Control Delay (s)	-	- 8.5	-			
HCM Lane LOS	-	- A	-			
HCM 95th %tile Q(veh)	-	- 0.1	-			

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/22/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	18	13	0
Future Vol, veh/h	0	0	0	18	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	19	14	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	7	14	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	909	1137	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	909	1137	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1137	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/22/2024

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	22	1	18	24	1
Future Vol, veh/h	0	22	1	18	24	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	1	19	25	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	13	26	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	901	1123	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	901	1123	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	0.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1123	-	901	-	-	
HCM Lane V/C Ratio	0.001	-	0.026	-	-	
HCM Control Delay (s)	8.2	-	9.1	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 6th Signalized Intersection Summary 29: Richton St & Monte Vista Ave

03/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Future Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	74	0	80	0	488	57	61	564	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	127	198	168	5	1524	177	216	3456	6
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.11	0.00	0.48	0.48	0.06	0.66	0.66
Sat Flow, veh/h	0	-59738	0	1781	1870	1585	1781	3207	373	3456	5263	9
Grp Volume(v), veh/h	0	0	0	74	0	80	0	270	275	61	365	200
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1803	1728	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.21	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	127	198	168	5	844	857	216	2235	1227
V/C Ratio(X)	0.00	0.00	0.00	0.58	0.00	0.48	0.00	0.32	0.32	0.28	0.16	0.16
Avail Cap(c_a), veh/h	0	889	0	235	889	753	235	844	857	456	2235	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	15.9	0.0	6.1	6.2	16.9	2.5	2.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	2.1	0.0	1.0	1.0	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.6	0.0	0.9	0.9	0.2	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.2	0.0	18.0	0.0	7.1	7.1	17.7	2.7	2.8
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h	0			154			545			626		
Approach Delay, s/veh	0.0			19.6			7.1			4.2		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.9	22.5	7.2	1.3	0.0	29.4	8.5					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.6	5.6	3.5	0.0	0.0	3.6	3.8					
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	3.1	0.2					
Intersection Summary												
HCM 6th Ctrl Delay				7.2								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary 29: Richton St & Monte Vista Ave

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	89	0	74	1	592	75	35	707	0
Future Volume (veh/h)	0	0	0	89	0	74	1	592	75	35	707	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	94	0	78	1	623	79	37	744	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	149	209	177	5	1533	194	148	2679	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.48	0.48	0.04	0.52	0.00
Sat Flow, veh/h	0	-64583	0	1781	1870	1585	1781	3173	402	3456	5274	0
Grp Volume(v), veh/h	0	0	0	94	0	78	1	348	354	37	744	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1798	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	3.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	3.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	149	209	177	5	859	869	148	2679	0
V/C Ratio(X)	0.00	0.00	0.00	0.63	0.00	0.44	0.21	0.41	0.41	0.25	0.28	0.00
Avail Cap(c_a), veh/h	0	904	0	239	904	766	239	859	869	464	2679	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	15.5	18.6	6.2	6.2	17.3	4.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.4	0.0	1.7	20.3	1.4	1.4	0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.6	0.0	1.4	1.4	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.9	0.0	17.2	38.9	7.6	7.6	18.1	5.2	0.0
LnGrp LOS	A	A	A	C	A	B	D	A	A	B	A	A
Approach Vol, veh/h	0			172			703			781		
Approach Delay, s/veh	0.0			19.2			7.7			5.8		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.1	22.5	7.6	1.0	4.6	24.0	8.7					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.4	6.7	3.9	0.0	2.0	5.0	3.7					
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	4.2	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Future Volume (veh/h)	33	454	231	371	769	67	131	49	282	36	172	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	251	403	836	73	142	53	307	39	187	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	759	338	425	1475	658	438	605	539	297	908	283
Arrive On Green	0.04	0.21	0.21	0.24	0.42	0.42	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1133	1777	1585	1022	2667	830
Grp Volume(v), veh/h	36	493	251	403	836	73	142	53	307	39	123	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1133	1777	1585	1022	1777	1721
Q Serve(g_s), s	1.3	8.2	9.6	14.5	11.7	1.8	6.6	1.3	10.3	2.1	3.2	3.3
Cycle Q Clear(g_c), s	1.3	8.2	9.6	14.5	11.7	1.8	10.0	1.3	10.3	12.4	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	65	759	338	425	1475	658	438	605	539	297	605	586
V/C Ratio(X)	0.55	0.65	0.74	0.95	0.57	0.11	0.32	0.09	0.57	0.13	0.20	0.21
Avail Cap(c_a), veh/h	153	984	439	425	1525	680	438	605	539	297	605	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	23.3	23.9	24.4	14.5	11.7	18.8	14.6	17.5	22.6	15.2	15.2
Incr Delay (d2), s/veh	7.0	1.0	4.8	22.1	0.3	0.0	1.7	0.3	3.8	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	3.8	8.3	4.3	0.6	1.8	0.5	4.0	0.6	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	24.3	28.7	46.5	14.8	11.7	20.5	14.8	21.4	23.5	15.9	16.1
LnGrp LOS	D	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		780			1312			502			286	
Approach Delay, s/veh		26.3			24.4			20.4			17.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	20.0	18.4		26.6	6.9	31.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	15.5	18.0		18.0	5.6	27.9				
Max Q Clear Time (g_c+I1), s		12.3	16.5	11.6		14.4	3.3	13.7				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.5	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	722	102	182	458	61	179	74	236	49	55	36
Future Volume (veh/h)	60	722	102	182	458	61	179	74	236	49	55	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	785	111	198	498	66	195	80	257	53	60	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	964	430	244	1256	560	569	651	581	374	785	468
Arrive On Green	0.06	0.27	0.27	0.14	0.35	0.35	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1296	1777	1585	1043	2141	1277
Grp Volume(v), veh/h	65	785	111	198	498	66	195	80	257	53	49	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1296	1777	1585	1043	1777	1641
Q Serve(g_s), s	2.1	12.4	3.3	6.5	6.3	1.7	6.9	1.8	7.4	2.4	1.1	1.2
Cycle Q Clear(g_c), s	2.1	12.4	3.3	6.5	6.3	1.7	8.1	1.8	7.4	9.8	1.1	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	98	964	430	244	1256	560	569	651	581	374	651	601
V/C Ratio(X)	0.66	0.81	0.26	0.81	0.40	0.12	0.34	0.12	0.44	0.14	0.08	0.08
Avail Cap(c_a), veh/h	193	1066	476	291	1262	563	569	651	581	374	651	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.4	17.1	25.1	14.6	13.1	15.1	12.6	14.4	18.1	12.4	12.4
Incr Delay (d2), s/veh	7.4	4.6	0.3	12.5	0.2	0.1	1.5	0.4	2.2	0.8	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	1.1	3.4	2.3	0.6	2.1	0.7	2.7	0.6	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	25.0	17.4	37.6	14.8	13.2	16.6	13.0	16.6	18.9	12.6	12.7
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		961			762			532			152	
Approach Delay, s/veh		24.8			20.6			16.0			14.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	12.7	20.8		26.5	7.8	25.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.7	9.8	18.0		18.7	6.5	21.3				
Max Q Clear Time (g_c+I1), s		10.1	8.5	14.4		11.8	4.1	8.3				
Green Ext Time (p_c), s		1.9	0.1	1.9		0.4	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay				20.9								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Future Volume (veh/h)	67	426	143	157	935	33	129	110	104	83	182	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	987	440	215	1207	538	479	705	597	545	705	597
Arrive On Green	0.06	0.28	0.28	0.12	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1185	1870	1585	1272	1870	1585
Grp Volume(v), veh/h	73	463	155	171	1016	36	140	120	113	90	198	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1185	1870	1585	1272	1870	1585
Q Serve(g_s), s	2.4	6.5	4.7	5.6	15.9	0.9	5.6	2.6	2.9	3.0	4.4	5.1
Cycle Q Clear(g_c), s	2.4	6.5	4.7	5.6	15.9	0.9	10.0	2.6	2.9	5.6	4.4	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	987	440	215	1207	538	479	705	597	545	705	597
V/C Ratio(X)	0.70	0.47	0.35	0.80	0.84	0.07	0.29	0.17	0.19	0.17	0.28	0.32
Avail Cap(c_a), veh/h	163	1066	476	282	1303	581	479	705	597	545	705	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.38	0.38	0.38	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	18.0	17.4	25.7	18.3	13.4	16.5	12.5	12.5	14.3	13.0	13.2
Incr Delay (d2), s/veh	6.6	0.3	0.4	4.5	1.9	0.0	0.6	0.2	0.3	0.7	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	1.6	2.5	6.1	0.3	1.5	1.0	1.0	0.9	1.9	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	18.3	17.7	30.2	20.2	13.4	17.1	12.7	12.8	15.0	14.0	14.6
LnGrp LOS	C	B	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		691			1223			373			477	
Approach Delay, s/veh		19.8			21.4			14.4			14.4	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.1	11.7	21.2		27.1	8.0	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	9.5	18.0		19.0	5.5	22.0				
Max Q Clear Time (g_c+I1), s		12.0	7.6	8.5		7.6	4.4	17.9				
Green Ext Time (p_c), s		0.9	0.1	2.5		1.6	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay				18.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	769	88	96	491	58	171	100	113	71	76	89
Future Volume (veh/h)	97	769	88	96	491	58	171	100	113	71	76	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	836	96	104	534	63	186	109	123	77	83	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
Arrive On Green	0.08	0.29	0.29	0.07	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1315	1870	1585	1284	1870	1585
Grp Volume(v), veh/h	105	836	96	104	534	63	186	109	123	77	83	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1315	1870	1585	1284	1870	1585
Q Serve(g_s), s	3.2	11.9	2.5	3.2	6.9	1.6	5.8	2.1	2.8	2.3	1.6	2.2
Cycle Q Clear(g_c), s	3.2	11.9	2.5	3.2	6.9	1.6	7.4	2.1	2.8	4.4	1.6	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1044	466	133	1042	465	601	722	612	578	722	612
V/C Ratio(X)	0.78	0.80	0.21	0.78	0.51	0.14	0.31	0.15	0.20	0.13	0.11	0.16
Avail Cap(c_a), veh/h	165	1169	522	162	1163	519	601	722	612	578	722	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.86	0.86	0.86	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	17.9	14.6	25.0	16.2	14.3	13.2	11.0	11.2	12.4	10.8	11.0
Incr Delay (d2), s/veh	11.3	2.3	0.1	15.8	0.3	0.1	0.6	0.2	0.4	0.5	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.6	0.8	1.8	2.5	0.5	1.6	0.8	0.9	0.7	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	20.2	14.7	40.9	16.5	14.4	13.9	11.2	11.6	12.9	11.2	11.6
LnGrp LOS	D	C	B	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		1037			701			418			257	
Approach Delay, s/veh		21.3			19.9			12.5			11.9	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.7	8.6	20.7		25.7	8.6	20.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	5.0	18.1		18.4	5.1	18.0				
Max Q Clear Time (g_c+I1), s		9.4	5.2	13.9		6.4	5.2	8.9				
Green Ext Time (p_c), s		1.1	0.0	2.2		0.8	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Future Volume (veh/h)	29	412	156	545	880	92	211	68	398	94	81	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	448	170	592	957	100	229	74	433	102	88	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	609	271	668	1180	526	571	630	534	477	610	495
Arrive On Green	0.03	0.17	0.17	0.19	0.33	0.33	0.07	0.34	0.34	0.06	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1862	1513
Grp Volume(v), veh/h	32	448	170	592	957	100	229	74	433	102	84	83
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1598
Q Serve(g_s), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Cycle Q Clear(g_c), s	1.3	9.0	7.5	12.5	18.5	3.4	5.1	2.0	18.7	2.8	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	58	609	271	668	1180	526	571	630	534	477	582	523
V/C Ratio(X)	0.55	0.74	0.63	0.89	0.81	0.19	0.40	0.12	0.81	0.21	0.14	0.16
Avail Cap(c_a), veh/h	119	853	380	668	1303	581	571	630	534	491	582	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.5	28.8	29.4	22.9	17.9	16.3	17.2	22.7	15.0	17.8	17.9
Incr Delay (d2), s/veh	7.3	1.9	2.2	13.6	3.7	0.2	0.4	0.4	11.8	0.2	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.7	2.8	6.0	7.4	1.1	2.5	0.9	7.9	1.0	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	31.4	31.0	43.1	26.5	18.0	16.8	17.5	34.5	15.2	18.3	18.6
LnGrp LOS	D	C	C	D	C	B	B	B	C	B	B	B
Approach Vol, veh/h		650			1649			736			269	
Approach Delay, s/veh		31.8			32.0			27.3			17.2	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	29.8	19.0	17.3	9.6	29.1	6.9	29.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.5	14.5	18.0	5.1	19.4	5.0	27.5				
Max Q Clear Time (g_c+I1), s	4.8	20.7	14.5	11.0	7.1	4.8	3.3	20.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.7	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	778	174	490	490	148	159	143	617	103	74	43
Future Volume (veh/h)	53	778	174	490	490	148	159	143	617	103	74	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	846	189	533	533	161	173	155	671	112	80	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	918	410	595	1379	615	556	585	496	347	623	340
Arrive On Green	0.04	0.26	0.26	0.17	0.39	0.39	0.09	0.31	0.31	0.06	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2218	1211
Grp Volume(v), veh/h	58	846	189	533	533	161	173	155	671	112	63	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1652
Q Serve(g_s), s	2.9	20.9	9.0	13.6	9.7	6.2	6.1	5.6	28.1	4.0	2.4	2.6
Cycle Q Clear(g_c), s	2.9	20.9	9.0	13.6	9.7	6.2	6.1	5.6	28.1	4.0	2.4	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	76	918	410	595	1379	615	556	585	496	347	499	464
V/C Ratio(X)	0.77	0.92	0.46	0.90	0.39	0.26	0.31	0.26	1.35	0.32	0.13	0.14
Avail Cap(c_a), veh/h	143	928	414	595	1379	615	559	585	496	347	499	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.5	28.1	36.5	19.8	18.8	19.6	23.2	30.9	21.1	24.1	24.2
Incr Delay (d2), s/veh	10.9	10.9	0.6	16.1	0.2	0.2	0.3	1.0	170.6	0.5	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.7	3.3	6.7	3.7	2.1	2.4	2.5	33.3	1.6	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	43.4	28.7	52.6	20.0	19.0	19.9	24.2	201.6	21.6	24.6	24.8
LnGrp LOS	D	D	C	D	C	B	B	C	F	C	C	C
Approach Vol, veh/h		1093			1227			999			239	
Approach Delay, s/veh		41.4			34.0			142.6			23.3	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.6	20.0	27.8	12.5	29.8	8.3	39.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	27.9	15.5	23.5	8.1	24.9	7.2	31.8				
Max Q Clear Time (g_c+I1), s	6.0	30.1	15.6	22.9	8.1	4.6	4.9	11.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.5	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			66.0									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Future Volume (veh/h)	103	287	511	30	772	668	171	0	442	43	0	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	112	312	555	33	839	726	186	0	480	47	0	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	142	1060	473	58	893	398	891	0	0	891	0	0
Arrive On Green	0.08	0.30	0.30	0.03	0.25	0.25	0.50	0.00	0.00	0.50	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	186		1781	47	
Grp Volume(v), veh/h	112	312	555	33	839	726	186	11.3		47	10.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Cycle Q Clear(g_c), s	4.9	5.4	23.9	1.5	18.5	20.1	4.7			1.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	142	1060	473	58	893	398	891			891		
V/C Ratio(X)	0.79	0.29	1.17	0.57	0.94	1.82	0.21			0.05		
Avail Cap(c_a), veh/h	143	1060	473	114	893	398	891			891		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	36.2	21.6	28.1	38.2	29.4	29.9	11.1			10.3		
Incr Delay (d2), s/veh	25.1	0.2	98.6	8.5	17.3	380.1	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	2.1	21.1	0.7	9.3	49.0	1.6			0.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	21.7	126.6	46.7	46.7	410.1	11.3			10.3		
LnGrp LOS	E	C	F	D	D	F	B			B		
Approach Vol, veh/h	979			1598								
Approach Delay, s/veh	85.7			211.8								
Approach LOS	F			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	44.5		7.1	28.4	44.5		10.9	24.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.4		5.1	21.4	9.5		6.4	20.1				
Max Q Clear Time (g_c+I1), s	3.1		3.5	25.9	6.7		6.9	22.1				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	151.2											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	845	483	33	486	395	128	0	859	80	0	518
Future Volume (veh/h)	169	845	483	33	486	395	128	0	859	80	0	518
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	184	918	525	36	528	429	139	0	934	87	0	563
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	222	1171	522	63	853	380	811	0	0	811	0	0
Arrive On Green	0.12	0.33	0.33	0.04	0.24	0.24	0.46	0.00	0.00	0.46	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	139		1781	87	
Grp Volume(v), veh/h	184	918	525	36	528	429	139	12.2		87	11.8	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	7.6	17.5	24.7	1.5	9.9	18.0	3.5			2.1		
Cycle Q Clear(g_c), s	7.6	17.5	24.7	1.5	9.9	18.0	3.5			2.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	222	1171	522	63	853	380	811			811		
V/C Ratio(X)	0.83	0.78	1.01	0.57	0.62	1.13	0.17			0.11		
Avail Cap(c_a), veh/h	226	1171	522	119	853	380	811			811		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	32.0	22.7	25.1	35.6	25.4	28.5	12.1			11.7		
Incr Delay (d2), s/veh	21.7	3.6	40.6	8.0	1.4	85.5	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.3	7.0	14.0	0.7	4.0	15.2	1.2			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	26.3	65.8	43.7	26.8	114.0	12.2			11.8		
LnGrp LOS	D	C	F	D	C	F	B			B		
Approach Vol, veh/h	1627			993								
Approach Delay, s/veh	42.1			65.1								
Approach LOS	D			E								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	38.6		7.1	29.2	38.6		13.9	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.5		5.0	22.5	7.5		9.5	18.0				
Max Q Clear Time (g_c+I1), s	4.1		3.5	26.7	5.5		9.6	20.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	47.8											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Future Volume (vph)	187	2	14	1	0	0	11	464	1	0	422	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1770		1770	3538			3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1863		1770	3538			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	2	15	1	0	0	12	504	1	0	459	337
RTOR Reduction (vph)	0	1	12	0	0	0	0	0	0	0	0	126
Lane Group Flow (vph)	104	102	1	0	1	0	12	505	0	0	459	211
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Effective Green, g (s)	9.1	9.1	9.1		1.2		1.5	56.2			50.2	50.2
Actuated g/C Ratio	0.11	0.11	0.11		0.01		0.02	0.70			0.63	0.63
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	191	183	171		27		33	2485			2220	993
v/s Ratio Prot	0.06	c0.06					0.01	c0.14			0.13	
v/s Ratio Perm			0.00		c0.00							0.13
v/c Ratio	0.54	0.56	0.01		0.04		0.36	0.20			0.21	0.21
Uniform Delay, d1	33.5	33.5	31.4		38.8		38.8	4.1			6.4	6.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	3.7	0.0		0.6		6.7	0.2			0.2	0.5
Delay (s)	36.6	37.2	31.5		39.4		45.5	4.3			6.6	6.9
Level of Service	D	D	C		D		D	A			A	A
Approach Delay (s)		36.6			39.4			5.3			6.7	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			38.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	0	21	3	9	1	19	526	1	1	473	217
Future Volume (vph)	340	0	21	3	9	1	19	526	1	1	473	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1613	1504		1825		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1681	1613	1504		1845		1770	3538		813	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	0	23	3	10	1	21	572	1	1	514	236
RTOR Reduction (vph)	0	118	17	0	1	0	0	0	0	0	0	107
Lane Group Flow (vph)	185	69	4	0	13	0	21	573	0	1	514	129
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.8	13.8	13.8		1.5		3.0	51.2		43.7	43.7	43.7
Effective Green, g (s)	13.8	13.8	13.8		1.5		3.0	51.2		43.7	43.7	43.7
Actuated g/C Ratio	0.17	0.17	0.17		0.02		0.04	0.64		0.55	0.55	0.55
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	289	278	259		34		66	2264		444	1933	864
v/s Ratio Prot	c0.11	0.04					0.01	c0.16			0.15	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.64	0.25	0.01		0.38		0.32	0.25		0.00	0.27	0.15
Uniform Delay, d1	30.8	28.6	27.5		38.8		37.5	6.2		8.2	9.6	9.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.8	0.5	0.0		7.0		2.8	0.3		0.0	0.3	0.4
Delay (s)	35.6	29.1	27.5		45.8		40.3	6.5		8.3	10.0	9.3
Level of Service	D	C	C		D		D	A		A	A	A
Approach Delay (s)		32.0			45.8			7.7			9.8	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			14.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			39.6%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Future Volume (veh/h)	102	601	120	92	758	138	145	325	83	183	387	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	653	130	100	824	150	158	353	90	199	421	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	780	155	128	911	406	194	817	206	238	590	500
Arrive On Green	0.08	0.26	0.26	0.07	0.26	0.26	0.11	0.29	0.29	0.13	0.32	0.32
Sat Flow, veh/h	1781	2954	587	1781	3554	1585	1781	2812	708	1781	1870	1585
Grp Volume(v), veh/h	111	392	391	100	824	150	158	221	222	199	421	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1585	1781	1777	1743	1781	1870	1585
Q Serve(g_s), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Cycle Q Clear(g_c), s	4.6	15.6	15.7	4.1	16.8	5.8	6.5	7.6	7.8	8.2	14.9	6.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	141	469	466	128	911	406	194	516	507	238	590	500
V/C Ratio(X)	0.79	0.84	0.84	0.78	0.90	0.37	0.81	0.43	0.44	0.84	0.71	0.36
Avail Cap(c_a), veh/h	154	486	482	131	924	412	202	516	507	249	590	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	33.9	26.1	26.1	34.2	27.0	22.9	32.7	21.6	21.6	31.7	22.7	19.8
Incr Delay (d2), s/veh	21.6	11.8	12.1	25.5	12.1	0.6	21.2	2.6	2.7	16.3	5.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.6	7.6	2.6	8.1	2.1	3.8	3.3	3.4	4.5	7.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	37.9	38.2	59.8	39.1	23.5	53.8	24.1	24.4	48.0	28.2	21.4
LnGrp LOS	E	D	D	E	D	C	D	C	C	D	C	C
Approach Vol, veh/h		894			1074			601			800	
Approach Delay, s/veh		40.2			38.8			32.0			31.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	26.3	9.9	24.3	12.7	28.1	10.4	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	20.5	5.5	20.5	8.5	22.5	6.5	19.5				
Max Q Clear Time (g_c+I1), s	10.2	9.8	6.1	17.7	8.5	16.9	6.6	18.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.3	0.0	1.6	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	819	126	110	726	114	205	306	127	146	240	84
Future Volume (veh/h)	56	819	126	110	726	114	205	306	127	146	240	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	890	137	120	789	124	223	333	138	159	261	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	959	148	148	1243	554	258	734	299	193	488	414
Arrive On Green	0.04	0.31	0.31	0.17	0.70	0.70	0.15	0.30	0.30	0.11	0.26	0.26
Sat Flow, veh/h	1781	3087	475	1781	3554	1585	1781	2464	1002	1781	1870	1585
Grp Volume(v), veh/h	61	512	515	120	789	124	223	238	233	159	261	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	3.1	25.1	25.1	5.8	10.8	2.5	11.0	9.8	10.1	7.9	10.8	4.1
Cycle Q Clear(g_c), s	3.1	25.1	25.1	5.8	10.8	2.5	11.0	9.8	10.1	7.9	10.8	4.1
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	79	552	555	148	1243	554	258	529	503	193	488	414
V/C Ratio(X)	0.78	0.93	0.93	0.81	0.63	0.22	0.86	0.45	0.46	0.82	0.53	0.22
Avail Cap(c_a), veh/h	168	563	565	168	1243	554	287	529	503	232	488	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	42.6	30.0	30.0	36.9	10.4	9.2	37.6	25.6	25.7	39.3	28.6	26.1
Incr Delay (d2), s/veh	14.9	21.6	21.6	22.8	1.1	0.2	21.2	2.8	3.0	16.7	3.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.3	13.4	3.2	2.8	0.8	6.2	4.4	4.3	4.3	5.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	51.6	51.6	59.6	11.5	9.4	58.8	28.4	28.8	56.0	32.3	27.2
LnGrp LOS	E	D	D	E	B	A	E	C	C	E	C	C
Approach Vol, veh/h	1088			1033			694			511		
Approach Delay, s/veh	51.9			16.8			38.3			38.8		
Approach LOS	D			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	31.3	12.0	32.5	17.6	28.0	8.5	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.7	23.3	8.5	28.5	14.5	20.5	8.5	28.5				
Max Q Clear Time (g_c+I1), s	9.9	12.1	7.8	27.1	13.0	12.8	5.1	12.8				
Green Ext Time (p_c), s	0.1	2.1	0.0	0.8	0.1	1.1	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay	36.2											
HCM 6th LOS	D											

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Future Vol, veh/h	22	846	80	128	1098	10	0	0	94	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	920	87	139	1193	11	0	0	102	0	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	1007	0	0	-	-	460	-	-	597
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	575	-	-	684	-	-	0	0	548	0	0	446
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	684	-	-	-	-	548	-	-	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.2			13.1			13.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	548	575	-	-	684	-	-	446				
HCM Lane V/C Ratio	0.186	0.042	-	-	0.203	-	-	0.019				
HCM Control Delay (s)	13.1	11.5	-	-	11.6	-	-	13.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.8	-	-	0.1				

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	1078	59	74	964	5	0	0	127	0	0	28
Future Vol, veh/h	22	1078	59	74	964	5	0	0	127	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	1172	64	80	1048	5	0	0	138	0	0	30
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	1053	0	0	1236	0	0	-	-	586	-	-	524
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	657	-	-	559	-	-	0	0	454	0	0	498
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	657	-	-	559	-	-	-	-	454	-	-	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.2		0.9		16.4		12.7					
HCM LOS					C		B					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	454	657	-	-	559	-	-	498				
HCM Lane V/C Ratio	0.304	0.036	-	-	0.144	-	-	0.061				
HCM Control Delay (s)	16.4	10.7	-	-	12.5	-	-	12.7				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.5	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Future Volume (veh/h)	4	857	83	73	1230	11	10	3	17	11	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	932	90	79	1337	12	11	3	18	12	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1606	716	273	1631	15	255	97	339	440	269	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	404	3554	1585	552	3609	32	435	251	882	871	699	0
Grp Volume(v), veh/h	4	932	90	79	658	691	32	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	404	1777	1585	552	1777	1865	1568	0	0	1570	0	0
Q Serve(g_s), s	0.5	10.7	1.8	6.8	17.7	17.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.2	10.7	1.8	17.5	17.7	17.7	0.7	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.34		0.56	0.60		0.00
Lane Grp Cap(c), veh/h	183	1606	716	273	803	843	691	0	0	708	0	0
V/C Ratio(X)	0.02	0.58	0.13	0.29	0.82	0.82	0.05	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	203	1777	793	299	888	932	691	0	0	708	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.1	11.2	8.8	17.7	13.1	13.1	10.6	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.2	2.2	2.1	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	0.5	0.8	5.8	6.0	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	11.6	8.8	17.9	15.3	15.2	10.7	0.0	0.0	10.6	0.0	0.0
LnGrp LOS	C	B	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1026			1428			32			20	
Approach Delay, s/veh		11.4			15.4			10.7			10.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.6		29.4		25.6		29.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		2.7		20.2		2.4		19.7				
Green Ext Time (p_c), s		0.1		3.6		0.0		5.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1384	21	12	988	12	85	10	86	28	8	0
Future Volume (veh/h)	9	1384	21	12	988	12	85	10	86	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1504	23	13	1074	13	92	11	93	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1788	797	168	1809	22	307	60	252	479	131	0
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.00
Sat Flow, veh/h	519	3554	1585	349	3596	44	631	174	727	1074	376	0
Grp Volume(v), veh/h	10	1504	23	13	531	556	196	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	519	1777	1585	349	1777	1863	1531	0	0	1451	0	0
Q Serve(g_s), s	0.8	21.9	0.4	2.0	12.7	12.7	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.5	21.9	0.4	23.9	12.7	12.7	5.5	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.47		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	271	1788	797	168	894	937	619	0	0	609	0	0
V/C Ratio(X)	0.04	0.84	0.03	0.08	0.59	0.59	0.32	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	291	1925	859	182	962	1009	619	0	0	609	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.4	12.8	7.5	23.1	10.6	10.6	14.5	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	3.3	0.0	0.1	0.5	0.5	1.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.9	0.1	0.2	4.2	4.4	2.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	16.2	7.5	23.2	11.1	11.1	15.9	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1537				1100				196			
Approach Delay, s/veh	16.1				11.2				15.9			
Approach LOS	B				B				B			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			34.7			25.3			34.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	7.5			23.9			2.9			25.9		
Green Ext Time (p_c), s	0.8			6.3			0.1			3.8		
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Future Volume (veh/h)	168	643	6	9	938	119	2	1	9	141	4	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	699	7	10	1020	129	2	1	10	153	4	377
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1538	15	22	1126	502	261	118	407	186	769	651
Arrive On Green	0.12	0.43	0.43	0.01	0.32	0.32	0.26	0.26	0.26	0.10	0.41	0.41
Sat Flow, veh/h	1781	3605	36	1781	3554	1585	756	459	1585	1781	1870	1585
Grp Volume(v), veh/h	183	345	361	10	1020	129	3	0	10	153	4	377
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1215	0	1585	1781	1870	1585
Q Serve(g_s), s	9.0	12.4	12.4	0.5	24.8	5.4	0.0	0.0	0.4	7.6	0.1	16.5
Cycle Q Clear(g_c), s	9.0	12.4	12.4	0.5	24.8	5.4	0.1	0.0	0.4	7.6	0.1	16.5
Prop In Lane	1.00		0.02	1.00		1.00	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	758	795	22	1126	502	378	0	407	186	769	651
V/C Ratio(X)	0.84	0.45	0.45	0.46	0.91	0.26	0.01	0.00	0.02	0.82	0.01	0.58
Avail Cap(c_a), veh/h	247	758	795	99	1165	520	378	0	407	208	769	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.71	0.71	0.71	1.00	0.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	38.6	18.3	18.3	44.1	29.5	22.9	24.9	0.0	25.0	39.5	15.6	20.5
Incr Delay (d2), s/veh	17.1	0.3	0.3	10.2	7.5	0.2	0.0	0.0	0.1	19.5	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.8	5.0	0.3	11.0	2.0	0.1	0.0	0.2	4.2	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	18.7	18.7	54.3	37.0	23.1	24.9	0.0	25.1	58.9	15.7	23.9
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h	889				1159				13			
Approach Delay, s/veh	26.3				35.6				25.1			
Approach LOS	C				D				C			
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	27.6	5.6	42.9		41.5	15.5	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	19.5	5.0	37.0		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	9.6	2.4	2.5	14.4		18.5	11.0	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1		1.2	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	32.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1098	7	33	773	163	11	7	23	127	4	163
Future Volume (veh/h)	173	1098	7	33	773	163	11	7	23	127	4	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	1193	8	36	840	177	12	8	25	138	4	177
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1316	9	61	966	431	294	179	445	172	810	686
Arrive On Green	0.13	0.36	0.36	0.03	0.27	0.27	0.28	0.28	0.28	0.10	0.43	0.43
Sat Flow, veh/h	1781	3619	24	1781	3554	1585	792	639	1585	1781	1870	1585
Grp Volume(v), veh/h	188	586	615	36	840	177	20	0	25	138	4	177
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1431	0	1585	1781	1870	1585
Q Serve(g_s), s	8.2	25.0	25.0	1.6	18.0	7.3	0.0	0.0	0.9	6.1	0.1	5.7
Cycle Q Clear(g_c), s	8.2	25.0	25.0	1.6	18.0	7.3	0.6	0.0	0.9	6.1	0.1	5.7
Prop In Lane	1.00		0.01	1.00		1.00	0.60		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	646	679	61	966	431	473	0	445	172	810	686
V/C Ratio(X)	0.84	0.91	0.91	0.59	0.87	0.41	0.04	0.00	0.06	0.80	0.00	0.26
Avail Cap(c_a), veh/h	234	646	679	114	1026	458	473	0	445	189	810	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.85	0.85	0.85	1.00	0.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	34.1	24.2	24.2	38.1	27.8	23.9	20.9	0.0	21.0	35.4	12.9	14.5
Incr Delay (d2), s/veh	11.9	9.2	8.9	7.4	6.8	0.5	0.2	0.0	0.2	19.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.1	11.6	0.8	8.0	2.6	0.3	0.0	0.4	3.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	33.4	33.0	45.4	34.5	24.4	21.1	0.0	21.3	54.7	12.9	15.3
LnGrp LOS	D	C	C	D	C	C	C	A	C	D	B	B
Approach Vol, veh/h		1389			1053			45			319	
Approach Delay, s/veh		34.9			33.2			21.2			32.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.2	26.9	7.3	33.6		39.1	14.6	26.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	19.9	5.1	28.5		32.9	10.5	23.1				
Max Q Clear Time (g_c+I1), s	8.1	2.9	3.6	27.0		7.7	10.2	20.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.0		0.6	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				33.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Future Volume (veh/h)	164	455	132	152	780	34	180	233	71	60	287	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	495	143	165	848	37	196	253	77	65	312	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1040	464	207	1010	450	752	988	294	434	931	342
Arrive On Green	0.12	0.29	0.29	0.12	0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1860	2699	803	1050	2544	935
Grp Volume(v), veh/h	178	495	143	165	848	37	196	165	165	65	216	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	930	1777	1726	1050	1777	1702
Q Serve(g_s), s	5.8	6.9	4.2	5.4	13.5	1.0	5.1	3.9	4.0	2.8	5.3	5.4
Cycle Q Clear(g_c), s	5.8	6.9	4.2	5.4	13.5	1.0	10.6	3.9	4.0	6.8	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.55
Lane Grp Cap(c), veh/h	223	1040	464	207	1010	450	752	650	632	434	650	623
V/C Ratio(X)	0.80	0.48	0.31	0.80	0.84	0.08	0.26	0.25	0.26	0.15	0.33	0.34
Avail Cap(c_a), veh/h	282	1143	510	258	1096	489	752	650	632	434	650	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.4	16.5	25.8	20.2	15.7	17.6	13.3	13.3	15.7	13.7	13.8
Incr Delay (d2), s/veh	10.7	0.3	0.3	12.8	5.6	0.1	0.8	0.9	1.0	0.7	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	1.4	2.8	5.6	0.3	1.0	1.5	1.5	0.7	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	17.7	16.8	38.7	25.8	15.8	18.4	14.2	14.3	16.5	15.1	15.3
LnGrp LOS	D	B	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		816			1050			526			494	
Approach Delay, s/veh		21.6			27.5			15.8			15.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	11.5	22.1		26.5	12.0	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	8.7	19.3		18.5	9.5	18.5				
Max Q Clear Time (g_c+I1), s		12.6	7.4	8.9		8.8	7.8	15.5				
Green Ext Time (p_c), s		1.5	0.1	2.6		1.9	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 10: Claremont Blvd & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	161	978	168	122	624	49	182	266	136	77	198	77
Future Volume (veh/h)	161	978	168	122	624	49	182	266	136	77	198	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	1063	183	133	678	53	198	289	148	84	215	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1188	530	169	1089	486	832	794	396	357	872	330
Arrive On Green	0.12	0.33	0.33	0.09	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2096	2296	1145	952	2521	954
Grp Volume(v), veh/h	175	1063	183	133	678	53	198	222	215	84	149	150
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1048	1777	1664	952	1777	1699
Q Serve(g_s), s	5.7	17.0	5.2	4.4	9.8	1.4	4.5	5.6	5.8	4.4	3.6	3.8
Cycle Q Clear(g_c), s	5.7	17.0	5.2	4.4	9.8	1.4	8.3	5.6	5.8	10.2	3.6	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		0.56
Lane Grp Cap(c), veh/h	219	1188	530	169	1089	486	832	614	575	357	614	587
V/C Ratio(X)	0.80	0.89	0.35	0.79	0.62	0.11	0.24	0.36	0.37	0.24	0.24	0.25
Avail Cap(c_a), veh/h	267	1214	542	193	1089	486	832	614	575	357	614	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	19.0	15.0	26.6	17.8	14.9	17.1	14.7	14.7	18.6	14.0	14.1
Incr Delay (d2), s/veh	6.2	4.2	0.2	17.2	1.1	0.1	0.7	1.6	1.8	1.5	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.6	1.6	2.5	3.6	0.5	1.0	2.2	2.2	1.0	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	23.1	15.2	43.7	18.9	15.0	17.7	16.3	16.5	20.1	15.0	15.1
LnGrp LOS	C	C	B	D	B	B	B	B	B	C	B	B
Approach Vol, veh/h		1421			864			635			383	
Approach Delay, s/veh		23.2			22.5			16.8			16.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.2	10.2	24.6		25.2	11.9	22.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	9.0	18.0				
Max Q Clear Time (g_c+I1), s		10.3	6.4	19.0		12.2	7.7	11.8				
Green Ext Time (p_c), s		2.4	0.0	1.0		1.2	0.1	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Future Volume (veh/h)	34	468	86	98	770	168	141	340	85	94	282	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	493	91	103	811	177	148	358	89	99	297	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	876	391	238	987	440	266	1112	496	234	1352	212
Arrive On Green	0.04	0.25	0.25	0.07	0.28	0.28	0.08	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4451	698
Grp Volume(v), veh/h	36	493	91	103	811	177	148	358	89	99	225	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1745
Q Serve(g_s), s	1.2	7.2	2.7	1.7	12.7	5.4	2.4	4.6	2.4	1.6	2.9	3.0
Cycle Q Clear(g_c), s	1.2	7.2	2.7	1.7	12.7	5.4	2.4	4.6	2.4	1.6	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	67	876	391	238	987	440	266	1112	496	234	1034	530
V/C Ratio(X)	0.54	0.56	0.23	0.43	0.82	0.40	0.56	0.32	0.18	0.42	0.22	0.23
Avail Cap(c_a), veh/h	150	1080	481	292	1080	481	292	1112	496	292	1034	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	19.5	17.8	26.5	20.0	17.4	26.4	15.6	14.8	26.5	15.4	15.4
Incr Delay (d2), s/veh	6.5	0.6	0.3	1.2	4.8	0.6	1.9	0.8	0.8	1.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	0.9	0.7	5.1	1.8	1.0	1.7	0.9	0.6	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	20.1	18.1	27.7	24.9	18.0	28.3	16.3	15.6	27.7	15.9	16.4
LnGrp LOS	C	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h	620			1091			595			444		
Approach Delay, s/veh	20.6			24.0			19.2			18.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	23.0	8.6	19.1	9.1	22.5	6.7	21.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	6.6	3.7	9.2	4.4	5.0	3.2	14.7				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.2	0.0	1.5	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	21.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	970	169	127	584	164	153	276	125	173	420	44
Future Volume (veh/h)	89	970	169	127	584	164	153	276	125	173	420	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	1021	178	134	615	173	161	291	132	182	442	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	1007	449	246	1020	455	256	1007	449	272	1355	139
Arrive On Green	0.07	0.28	0.28	0.07	0.29	0.29	0.07	0.28	0.28	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4705	482
Grp Volume(v), veh/h	94	1021	178	134	615	173	161	291	132	182	318	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1784
Q Serve(g_s), s	3.3	18.0	5.8	2.4	9.5	5.5	2.9	4.1	4.1	3.3	4.7	4.8
Cycle Q Clear(g_c), s	3.3	18.0	5.8	2.4	9.5	5.5	2.9	4.1	4.1	3.3	4.7	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	120	1007	449	246	1020	455	256	1007	449	272	980	514
V/C Ratio(X)	0.78	1.01	0.40	0.54	0.60	0.38	0.63	0.29	0.29	0.67	0.32	0.33
Avail Cap(c_a), veh/h	140	1007	449	272	1020	455	272	1007	449	272	980	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	22.8	18.4	28.5	19.5	18.1	28.6	17.8	17.8	28.5	17.8	17.8
Incr Delay (d2), s/veh	21.2	31.9	0.6	1.9	1.0	0.5	4.2	0.7	1.7	6.2	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.0	1.9	1.0	3.6	1.9	1.2	1.5	1.5	1.5	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	54.7	18.9	30.4	20.5	18.6	32.7	18.5	19.5	34.6	18.6	19.5
LnGrp LOS	D	F	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1293			922			584			670	
Approach Delay, s/veh		49.4			21.6			22.6			23.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.0	22.5	9.2	22.8	8.8	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.3	6.1	4.4	20.0	4.9	6.8	5.3	11.5				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	2.1	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Future Volume (vph)	4	506	106	206	927	0	146	0	188	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1490	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	533	112	217	976	0	154	0	198	0	0	1
RTOR Reduction (vph)	0	0	80	0	0	0	0	81	78	0	1	0
Lane Group Flow (vph)	4	533	32	217	976	0	122	36	35	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Effective Green, g (s)	0.8	17.2	17.2	5.1	21.5		18.3	18.3	18.3		0.9	
Actuated g/C Ratio	0.01	0.29	0.29	0.09	0.36		0.31	0.31	0.31		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1023	457	294	1278		517	458	462		45	
v/s Ratio Prot	0.00	0.15		c0.06	c0.28		c0.07	0.02			c0.00	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.17	0.52	0.07	0.74	0.76		0.24	0.08	0.08		0.00	
Uniform Delay, d1	29.0	17.7	15.4	26.5	16.8		15.4	14.6	14.6		28.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.5	0.1	9.3	2.8		1.1	0.3	0.3		0.0	
Delay (s)	32.6	18.2	15.4	35.9	19.5		16.5	15.0	14.9		28.9	
Level of Service	C	B	B	D	B		B	B	B		C	
Approach Delay (s)		17.8			22.5			15.5			28.9	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			59.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			53.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1070	180	265	726	1	146	1	375	0	2	0
Future Volume (vph)	4	1070	180	265	726	1	146	1	375	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1455	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1126	189	279	764	1	154	1	395	0	2	0
RTOR Reduction (vph)	0	0	98	0	0	0	0	136	147	0	0	0
Lane Group Flow (vph)	4	1126	91	279	765	0	139	70	58	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	411	425		55	
v/s Ratio Prot	0.00	c0.32		c0.08	c0.22		c0.08	0.05			c0.00	
v/s Ratio Perm			0.06						0.04			
v/c Ratio	0.17	0.93	0.17	1.04	0.53		0.29	0.17	0.14		0.04	
Uniform Delay, d1	31.2	20.3	14.7	29.5	14.4		17.9	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	12.3	0.1	66.1	0.4		1.6	0.9	0.7		0.3	
Delay (s)	34.5	32.7	14.8	95.6	14.8		19.5	18.2	17.8		31.3	
Level of Service	C	C	B	F	B		B	B	B		C	
Approach Delay (s)		30.1			36.4			18.4			31.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			30.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			63.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Future Vol, veh/h	0	11	3	25	8	27	3	586	83	33	690	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	3	27	9	29	3	637	90	36	750	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1530	1556	751	1519	1512	682	752	0	0	727	0	0
Stage 1	823	823	-	688	688	-	-	-	-	-	-	-
Stage 2	707	733	-	831	824	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	96	113	411	97	120	450	858	-	-	876	-	-
Stage 1	368	388	-	436	447	-	-	-	-	-	-	-
Stage 2	426	426	-	364	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	108	411	85	115	450	858	-	-	876	-	-
Mov Cap-2 Maneuver	82	108	-	85	115	-	-	-	-	-	-	-
Stage 1	367	372	-	435	446	-	-	-	-	-	-	-
Stage 2	389	425	-	335	371	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	36.9		50.3		0		0.4					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	858	-	-	128	142	876	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.119	0.459	0.041	-	-				
HCM Control Delay (s)	9.2	-	-	36.9	50.3	9.3	-	-				
HCM Lane LOS	A	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	2.1	0.1	-	-				

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	10	5	81	11	50	7	619	41	25	491	1
Future Vol, veh/h	4	10	5	81	11	50	7	619	41	25	491	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	11	5	88	12	54	8	673	45	27	534	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1334	1323	535	1309	1301	696	535	0	0	718	0	0
Stage 1	589	589	-	712	712	-	-	-	-	-	-	-
Stage 2	745	734	-	597	589	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	156	545	136	161	442	1033	-	-	883	-	-
Stage 1	494	495	-	423	436	-	-	-	-	-	-	-
Stage 2	406	426	-	490	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	150	545	123	155	442	1033	-	-	883	-	-
Mov Cap-2 Maneuver	105	150	-	123	155	-	-	-	-	-	-	-
Stage 1	490	480	-	420	433	-	-	-	-	-	-	-
Stage 2	344	423	-	460	480	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	29.6		102.4		0.1		0.4					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1033	-	-	167	169	883	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.124	0.913	0.031	-	-				
HCM Control Delay (s)	8.5	-	-	29.6	102.4	9.2	-	-				
HCM Lane LOS	A	-	-	D	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	6.7	0.1	-	-				

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Future Vol, veh/h	43	102	9	55	95	20	10	202	66	24	158	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	111	10	60	103	22	11	220	72	26	172	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	10.9	12.1	11
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	28%	32%	12%
Vol Thru, %	73%	66%	56%	78%
Vol Right, %	24%	6%	12%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	154	170	202
LT Vol	10	43	55	24
Through Vol	202	102	95	158
RT Vol	66	9	20	20
Lane Flow Rate	302	167	185	220
Geometry Grp	1	1	1	1
Degree of Util (X)	0.433	0.264	0.288	0.328
Departure Headway (Hd)	5.161	5.675	5.617	5.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	631	637	667
Service Time	3.203	3.724	3.666	3.424
HCM Lane V/C Ratio	0.435	0.265	0.29	0.33
HCM Control Delay	12.1	10.8	10.9	11
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.2	1.1	1.2	1.4

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	112	6	93	143	29	16	151	84	25	206	37
Future Vol, veh/h	17	112	6	93	143	29	16	151	84	25	206	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	122	7	101	155	32	17	164	91	27	224	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	13.9	12.7	13.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	13%	35%	9%
Vol Thru, %	60%	83%	54%	77%
Vol Right, %	33%	4%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	135	265	268
LT Vol	16	17	93	25
Through Vol	151	112	143	206
RT Vol	84	6	29	37
Lane Flow Rate	273	147	288	291
Geometry Grp	1	1	1	1
Degree of Util (X)	0.421	0.248	0.464	0.456
Departure Headway (Hd)	5.555	6.08	5.799	5.638
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	644	585	616	635
Service Time	3.631	4.169	3.873	3.713
HCM Lane V/C Ratio	0.424	0.251	0.468	0.458
HCM Control Delay	12.7	11.2	13.9	13.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.1	1	2.5	2.4

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Future Vol, veh/h	2	112	12	14	232	0	14	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	122	13	15	252	0	15	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.9	7.9	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	2%	6%	33%
Vol Thru, %	0%	89%	94%	33%
Vol Right, %	36%	10%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	126	246	3
LT Vol	14	2	14	1
Through Vol	0	112	232	1
RT Vol	8	12	0	1
Lane Flow Rate	24	137	267	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.157	0.304	0.004
Departure Headway (Hd)	4.718	4.128	4.095	4.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	857	872	765
Service Time	2.718	2.206	2.147	2.704
HCM Lane V/C Ratio	0.031	0.16	0.306	0.004
HCM Control Delay	7.9	8	8.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	1.3	0

Intersection

Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	312	30	23	226	7	17	2	14	4	2	3
Future Vol, veh/h	2	312	30	23	226	7	17	2	14	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	339	33	25	246	8	18	2	15	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	9.7	8.5	8.4
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	1%	9%	44%
Vol Thru, %	6%	91%	88%	22%
Vol Right, %	42%	9%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	344	256	9
LT Vol	17	2	23	4
Through Vol	2	312	226	2
RT Vol	14	30	7	3
Lane Flow Rate	36	374	278	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.445	0.342	0.014
Departure Headway (Hd)	5.198	4.289	4.429	5.286
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	688	841	813	676
Service Time	3.237	2.306	2.448	3.328
HCM Lane V/C Ratio	0.052	0.445	0.342	0.015
HCM Control Delay	8.5	10.7	9.7	8.4
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2.3	1.5	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Future Volume (veh/h)	35	100	9	159	199	86	40	445	76	48	445	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	105	9	167	209	91	42	468	80	51	468	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	160	14	304	319	271	429	1040	177	417	1153	101
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1699	146	1781	1870	1585	1781	3038	516	1781	3307	289
Grp Volume(v), veh/h	37	0	114	167	209	91	42	273	275	51	251	258
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1777	1781	1777	1818
Q Serve(g_s), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Cycle Q Clear(g_c), s	1.0	0.0	3.1	4.5	5.5	2.7	0.8	6.3	6.3	0.9	5.6	5.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.29	1.00		0.16
Lane Grp Cap(c), veh/h	168	0	174	304	319	271	429	608	609	417	620	634
V/C Ratio(X)	0.22	0.00	0.65	0.55	0.65	0.34	0.10	0.45	0.45	0.12	0.40	0.41
Avail Cap(c_a), veh/h	610	0	631	610	640	543	521	608	609	497	620	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	23.0	19.9	20.3	19.2	10.4	13.4	13.4	10.4	13.0	13.0
Incr Delay (d2), s/veh	0.7	0.0	4.1	1.5	2.3	0.7	0.1	2.4	2.4	0.1	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.4	1.8	2.4	0.9	0.3	2.4	2.4	0.3	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	27.1	21.5	22.6	19.9	10.5	15.8	15.9	10.5	14.9	14.9
LnGrp LOS	C	A	C	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		151			467			590			560	
Approach Delay, s/veh		26.0			21.7			15.5			14.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	22.5		9.5	6.8	22.8		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	8.3		5.1	2.8	7.7		7.5				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.0		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	199	23	114	131	44	24	412	190	131	441	69
Future Volume (veh/h)	52	199	23	114	131	44	24	412	190	131	441	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	209	24	120	138	46	25	434	200	138	464	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	279	32	216	226	192	396	749	342	393	1124	176
Arrive On Green	0.17	0.17	0.17	0.12	0.12	0.12	0.03	0.32	0.32	0.08	0.37	0.37
Sat Flow, veh/h	1781	1647	189	1781	1870	1585	1781	2370	1082	1781	3079	482
Grp Volume(v), veh/h	55	0	233	120	138	46	25	324	310	138	267	270
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	1870	1585	1781	1777	1676	1781	1777	1784
Q Serve(g_s), s	1.5	0.0	6.9	3.6	4.0	1.5	0.5	8.7	8.8	2.9	6.4	6.5
Cycle Q Clear(g_c), s	1.5	0.0	6.9	3.6	4.0	1.5	0.5	8.7	8.8	2.9	6.4	6.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.65	1.00		0.27
Lane Grp Cap(c), veh/h	301	0	311	216	226	192	396	561	529	393	649	651
V/C Ratio(X)	0.18	0.00	0.75	0.56	0.61	0.24	0.06	0.58	0.59	0.35	0.41	0.41
Avail Cap(c_a), veh/h	563	0	580	563	591	501	501	561	529	410	649	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	22.5	23.6	23.8	22.7	12.5	16.3	16.4	12.0	13.5	13.5
Incr Delay (d2), s/veh	0.3	0.0	3.6	2.2	2.6	0.6	0.1	4.3	4.7	0.5	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.9	1.6	1.8	0.6	0.2	3.6	3.5	1.0	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	26.2	25.8	26.4	23.3	12.6	20.6	21.0	12.6	15.4	15.5
LnGrp LOS	C	A	C	C	C	C	B	C	C	B	B	B
Approach Vol, veh/h	288			304			659			675		
Approach Delay, s/veh	25.1			25.7			20.5			14.9		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	22.5		14.1	6.1	25.3		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.9	10.8		8.9	2.5	8.5		6.0				
Green Ext Time (p_c), s	0.0	2.1		0.9	0.0	2.1		1.0				
Intersection Summary												
HCM 6th Ctrl Delay	20.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Future Volume (veh/h)	49	168	19	62	257	73	41	431	47	32	420	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	177	20	65	271	77	43	454	49	34	442	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	608	68	105	368	312	155	1692	180	67	1602	224
Arrive On Green	0.05	0.19	0.19	0.06	0.20	0.20	0.04	0.36	0.36	0.04	0.35	0.35
Sat Flow, veh/h	1781	3223	360	1781	1870	1585	3456	4686	498	1781	4528	633
Grp Volume(v), veh/h	52	97	100	65	271	77	43	328	175	34	330	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1870	1585	1728	1702	1781	1781	1702	1756
Q Serve(g_s), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Cycle Q Clear(g_c), s	1.5	2.4	2.4	1.8	6.9	2.1	0.6	3.5	3.5	1.0	3.5	3.6
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.28	1.00		0.36
Lane Grp Cap(c), veh/h	91	335	341	105	368	312	155	1229	643	67	1204	621
V/C Ratio(X)	0.57	0.29	0.29	0.62	0.74	0.25	0.28	0.27	0.27	0.51	0.27	0.28
Avail Cap(c_a), veh/h	175	628	639	175	662	561	340	1229	643	175	1204	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	17.7	17.7	23.4	19.2	17.3	23.5	11.5	11.5	24.0	11.8	11.8
Incr Delay (d2), s/veh	5.5	0.5	0.5	5.8	2.9	0.4	1.0	0.5	1.0	5.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.9	0.8	2.8	0.7	0.2	1.1	1.3	0.5	1.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	18.2	18.2	29.2	22.1	17.7	24.5	12.0	12.6	29.9	12.3	12.9
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		249			413			546			539	
Approach Delay, s/veh		20.5			22.4			13.2			13.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	22.9	7.5	14.1	6.8	22.5	7.1	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	5.5	3.8	4.4	2.6	5.6	3.5	8.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.7	0.0	2.3	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				16.5								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	335	58	73	139	43	36	429	75	53	624	60
Future Volume (veh/h)	67	335	58	73	139	43	36	429	75	53	624	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	353	61	77	146	45	38	452	79	56	657	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	543	93	116	340	288	141	1542	263	95	1727	164
Arrive On Green	0.06	0.18	0.18	0.06	0.18	0.18	0.04	0.35	0.35	0.05	0.36	0.36
Sat Flow, veh/h	1781	3034	519	1781	1870	1585	3456	4390	750	1781	4742	451
Grp Volume(v), veh/h	71	205	209	77	146	45	38	348	183	56	470	250
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1781	1870	1585	1728	1702	1735	1781	1702	1789
Q Serve(g_s), s	2.0	5.5	5.6	2.2	3.5	1.2	0.5	3.8	3.9	1.6	5.2	5.3
Cycle Q Clear(g_c), s	2.0	5.5	5.6	2.2	3.5	1.2	0.5	3.8	3.9	1.6	5.2	5.3
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.43	1.00		0.25
Lane Grp Cap(c), veh/h	111	318	318	116	340	288	141	1196	610	95	1239	651
V/C Ratio(X)	0.64	0.65	0.66	0.67	0.43	0.16	0.27	0.29	0.30	0.59	0.38	0.38
Avail Cap(c_a), veh/h	174	624	624	174	657	557	337	1196	610	174	1239	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	19.5	19.6	23.4	18.6	17.7	23.8	12.0	12.1	23.7	12.0	12.0
Incr Delay (d2), s/veh	6.1	2.2	2.3	6.4	0.9	0.2	1.0	0.6	1.3	5.6	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	2.1	1.0	1.4	0.4	0.2	1.2	1.4	0.7	1.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	21.7	21.9	29.8	19.5	17.9	24.9	12.6	13.3	29.3	12.9	13.8
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		485			268			569			776	
Approach Delay, s/veh		22.9			22.2			13.7			14.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	22.5	7.8	13.7	6.6	23.2	7.7	13.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	5.9	4.2	7.6	2.5	7.3	4.0	5.5				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.6	0.0	3.1	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Future Volume (veh/h)	72	56	50	27	52	21	21	605	52	35	542	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	61	54	29	57	23	23	658	57	38	589	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	49	476	80	120	476	47	815	691	70	797	35
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.03	0.44	0.44	0.04	0.45	0.45
Sat Flow, veh/h	0	162	1585	0	398	1585	1781	1870	1585	1781	1778	78
Grp Volume(v), veh/h	139	0	54	86	0	23	23	658	57	38	0	615
Grp Sat Flow(s),veh/h/ln	162	0	1585	398	0	1585	1781	1870	1585	1781	0	1856
Q Serve(g_s), s	0.0	0.0	1.5	0.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Cycle Q Clear(g_c), s	18.0	0.0	1.5	18.0	0.0	0.6	0.8	18.4	1.3	1.3	0.0	16.4
Prop In Lane	0.56		1.00	0.34		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	142	0	476	200	0	476	47	815	691	70	0	832
V/C Ratio(X)	0.98	0.00	0.11	0.43	0.00	0.05	0.49	0.81	0.08	0.55	0.00	0.74
Avail Cap(c_a), veh/h	142	0	476	200	0	476	148	815	691	148	0	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	15.2	17.1	0.0	14.9	28.8	14.7	9.9	28.3	0.0	13.6
Incr Delay (d2), s/veh	67.9	0.0	0.1	1.5	0.0	0.0	7.6	8.4	0.2	6.5	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.5	0.9	0.0	0.2	0.4	8.7	0.4	0.6	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	0.0	15.3	18.5	0.0	15.0	36.4	23.1	10.1	34.8	0.0	19.5
LnGrp LOS	F	A	B	B	A	B	D	C	B	C	A	B
Approach Vol, veh/h		193			109			738			653	
Approach Delay, s/veh		70.5			17.8			22.6			20.4	
Approach LOS		E			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	31.4		22.5	6.8	30.7		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.8	18.4		20.0	3.3	20.4		20.0				
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	1.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	27	32	43	52	31	59	11	490	42	20	580	28
Future Volume (veh/h)	27	32	43	52	31	59	11	490	42	20	580	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	35	47	57	34	64	12	533	46	22	630	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	75	476	98	37	476	27	841	712	46	814	39
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.46	0.46
Sat Flow, veh/h	0	250	1585	0	124	1585	1781	1870	1585	1781	1771	84
Grp Volume(v), veh/h	64	0	47	91	0	64	12	533	46	22	0	660
Grp Sat Flow(s),veh/h/ln	250	0	1585	124	0	1585	1781	1870	1585	1781	0	1855
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	1.8	0.4	13.2	1.0	0.7	0.0	17.9
Cycle Q Clear(g_c), s	18.0	0.0	1.3	18.0	0.0	1.8	0.4	13.2	1.0	0.7	0.0	17.9
Prop In Lane	0.45		1.00	0.63		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	162	0	476	135	0	476	27	841	712	46	0	853
V/C Ratio(X)	0.39	0.00	0.10	0.68	0.00	0.13	0.45	0.63	0.06	0.48	0.00	0.77
Avail Cap(c_a), veh/h	162	0	476	135	0	476	148	841	712	148	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	15.1	22.9	0.0	15.3	29.3	12.7	9.4	28.8	0.0	13.6
Incr Delay (d2), s/veh	1.6	0.0	0.1	12.5	0.0	0.1	11.1	3.6	0.2	7.7	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	1.7	0.0	0.6	0.2	5.7	0.3	0.4	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	15.2	35.4	0.0	15.4	40.4	16.3	9.5	36.6	0.0	20.3
LnGrp LOS	B	A	B	D	A	B	D	B	A	D	A	C
Approach Vol, veh/h		111			155			591			682	
Approach Delay, s/veh		17.3			27.2			16.3			20.9	
Approach LOS		B			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	32.1		22.5	6.0	31.5		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.4	19.9		20.0	2.7	15.2		20.0				
Green Ext Time (p_c), s	0.0	1.6		0.0	0.0	2.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	41	85	131	51	105	116	487	178	37	471	89
Future Volume (veh/h)	33	41	85	131	51	105	116	487	178	37	471	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	45	92	142	55	114	126	529	193	40	512	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	332	281	317	96	200	482	1042	883	472	802	152
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.56	0.56	0.04	0.52	0.52
Sat Flow, veh/h	1216	1870	1585	1252	543	1125	1781	1870	1585	1781	1529	290
Grp Volume(v), veh/h	36	45	92	142	0	169	126	529	193	40	0	609
Grp Sat Flow(s),veh/h/ln	1216	1870	1585	1252	0	1668	1781	1870	1585	1781	0	1818
Q Serve(g_s), s	1.7	1.2	3.0	6.5	0.0	5.6	1.8	10.5	3.7	0.6	0.0	14.4
Cycle Q Clear(g_c), s	7.2	1.2	3.0	7.7	0.0	5.6	1.8	10.5	3.7	0.6	0.0	14.4
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	223	332	281	317	0	296	482	1042	883	472	0	954
V/C Ratio(X)	0.16	0.14	0.33	0.45	0.00	0.57	0.26	0.51	0.22	0.08	0.00	0.64
Avail Cap(c_a), veh/h	372	561	476	470	0	500	503	1042	883	548	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.74	0.74	0.74	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	20.8	21.5	24.0	0.0	22.6	7.3	8.2	6.7	6.4	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.2	0.7	1.0	0.0	1.7	0.2	1.3	0.4	0.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.5	1.1	1.9	0.0	2.2	0.5	3.7	1.1	0.2	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	21.0	22.2	25.0	0.0	24.3	7.5	9.5	7.1	6.5	0.0	13.5
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h	173			311			848			649		
Approach Delay, s/veh	22.7			24.6			8.7			13.0		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.9	37.9	15.1		8.9	36.0	15.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.1	23.4	18.0					
Max Q Clear Time (g_c+l1), s	2.6	12.5	9.2		3.8	16.4	9.7					
Green Ext Time (p_c), s	0.0	3.2	0.4		0.0	2.4	1.0					
Intersection Summary												
HCM 6th Ctrl Delay	13.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	49	92	125	69	93	107	503	128	38	505	67
Future Volume (veh/h)	29	49	92	125	69	93	107	503	128	38	505	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	53	100	136	75	101	116	547	139	41	549	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	333	283	310	129	173	473	1039	880	474	849	113
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.56	0.56	0.04	0.53	0.53
Sat Flow, veh/h	1209	1870	1585	1234	722	973	1781	1870	1585	1781	1617	215
Grp Volume(v), veh/h	32	53	100	136	0	176	116	547	139	41	0	622
Grp Sat Flow(s),veh/h/ln	1209	1870	1585	1234	0	1695	1781	1870	1585	1781	0	1832
Q Serve(g_s), s	1.5	1.4	3.3	6.3	0.0	5.7	1.7	11.0	2.6	0.6	0.0	14.6
Cycle Q Clear(g_c), s	7.2	1.4	3.3	7.7	0.0	5.7	1.7	11.0	2.6	0.6	0.0	14.6
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	220	333	283	310	0	302	473	1039	880	474	0	962
V/C Ratio(X)	0.15	0.16	0.35	0.44	0.00	0.58	0.25	0.53	0.16	0.09	0.00	0.65
Avail Cap(c_a), veh/h	368	561	476	461	0	509	497	1039	880	549	0	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	20.8	21.6	24.1	0.0	22.6	7.3	8.4	6.5	6.5	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.2	0.8	1.0	0.0	1.8	0.2	1.5	0.3	0.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	1.2	1.8	0.0	2.3	0.5	3.9	0.8	0.2	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	21.1	22.4	25.1	0.0	24.4	7.5	9.9	6.8	6.6	0.0	13.6
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		185			312			802			663	
Approach Delay, s/veh		22.7			24.7			9.0			13.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	37.8		15.2	8.8	36.0		15.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	13.0		9.2	3.7	16.6		9.7				
Green Ext Time (p_c), s	0.0	3.0		0.4	0.0	2.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Future Vol, veh/h	27	74	30	23	92	41	30	236	28	36	163	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	80	33	25	100	45	33	257	30	39	177	17
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10	10.1	14.4	12.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	17%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	76%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	27	74	30	23	92	41	215
LT Vol	30	27	0	0	23	0	0	36
Through Vol	236	0	74	0	0	92	0	163
RT Vol	28	0	0	30	0	0	41	16
Lane Flow Rate	320	29	80	33	25	100	45	234
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.511	0.057	0.145	0.052	0.048	0.179	0.071	0.384
Departure Headway (Hd)	5.751	7.009	6.496	5.778	6.961	6.449	5.731	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	510	551	618	514	555	623	608
Service Time	3.485	4.762	4.249	3.531	4.712	4.199	3.481	3.65
HCM Lane V/C Ratio	0.511	0.057	0.145	0.053	0.049	0.18	0.072	0.385
HCM Control Delay	14.4	10.2	10.4	8.9	10.1	10.6	8.9	12.3
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.9	0.2	0.5	0.2	0.2	0.6	0.2	1.8

Intersection												
Int Delay, s/veh	25.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	117	68	42	142	42	42	131	50	42	264	52
Future Vol, veh/h	35	117	68	42	142	42	42	131	50	42	264	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	105	-	0	0	-	90	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	127	74	46	154	46	46	142	54	46	287	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	200	0	0	201	0	0	644	495	127	584	523	154
Stage 1	-	-	-	-	-	-	203	203	-	246	246	-
Stage 2	-	-	-	-	-	-	441	292	-	338	277	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	-	1371	-	-	386	476	923	423	459	892
Stage 1	-	-	-	-	-	-	799	733	-	758	703	-
Stage 2	-	-	-	-	-	-	595	671	-	676	681	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1372	-	-	1371	-	-	161	447	923	287	431	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	447	-	287	431	-
Stage 1	-	-	-	-	-	-	777	712	-	737	679	-
Stage 2	-	-	-	-	-	-	311	648	-	495	662	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1.4			32			50.7		
HCM LOS							D			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	367	1372	-	-	1371	-	-	438				
HCM Lane V/C Ratio	0.66	0.028	-	-	0.033	-	-	0.888				
HCM Control Delay (s)	32	7.7	-	-	7.7	-	-	50.7				
HCM Lane LOS	D	A	-	-	A	-	-	F				
HCM 95th %tile Q(veh)	4.5	0.1	-	-	0.1	-	-	9.4				

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Future Volume (veh/h)	44	0	44	8	0	1	115	504	6	1	480	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	0	48	9	0	1	125	548	7	1	522	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	113	96	22	0	20	643	2638	34	689	2609	1164
Arrive On Green	0.06	0.00	0.06	0.01	0.00	0.01	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	785	3593	46	854	3554	1585
Grp Volume(v), veh/h	48	0	48	9	0	1	125	271	284	1	522	123
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	785	1777	1862	854	1777	1585
Q Serve(g_s), s	1.8	0.0	2.1	0.4	0.0	0.0	4.1	3.3	3.4	0.0	3.2	1.6
Cycle Q Clear(g_c), s	1.8	0.0	2.1	0.4	0.0	0.0	7.3	3.3	3.4	3.4	3.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	108	113	96	22	0	20	643	1304	1367	689	2609	1164
V/C Ratio(X)	0.45	0.00	0.50	0.40	0.00	0.05	0.19	0.21	0.21	0.00	0.20	0.11
Avail Cap(c_a), veh/h	458	481	408	458	0	408	643	1304	1367	689	2609	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	31.8	0.0	31.9	34.3	0.0	34.1	4.0	2.9	2.9	3.4	2.9	2.7
Incr Delay (d2), s/veh	2.9	0.0	4.0	11.1	0.0	1.0	0.7	0.4	0.3	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	0.2	0.0	0.0	0.5	0.7	0.8	0.0	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	35.9	45.4	0.0	35.2	4.7	3.3	3.3	3.5	3.1	2.9
LnGrp LOS	C	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	96			10			680			646		
Approach Delay, s/veh	35.3			44.4			3.5			3.0		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	55.9			8.7			55.9			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	9.3			4.1			5.4			2.4		
Green Ext Time (p_c), s	3.0			0.2			3.2			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	5.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	3	116	4	0	1	67	450	7	2	453	109
Future Volume (veh/h)	148	3	116	4	0	1	67	450	7	2	453	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	3	126	4	0	1	73	489	8	2	492	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	197	12	0	10	609	2419	40	666	2403	1072
Arrive On Green	0.12	0.12	0.12	0.01	0.00	0.01	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	811	3578	58	901	3554	1585
Grp Volume(v), veh/h	161	3	126	4	0	1	73	243	254	2	492	118
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	811	1777	1860	901	1777	1585
Q Serve(g_s), s	6.1	0.1	5.3	0.2	0.0	0.0	2.6	3.6	3.6	0.1	3.6	1.8
Cycle Q Clear(g_c), s	6.1	0.1	5.3	0.2	0.0	0.0	6.2	3.6	3.6	3.7	3.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	222	233	197	12	0	10	609	1201	1257	666	2403	1072
V/C Ratio(X)	0.73	0.01	0.64	0.34	0.00	0.10	0.12	0.20	0.20	0.00	0.20	0.11
Avail Cap(c_a), veh/h	471	494	419	458	0	408	609	1201	1257	666	2403	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	29.5	26.9	29.1	34.6	0.0	34.6	5.4	4.3	4.3	4.9	4.3	4.0
Incr Delay (d2), s/veh	4.5	0.0	3.4	16.1	0.0	3.9	0.4	0.4	0.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.1	0.1	0.0	0.0	0.4	0.9	1.0	0.0	0.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	26.9	32.6	50.7	0.0	38.4	5.8	4.6	4.6	4.9	4.4	4.2
LnGrp LOS	C	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	290			5			570			612		
Approach Delay, s/veh	33.3			48.2			4.8			4.4		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	51.8			13.2			51.8			5.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	8.2			8.1			5.7			2.2		
Green Ext Time (p_c), s	2.5			0.7			3.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	10.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Future Volume (veh/h)	84	407	149	175	735	93	152	626	175	72	513	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	442	162	190	799	101	165	680	190	78	558	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	723	323	229	948	423	203	1320	589	100	1038	91
Arrive On Green	0.07	0.20	0.20	0.13	0.27	0.27	0.11	0.37	0.37	0.06	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3305	290
Grp Volume(v), veh/h	91	442	162	190	799	101	165	680	190	78	299	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1818
Q Serve(g_s), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Cycle Q Clear(g_c), s	3.8	8.5	6.8	7.8	16.0	3.7	6.8	11.2	6.4	3.2	10.4	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	117	723	323	229	948	423	203	1320	589	100	558	571
V/C Ratio(X)	0.78	0.61	0.50	0.83	0.84	0.24	0.81	0.52	0.32	0.78	0.54	0.54
Avail Cap(c_a), veh/h	157	853	380	249	1038	463	226	1320	589	143	558	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	34.5	27.2	26.5	31.9	26.0	21.5	32.5	18.3	16.8	34.9	21.2	21.2
Incr Delay (d2), s/veh	16.0	1.0	1.2	13.0	4.0	0.2	18.4	1.4	1.4	12.7	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.6	2.6	4.1	6.9	1.4	3.9	4.6	2.4	1.7	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	28.1	27.7	44.9	30.0	21.7	50.9	19.8	18.3	47.6	24.1	24.1
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h	695			1090			1035			685		
Approach Delay, s/veh	31.0			31.8			24.5			26.8		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	32.4	14.2	19.8	13.0	28.0	9.4	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.0	22.5	10.5	18.0	9.5	19.0	6.6	21.9				
Max Q Clear Time (g_c+I1), s	5.2	13.2	9.8	10.5	8.8	12.5	5.8	18.0				
Green Ext Time (p_c), s	0.0	3.6	0.0	2.1	0.0	2.0	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	28.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	903	167	218	524	58	149	517	184	130	595	59
Future Volume (veh/h)	103	903	167	218	524	58	149	517	184	130	595	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	982	182	237	570	63	162	562	200	141	647	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1031	460	261	1265	564	189	871	388	167	759	75
Arrive On Green	0.08	0.29	0.29	0.15	0.36	0.36	0.11	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3266	323
Grp Volume(v), veh/h	112	982	182	237	570	63	162	562	200	141	352	359
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1812
Q Serve(g_s), s	4.9	21.7	7.4	10.5	9.8	2.1	7.2	11.3	8.7	6.2	15.1	15.2
Cycle Q Clear(g_c), s	4.9	21.7	7.4	10.5	9.8	2.1	7.2	11.3	8.7	6.2	15.1	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	143	1031	460	261	1265	564	189	871	388	167	413	421
V/C Ratio(X)	0.78	0.95	0.40	0.91	0.45	0.11	0.86	0.65	0.52	0.84	0.85	0.85
Avail Cap(c_a), veh/h	236	1031	460	261	1265	564	189	871	388	167	413	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	36.1	27.9	22.8	33.6	19.8	17.3	35.1	27.1	26.1	35.7	29.4	29.4
Incr Delay (d2), s/veh	8.9	17.8	0.6	29.9	0.2	0.1	29.9	3.7	4.8	25.1	15.6	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.3	2.7	6.6	3.9	0.8	4.6	5.1	3.7	3.8	8.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	45.7	23.3	63.6	20.0	17.4	65.1	30.8	30.9	60.7	44.9	44.9
LnGrp LOS	D	D	C	E	B	B	E	C	C	E	D	D
Approach Vol, veh/h	1276			870			924			852		
Approach Delay, s/veh	42.4			31.7			36.8			47.5		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	24.1	16.2	27.7	13.0	23.1	10.9	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	19.6	11.7	23.2	8.5	18.6	10.6	24.3				
Max Q Clear Time (g_c+I1), s	8.2	13.3	12.5	23.7	9.2	17.2	6.9	11.8				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	0.6	0.1	3.3				
Intersection Summary												
HCM 6th Ctrl Delay	39.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Future Volume (veh/h)	56	536	34	40	898	75	39	136	16	69	99	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	583	37	43	976	82	42	148	17	75	108	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	1411	89	381	1379	116	177	557	58	680	756	641
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	533	3393	215	804	3318	279	223	1377	143	1221	1870	1585
Grp Volume(v), veh/h	61	305	315	43	523	535	207	0	0	75	108	74
Grp Sat Flow(s),veh/h/ln	533	1777	1832	804	1777	1820	1743	0	0	1221	1870	1585
Q Serve(g_s), s	5.3	6.1	6.1	2.0	12.2	12.2	0.0	0.0	0.0	0.0	1.8	1.5
Cycle Q Clear(g_c), s	17.5	6.1	6.1	8.1	12.2	12.2	3.8	0.0	0.0	1.3	1.8	1.5
Prop In Lane	1.00		0.12	1.00		0.15	0.20		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	236	739	761	381	739	757	791	0	0	680	756	641
V/C Ratio(X)	0.26	0.41	0.41	0.11	0.71	0.71	0.26	0.00	0.00	0.11	0.14	0.12
Avail Cap(c_a), veh/h	254	800	824	408	800	819	791	0	0	680	756	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.61	0.61	0.61	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	10.3	10.3	13.2	12.1	12.1	10.0	0.0	0.0	9.3	9.4	9.3
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.1	1.6	1.6	0.8	0.0	0.0	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	2.1	0.3	4.2	4.3	1.4	0.0	0.0	0.5	0.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	10.6	10.6	13.2	13.7	13.7	10.8	0.0	0.0	9.6	9.8	9.7
LnGrp LOS	B	B	B	B	B	B	B	A	A	A	A	A
Approach Vol, veh/h	681			1101			207			257		
Approach Delay, s/veh	11.4			13.7			10.8			9.7		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.7			25.3			24.7			25.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	5.8			19.5			3.8			14.2		
Green Ext Time (p_c), s	0.9			1.3			0.9			4.4		
Intersection Summary												
HCM 6th Ctrl Delay	12.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

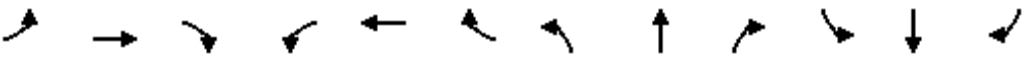
23: College Ave & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1036	31	24	651	47	33	54	49	119	132	115
Future Volume (veh/h)	69	1036	31	24	651	47	33	54	49	119	132	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1126	34	26	708	51	36	59	53	129	143	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	1430	43	205	1365	98	203	319	241	701	774	656
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	706	3522	106	484	3362	242	275	770	583	1281	1870	1585
Grp Volume(v), veh/h	75	568	592	26	374	385	148	0	0	129	143	125
Grp Sat Flow(s),veh/h/ln	706	1777	1851	484	1777	1827	1628	0	0	1281	1870	1585
Q Serve(g_s), s	4.5	14.0	14.0	2.5	7.9	7.9	0.0	0.0	0.0	0.0	2.4	2.5
Cycle Q Clear(g_c), s	12.4	14.0	14.0	16.4	7.9	7.9	2.7	0.0	0.0	2.3	2.4	2.5
Prop In Lane	1.00		0.06	1.00		0.13	0.24		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	319	721	751	205	721	742	763	0	0	701	774	656
V/C Ratio(X)	0.24	0.79	0.79	0.13	0.52	0.52	0.19	0.00	0.00	0.18	0.18	0.19
Avail Cap(c_a), veh/h	350	800	833	227	800	822	763	0	0	701	774	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.39	0.84	0.84	0.84	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	13.0	13.0	20.1	11.2	11.2	9.4	0.0	0.0	9.3	9.3	9.3
Incr Delay (d2), s/veh	0.1	1.9	1.9	0.2	0.5	0.5	0.6	0.0	0.0	0.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.9	5.1	0.3	2.6	2.7	1.0	0.0	0.0	0.8	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	14.9	14.8	20.4	11.7	11.7	9.9	0.0	0.0	9.8	9.8	10.0
LnGrp LOS	B	B	B	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1235				785				148			
Approach Delay, s/veh	14.9				11.9				9.9			
Approach LOS	B				B				A			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.2			24.8			25.2			24.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.7			16.0			4.5			18.4		
Green Ext Time (p_c), s	0.6			4.1			1.4			1.9		
Intersection Summary												
HCM 6th Ctrl Delay	12.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Future Volume (veh/h)	157	399	36	38	667	88	96	366	51	55	230	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	434	39	41	725	96	104	398	55	60	250	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1109	99	70	812	107	133	999	137	88	548	464
Arrive On Green	0.12	0.34	0.34	0.04	0.26	0.26	0.07	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1781	3299	295	1781	3155	417	1781	3139	431	1781	1870	1585
Grp Volume(v), veh/h	171	233	240	41	408	413	104	224	229	60	250	245
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1777	1795	1781	1777	1793	1781	1870	1585
Q Serve(g_s), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Cycle Q Clear(g_c), s	6.6	7.0	7.1	1.6	15.5	15.5	4.0	6.9	7.0	2.3	7.6	9.0
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	210	597	611	70	457	462	133	566	571	88	548	464
V/C Ratio(X)	0.81	0.39	0.39	0.59	0.89	0.89	0.78	0.40	0.40	0.68	0.46	0.53
Avail Cap(c_a), veh/h	216	597	611	150	470	474	140	566	571	127	548	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	17.8	17.8	33.1	25.1	25.1	31.8	18.6	18.6	32.7	20.2	20.7
Incr Delay (d2), s/veh	19.1	0.4	0.4	7.6	18.7	18.7	23.5	2.1	2.1	9.1	2.7	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.6	2.7	0.8	8.3	8.3	2.5	2.9	3.0	1.2	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	18.1	18.2	40.6	43.8	43.7	55.4	20.7	20.7	41.8	22.9	24.9
LnGrp LOS	D	B	B	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		644			862			557			555	
Approach Delay, s/veh		26.4			43.6			27.2			25.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	26.8	7.2	28.0	9.7	25.0	12.7	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	20.0	5.9	21.1	5.5	19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s	4.3	9.0	3.6	9.1	6.0	11.0	8.6	17.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	2.0	0.0	1.6	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	952	54	72	460	53	78	297	64	88	323	206
Future Volume (veh/h)	177	952	54	72	460	53	78	297	64	88	323	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	1035	59	78	500	58	85	323	70	96	351	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1133	65	100	825	95	109	884	189	123	582	493
Arrive On Green	0.13	0.33	0.33	0.06	0.26	0.26	0.06	0.30	0.30	0.07	0.31	0.31
Sat Flow, veh/h	1781	3417	195	1781	3209	371	1781	2912	623	1781	1870	1585
Grp Volume(v), veh/h	192	538	556	78	276	282	85	195	198	96	351	224
Grp Sat Flow(s),veh/h/ln	1781	1777	1835	1781	1777	1804	1781	1777	1758	1781	1870	1585
Q Serve(g_s), s	7.9	21.8	21.8	3.2	10.2	10.3	3.5	6.5	6.6	4.0	11.9	8.5
Cycle Q Clear(g_c), s	7.9	21.8	21.8	3.2	10.2	10.3	3.5	6.5	6.6	4.0	11.9	8.5
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	232	589	608	100	457	464	109	539	533	123	582	493
V/C Ratio(X)	0.83	0.91	0.91	0.78	0.60	0.61	0.78	0.36	0.37	0.78	0.60	0.45
Avail Cap(c_a), veh/h	278	604	624	131	457	464	147	539	533	154	582	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	24.0	24.0	34.9	24.5	24.5	34.7	20.4	20.5	34.4	21.9	20.7
Incr Delay (d2), s/veh	10.7	12.9	12.6	19.6	2.2	2.3	16.8	1.9	2.0	18.0	4.6	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.1	10.4	1.9	4.3	4.4	2.0	2.8	2.8	2.3	5.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	36.9	36.6	54.5	26.8	26.8	51.5	22.3	22.5	52.3	26.5	23.7
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1286			636			478			671	
Approach Delay, s/veh		37.6			30.2			27.6			29.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	27.3	8.7	29.4	9.1	27.8	14.3	23.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	19.5	5.5	25.5	6.2	19.8	11.7	19.3				
Max Q Clear Time (g_c+I1), s	6.0	8.6	5.2	23.8	5.5	13.9	9.9	12.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.1	0.0	1.6	0.1	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			32.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	0	127	0	0	0	53	432	0	0	419	27
Future Volume (veh/h)	33	0	127	0	0	0	53	432	0	0	419	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	0	138	0	0	0	58	470	0	0	455	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	0	185	2	2	0	81	2739	1222	2	2378	1061
Arrive On Green	0.06	0.00	0.12	0.00	0.00	0.00	0.05	0.77	0.00	0.00	0.67	0.67
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	0	138	0	0	0	58	470	0	0	455	29
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.5	0.0	6.7	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.9	0.5
Cycle Q Clear(g_c), s	1.5	0.0	6.7	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.9	0.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	0	185	2	2	0	81	2739	1222	2	2378	1061
V/C Ratio(X)	0.33	0.00	0.75	0.00	0.00	0.00	0.72	0.17	0.00	0.00	0.19	0.03
Avail Cap(c_a), veh/h	401	0	614	111	421	0	154	2739	1222	111	2378	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh	36.0	0.0	34.2	0.0	0.0	0.0	37.7	2.4	0.0	0.0	5.0	4.5
Incr Delay (d2), s/veh	1.7	0.0	5.9	0.0	0.0	0.0	11.3	0.1	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.9	0.0	0.0	0.0	1.3	0.5	0.0	0.0	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	40.0	0.0	0.0	0.0	49.0	2.6	0.0	0.0	5.2	4.5
LnGrp LOS	D	A	D	A	A	A	D	A	A	A	A	A
Approach Vol, veh/h		174			0			528			484	
Approach Delay, s/veh		39.6			0.0			7.7			5.1	
Approach LOS		D						A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	66.2	0.0	13.8	8.1	58.0	9.4	4.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	5.0	31.0	6.9	19.1	18.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	4.8	0.0	8.7	4.6	5.9	3.5	0.0				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.8	0.0	2.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			11.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1	128	75	12	50	61	537	3	5	451	32
Future Volume (veh/h)	50	1	128	75	12	50	61	537	3	5	451	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	1	139	82	13	54	66	584	3	5	490	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1	188	106	37	153	86	2096	935	12	1949	869
Arrive On Green	0.06	0.12	0.12	0.06	0.12	0.12	0.05	0.59	0.59	0.01	0.55	0.55
Sat Flow, veh/h	1781	11	1575	1781	317	1316	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	54	0	140	82	0	67	66	584	3	5	490	35
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1633	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	0.0	6.8	3.6	0.0	3.0	2.9	6.5	0.1	0.2	5.8	0.8
Cycle Q Clear(g_c), s	2.3	0.0	6.8	3.6	0.0	3.0	2.9	6.5	0.1	0.2	5.8	0.8
Prop In Lane	1.00		0.99	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	189	106	0	190	86	2096	935	12	1949	869
V/C Ratio(X)	0.49	0.00	0.74	0.77	0.00	0.35	0.77	0.28	0.00	0.43	0.25	0.04
Avail Cap(c_a), veh/h	401	0	530	207	0	368	160	2096	935	111	1949	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	36.3	0.0	34.0	37.1	0.0	32.6	37.6	8.1	6.7	39.6	9.5	8.3
Incr Delay (d2), s/veh	3.3	0.0	5.6	11.3	0.0	1.1	13.5	0.3	0.0	21.7	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.9	1.9	0.0	1.2	1.5	2.1	0.0	0.2	2.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	39.7	48.4	0.0	33.7	51.1	8.4	6.7	61.3	9.8	8.4
LnGrp LOS	D	A	D	D	A	C	D	A	A	E	A	A
Approach Vol, veh/h	194			149			653			530		
Approach Delay, s/veh	39.6			41.8			12.7			10.2		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	51.7	9.3	14.0	8.3	48.4	9.5	13.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	9.3	26.7	7.2	18.8	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.2	8.5	5.6	8.8	4.9	7.8	4.3	5.0				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.7	0.0	2.4	0.1	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	18.1											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	40	0	0	61	0	0
Future Vol, veh/h	40	0	0	61	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	0	0	66	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	22
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1050
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	77	0	2	62	0	37
Future Vol, veh/h	77	0	2	62	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	0	2	67	0	40
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	-	42
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1511	-	0	1019
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1511	-	-	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		8.7	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1019	-	-	1511	-	
HCM Lane V/C Ratio	0.039	-	-	0.001	-	
HCM Control Delay (s)	8.7	-	-	7.4	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/25/2024

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	16	0	0	15
Future Vol, veh/h	0	0	16	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	17	0	0	16

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	9	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1070	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1070	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/25/2024

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	37	21	0	0	97
Future Vol, veh/h	0	37	21	0	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	23	0	0	105
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	12	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1065	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 1065		-		
HCM Lane V/C Ratio	-	- 0.038		-		
HCM Control Delay (s)	-	- 8.5		-		
HCM Lane LOS	-	- A		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/25/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	18	13	0
Future Vol, veh/h	0	0	0	18	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	19	14	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	7	14	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	909	1137	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	909	1137	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1137	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/25/2024

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	37	1	18	24	1
Future Vol, veh/h	0	37	1	18	24	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	1	19	25	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	13	26	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	5.34	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	0	901	1123	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	901	1123	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	0.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1123	-	901	-	-	
HCM Lane V/C Ratio	0.001	-	0.043	-	-	
HCM Control Delay (s)	8.2	-	9.2	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Future Volume (veh/h)	0	0	0	70	0	76	0	464	54	58	536	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	74	0	80	0	488	57	61	564	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	127	198	168	5	1524	177	216	3456	6
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.11	0.00	0.48	0.48	0.06	0.66	0.66
Sat Flow, veh/h	0	-59738	0	1781	1870	1585	1781	3207	373	3456	5263	9
Grp Volume(v), veh/h	0	0	0	74	0	80	0	270	275	61	365	200
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1803	1728	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	1.8	0.0	3.6	3.6	0.6	1.6	1.6
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.21	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	127	198	168	5	844	857	216	2235	1227
V/C Ratio(X)	0.00	0.00	0.00	0.58	0.00	0.48	0.00	0.32	0.32	0.28	0.16	0.16
Avail Cap(c_a), veh/h	0	889	0	235	889	753	235	844	857	456	2235	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	15.9	0.0	6.1	6.2	16.9	2.5	2.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	2.1	0.0	1.0	1.0	0.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.6	0.0	1.1	1.1	0.2	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.2	0.0	18.0	0.0	7.1	7.1	17.7	2.7	2.8
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h	0			154			545			626		
Approach Delay, s/veh	0.0			19.6			7.1			4.2		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.9	22.5	7.2	1.3	0.0	29.4	8.5					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.6	5.6	3.5	0.0	0.0	3.6	3.8					
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.0	3.1	0.2					
Intersection Summary												
HCM 6th Ctrl Delay				7.2								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	89	0	74	1	592	75	35	722	0
Future Volume (veh/h)	0	0	0	89	0	74	1	592	75	35	722	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	94	0	78	1	623	79	37	760	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	149	209	177	5	1533	194	148	2679	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.48	0.48	0.04	0.52	0.00
Sat Flow, veh/h	0	-64583	0	1781	1870	1585	1781	3173	402	3456	5274	0
Grp Volume(v), veh/h	0	0	0	94	0	78	1	348	354	37	760	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1798	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	3.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.9	0.0	1.7	0.0	4.7	4.7	0.4	3.1	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	149	209	177	5	859	869	148	2679	0
V/C Ratio(X)	0.00	0.00	0.00	0.63	0.00	0.44	0.21	0.41	0.41	0.25	0.28	0.00
Avail Cap(c_a), veh/h	0	904	0	239	904	766	239	859	869	464	2679	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	15.5	18.6	6.2	6.2	17.3	4.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.4	0.0	1.7	20.3	1.4	1.4	0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.6	0.0	1.4	1.4	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.9	0.0	17.2	38.9	7.6	7.6	18.1	5.2	0.0
LnGrp LOS	A	A	A	C	A	B	D	A	A	B	A	A
Approach Vol, veh/h	0			172			703			797		
Approach Delay, s/veh	0.0			19.2			7.7			5.8		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	6.1	22.5	7.6	1.0	4.6	24.0	8.7					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.4	6.7	3.9	0.0	2.0	5.1	3.7					
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	4.3	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	432	78	223	508	57	101	44	224	90	76	67
Future Volume (veh/h)	43	432	78	223	508	57	101	44	224	90	76	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	470	85	242	552	62	110	48	243	98	83	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	687	306	290	1104	493	599	745	664	461	788	627
Arrive On Green	0.05	0.19	0.19	0.16	0.31	0.31	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1231	1777	1585	1088	1882	1496
Grp Volume(v), veh/h	47	470	85	242	552	62	110	48	243	98	78	78
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1231	1777	1585	1088	1777	1601
Q Serve(g_s), s	1.6	7.4	2.7	7.9	7.6	1.7	3.6	1.0	6.3	4.1	1.6	1.8
Cycle Q Clear(g_c), s	1.6	7.4	2.7	7.9	7.6	1.7	5.4	1.0	6.3	10.4	1.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	81	687	306	290	1104	493	599	745	664	461	745	671
V/C Ratio(X)	0.58	0.68	0.28	0.83	0.50	0.13	0.18	0.06	0.37	0.21	0.10	0.12
Avail Cap(c_a), veh/h	172	1066	476	312	1344	600	599	745	664	461	745	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	22.5	20.6	24.3	16.9	14.8	12.3	10.4	12.0	15.5	10.6	10.6
Incr Delay (d2), s/veh	6.5	1.2	0.5	15.5	0.3	0.1	0.6	0.2	1.4	1.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.0	1.0	4.3	2.9	0.6	1.0	0.4	2.2	1.1	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.7	21.1	39.8	17.2	14.9	12.9	10.6	13.4	16.6	10.9	11.0
LnGrp LOS	C	C	C	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		602			856			401			254	
Approach Delay, s/veh		24.2			23.4			12.9			13.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.6	14.3	16.1		29.6	7.2	23.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	5.8	22.7				
Max Q Clear Time (g_c+I1), s		8.3	9.9	9.4		12.4	3.6	9.6				
Green Ext Time (p_c), s		1.6	0.0	2.2		0.6	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	444	82	236	483	72	102	54	171	59	61	57
Future Volume (veh/h)	36	444	82	236	483	72	102	54	171	59	61	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	483	89	257	525	78	111	59	186	64	66	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	701	312	304	1166	520	602	723	645	492	746	625
Arrive On Green	0.04	0.20	0.20	0.17	0.33	0.33	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1262	1777	1585	1135	1834	1537
Grp Volume(v), veh/h	39	483	89	257	525	78	111	59	186	64	64	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1262	1777	1585	1135	1777	1594
Q Serve(g_s), s	1.3	7.6	2.9	8.4	7.0	2.1	3.6	1.2	4.7	2.4	1.3	1.5
Cycle Q Clear(g_c), s	1.3	7.6	2.9	8.4	7.0	2.1	5.1	1.2	4.7	7.1	1.3	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	71	701	312	304	1166	520	602	723	645	492	723	649
V/C Ratio(X)	0.55	0.69	0.28	0.84	0.45	0.15	0.18	0.08	0.29	0.13	0.09	0.10
Avail Cap(c_a), veh/h	166	1066	476	312	1356	605	602	723	645	492	723	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	22.4	20.5	24.1	15.9	14.2	12.6	10.9	12.0	14.4	10.9	11.0
Incr Delay (d2), s/veh	6.5	1.2	0.5	17.3	0.3	0.1	0.6	0.2	1.1	0.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	1.0	4.7	2.6	0.7	1.0	0.5	1.7	0.6	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	23.6	21.0	41.4	16.1	14.4	13.2	11.1	13.0	14.9	11.2	11.3
LnGrp LOS	C	C	C	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		611			860			356			192	
Approach Delay, s/veh		23.9			23.5			12.8			12.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.9	14.8	16.3		28.9	6.9	24.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	5.6	22.9				
Max Q Clear Time (g_c+I1), s		7.1	10.4	9.6		9.1	3.3	9.0				
Green Ext Time (p_c), s		1.4	0.0	2.3		0.6	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	532	123	87	511	96	111	93	73	108	85	143
Future Volume (veh/h)	75	532	123	87	511	96	111	93	73	108	85	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	578	134	95	555	104	121	101	79	117	92	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	830	370	124	847	378	682	844	715	674	844	715
Arrive On Green	0.06	0.23	0.23	0.07	0.24	0.24	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1304	1870	1585	1294	1870	1585
Grp Volume(v), veh/h	82	578	134	95	555	104	121	101	79	117	92	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1304	1870	1585	1294	1870	1585
Q Serve(g_s), s	2.5	8.2	3.9	2.9	7.8	2.9	3.2	1.7	1.6	3.2	1.6	3.3
Cycle Q Clear(g_c), s	2.5	8.2	3.9	2.9	7.8	2.9	4.8	1.7	1.6	4.9	1.6	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	830	370	124	847	378	682	844	715	674	844	715
V/C Ratio(X)	0.71	0.70	0.36	0.77	0.66	0.28	0.18	0.12	0.11	0.17	0.11	0.22
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	682	844	715	674	844	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.84	0.84	0.84	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	19.3	17.6	25.1	18.9	17.1	10.1	8.8	8.7	10.2	8.7	9.2
Incr Delay (d2), s/veh	6.8	0.9	0.5	9.8	0.7	0.3	0.3	0.1	0.2	0.6	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.1	1.3	1.5	3.0	1.0	0.8	0.6	0.5	0.9	0.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	20.2	18.1	34.9	19.6	17.4	10.4	8.9	8.9	10.7	9.0	9.9
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	794			754			301			364		
Approach Delay, s/veh	21.1			21.3			9.5			9.9		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	29.3		8.3	17.4		29.3		8.1	17.6			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.0		5.5	18.0		18.0		5.0	18.5			
Max Q Clear Time (g_c+I1), s	6.8		4.9	10.2		6.9		4.5	9.8			
Green Ext Time (p_c), s	0.9		0.0	2.7		1.1		0.0	2.7			
Intersection Summary												
HCM 6th Ctrl Delay	17.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	552	64	84	432	79	180	87	71	99	119	134
Future Volume (veh/h)	65	552	64	84	432	79	180	87	71	99	119	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	600	70	91	470	86	196	95	77	108	129	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	843	376	122	872	389	646	840	712	677	840	712
Arrive On Green	0.06	0.24	0.24	0.07	0.25	0.25	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1261	1870	1585	1301	1870	1585
Grp Volume(v), veh/h	71	600	70	91	470	86	196	95	77	108	129	146
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1261	1870	1585	1301	1870	1585
Q Serve(g_s), s	2.1	8.5	1.9	2.8	6.3	2.4	6.0	1.6	1.5	2.9	2.2	3.1
Cycle Q Clear(g_c), s	2.1	8.5	1.9	2.8	6.3	2.4	8.2	1.6	1.5	4.5	2.2	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	843	376	122	872	389	646	840	712	677	840	712
V/C Ratio(X)	0.66	0.71	0.19	0.75	0.54	0.22	0.30	0.11	0.11	0.16	0.15	0.21
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	646	840	712	677	840	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.86	0.86	0.86	0.69	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	19.2	16.7	25.2	18.0	16.6	11.4	8.8	8.8	10.1	9.0	9.2
Incr Delay (d2), s/veh	5.7	1.0	0.2	8.2	0.4	0.2	0.8	0.2	0.2	0.5	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.3	0.7	1.4	2.4	0.8	1.6	0.6	0.5	0.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	20.3	16.9	33.4	18.5	16.8	12.2	9.0	9.0	10.6	9.4	9.8
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	741			647			368			383		
Approach Delay, s/veh	21.0			20.4			10.7			9.9		
Approach LOS	C			C			B			A		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	29.2		8.3	17.6		29.2	7.8	18.0				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.0		5.5	18.0		18.0	5.0	18.5				
Max Q Clear Time (g_c+I1), s	10.2		4.8	10.5		6.5	4.1	8.3				
Green Ext Time (p_c), s	0.9		0.0	2.5		1.2	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay	17.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	547	154	537	524	137	137	113	479	149	113	52
Future Volume (veh/h)	35	547	154	537	524	137	137	113	479	149	113	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	595	167	584	570	149	149	123	521	162	123	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	737	329	662	1288	575	521	548	464	408	703	310
Arrive On Green	0.04	0.21	0.21	0.19	0.36	0.36	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2400	1057
Grp Volume(v), veh/h	38	595	167	584	570	149	149	123	521	162	89	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1680
Q Serve(g_s), s	1.6	12.0	7.0	12.3	9.1	5.0	4.4	3.7	22.0	4.8	2.8	3.0
Cycle Q Clear(g_c), s	1.6	12.0	7.0	12.3	9.1	5.0	4.4	3.7	22.0	4.8	2.8	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	65	737	329	662	1288	575	521	548	464	408	521	492
V/C Ratio(X)	0.59	0.81	0.51	0.88	0.44	0.26	0.29	0.22	1.12	0.40	0.17	0.18
Avail Cap(c_a), veh/h	140	853	380	668	1288	575	521	548	464	408	521	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	28.3	26.3	29.5	18.1	16.8	16.8	20.1	26.5	17.0	19.7	19.8
Incr Delay (d2), s/veh	7.1	4.5	1.1	13.0	0.2	0.2	0.3	0.9	78.1	0.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.1	2.5	5.9	3.3	1.6	1.7	1.6	17.4	1.8	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	32.8	27.4	42.5	18.4	17.1	17.1	20.9	104.6	17.6	20.5	20.6
LnGrp LOS	D	C	C	D	B	B	B	C	F	B	C	C
Approach Vol, veh/h		800			1303			793			342	
Approach Delay, s/veh		32.1			29.1			75.2			19.1	
Approach LOS		C			C			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	26.5	18.9	20.0	9.6	26.5	7.2	31.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	19.4	14.5	18.0	5.1	19.4	5.9	26.6				
Max Q Clear Time (g_c+I1), s	6.8	24.0	14.3	14.0	6.4	5.0	3.6	11.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	0.7	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay				40.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	607	123	400	510	122	102	134	546	138	81	27
Future Volume (veh/h)	33	607	123	400	510	122	102	134	546	138	81	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	660	134	435	554	133	111	146	593	150	88	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	785	350	518	1192	532	593	601	509	407	872	275
Arrive On Green	0.04	0.22	0.22	0.15	0.34	0.34	0.06	0.32	0.32	0.07	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2657	839
Grp Volume(v), veh/h	36	660	134	435	554	133	111	146	593	150	58	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1719
Q Serve(g_s), s	1.5	13.3	5.4	9.2	9.2	4.6	3.1	4.3	24.1	4.2	1.7	1.8
Cycle Q Clear(g_c), s	1.5	13.3	5.4	9.2	9.2	4.6	3.1	4.3	24.1	4.2	1.7	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	63	785	350	518	1192	532	593	601	509	407	583	564
V/C Ratio(X)	0.57	0.84	0.38	0.84	0.46	0.25	0.19	0.24	1.16	0.37	0.10	0.11
Avail Cap(c_a), veh/h	138	858	383	530	1192	532	610	601	509	407	583	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	28.0	24.9	31.0	19.6	18.1	15.3	18.7	25.5	15.4	17.5	17.5
Incr Delay (d2), s/veh	6.9	6.1	0.6	11.3	0.3	0.2	0.1	0.9	92.6	0.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.8	1.9	4.3	3.4	1.5	1.1	1.9	21.0	1.6	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	34.0	25.5	42.3	19.9	18.3	15.4	19.6	118.0	16.0	17.8	17.9
LnGrp LOS	D	C	C	D	B	B	B	B	F	B	B	B
Approach Vol, veh/h	830			1122			850			267		
Approach Delay, s/veh	33.0			28.4			87.7			16.8		
Approach LOS	C			C			F			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	28.6	15.7	21.1	9.1	29.1	7.1	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	22.3	11.5	18.1	5.3	22.1	5.8	23.8				
Max Q Clear Time (g_c+I1), s	6.2	26.1	11.2	15.3	5.1	3.8	3.5	11.2				
Green Ext Time (p_c), s	0.0	0.0	0.1	1.2	0.0	0.5	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay	45.1											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	600	454	63	504	337	193	0	580	90	0	493
Future Volume (veh/h)	128	600	454	63	504	337	193	0	580	90	0	493
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	139	652	493	68	548	366	210	0	630	98	0	536
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	173	1019	455	90	853	380	860	0	0	860	0	0
Arrive On Green	0.10	0.29	0.29	0.05	0.24	0.24	0.48	0.00	0.00	0.48	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	210		1781	98	
Grp Volume(v), veh/h	139	652	493	68	548	366	210	11.5		98	10.7	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	5.7	12.0	21.5	2.8	10.4	17.1	5.2			2.3		
Cycle Q Clear(g_c), s	5.7	12.0	21.5	2.8	10.4	17.1	5.2			2.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	173	1019	455	90	853	380	860			860		
V/C Ratio(X)	0.80	0.64	1.08	0.76	0.64	0.96	0.24			0.11		
Avail Cap(c_a), veh/h	178	1019	455	143	853	380	860			860		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	33.1	23.4	26.7	35.2	25.6	28.2	11.4			10.6		
Incr Delay (d2), s/veh	22.0	1.4	66.8	12.1	1.7	36.2	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.7	15.6	1.4	4.2	9.7	1.8			0.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	24.7	93.6	47.2	27.3	64.4	11.5			10.7		
LnGrp LOS	E	C	F	D	C	E	B			B		
Approach Vol, veh/h	1284			982								
Approach Delay, s/veh	54.4			42.5								
Approach LOS	D			D								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	40.7		8.3	26.0	40.7		11.8	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	9.7		6.0	19.5	10.5		7.5	18.0				
Max Q Clear Time (g_c+I1), s	4.3		4.8	23.5	7.2		7.7	19.1				
Green Ext Time (p_c), s	0.1		0.0	0.0	0.2		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	44.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	601	485	48	437	347	130	0	696	76	0	464
Future Volume (veh/h)	199	601	485	48	437	347	130	0	696	76	0	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	216	653	527	52	475	377	141	0	757	83	0	504
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	256	1207	538	79	853	380	777	0	0	777	0	0
Arrive On Green	0.14	0.34	0.34	0.04	0.24	0.24	0.44	0.00	0.00	0.44	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	141		1781	83	
Grp Volume(v), veh/h	216	653	527	52	475	377	141	13.1		83	12.6	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	8.9	11.1	24.7	2.2	8.8	17.8	3.6			2.1		
Cycle Q Clear(g_c), s	8.9	11.1	24.7	2.2	8.8	17.8	3.6			2.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	256	1207	538	79	853	380	777			777		
V/C Ratio(X)	0.84	0.54	0.98	0.66	0.56	0.99	0.18			0.11		
Avail Cap(c_a), veh/h	273	1207	538	121	853	380	777			777		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	31.3	20.0	24.5	35.3	25.0	28.4	12.9			12.5		
Incr Delay (d2), s/veh	19.9	0.5	33.3	9.1	0.8	43.6	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.9	4.2	13.0	1.1	3.5	10.7	1.3			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	20.5	57.8	44.4	25.8	72.1	13.1			12.6		
LnGrp LOS	D	C	E	D	C	E	B			B		
Approach Vol, veh/h	1396			904								
Approach Delay, s/veh	39.3			46.2								
Approach LOS	D			D								
Timer - Assigned Phs	1	3		4	5	7		8				
Phs Duration (G+Y+Rc), s	37.2	7.8		30.0	37.2	15.3		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.2	5.1		24.4	7.5	11.5		18.0				
Max Q Clear Time (g_c+I1), s	4.1	4.2		26.7	5.6	10.9		19.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	39.4											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	0	18	1	0	0	19	468	1	1	520	223
Future Volume (vph)	234	0	18	1	0	0	19	468	1	1	520	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.46	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3538		865	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	0	20	1	0	0	21	509	1	1	565	242
RTOR Reduction (vph)	0	111	15	0	0	0	0	0	0	0	0	101
Lane Group Flow (vph)	127	18	3	0	1	0	21	510	0	1	565	141
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Effective Green, g (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Actuated g/C Ratio	0.14	0.14	0.14		0.01		0.04	0.68		0.58	0.58	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	237	227	212		27		66	2388		502	2057	920
v/s Ratio Prot	c0.08	0.01					0.01	c0.14			c0.16	
v/s Ratio Perm			0.00		c0.00					0.00		0.09
v/c Ratio	0.54	0.08	0.01		0.04		0.32	0.21		0.00	0.27	0.15
Uniform Delay, d1	31.9	29.8	29.5		38.8		37.5	4.9		7.0	8.3	7.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.2	0.0		0.6		2.8	0.2		0.0	0.3	0.4
Delay (s)	34.2	30.0	29.6		39.4		40.3	5.1		7.0	8.7	8.1
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.9			39.4			6.5			8.5	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			34.0%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	0	23	4	7	1	12	437	2	2	431	196
Future Volume (vph)	261	0	23	4	7	1	12	437	2	2	431	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1611	1504		1815		1770	3537		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.48	1.00	1.00
Satd. Flow (perm)	1681	1611	1504		1843		1770	3537		893	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	0	25	4	8	1	13	475	2	2	468	213
RTOR Reduction (vph)	0	120	19	0	1	0	0	0	0	0	0	89
Lane Group Flow (vph)	145	22	3	0	12	0	13	477	0	2	468	124
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	12.3	12.3	12.3		1.5		1.5	52.7		46.7	46.7	46.7
Effective Green, g (s)	12.3	12.3	12.3		1.5		1.5	52.7		46.7	46.7	46.7
Actuated g/C Ratio	0.15	0.15	0.15		0.02		0.02	0.66		0.58	0.58	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	258	247	231		34		33	2329		521	2065	924
v/s Ratio Prot	c0.09	0.01					0.01	c0.13			c0.13	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.56	0.09	0.01		0.35		0.39	0.20		0.00	0.23	0.13
Uniform Delay, d1	31.4	29.0	28.7		38.8		38.8	5.4		6.9	8.0	7.5
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2	0.0		6.2		7.6	0.2		0.0	0.3	0.3
Delay (s)	34.1	29.2	28.7		45.0		46.4	5.6		7.0	8.2	7.8
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.5			45.0			6.7			8.1	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			12.8									
HCM 2000 Level of Service										B		
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			80.0							18.0		
Intersection Capacity Utilization			33.8%							A		
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	674	152	150	675	86	200	273	148	130	243	74
Future Volume (veh/h)	64	674	152	150	675	86	200	273	148	130	243	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	733	165	163	734	93	217	297	161	141	264	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	775	174	194	1162	518	254	671	355	176	476	404
Arrive On Green	0.05	0.27	0.27	0.11	0.33	0.33	0.14	0.30	0.30	0.10	0.25	0.25
Sat Flow, veh/h	1781	2882	649	1781	3554	1585	1781	2247	1187	1781	1870	1585
Grp Volume(v), veh/h	70	452	446	163	734	93	217	233	225	141	264	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1585	1781	1777	1657	1781	1870	1585
Q Serve(g_s), s	3.1	20.0	20.0	7.2	14.0	3.4	9.5	8.5	8.8	6.2	9.8	3.2
Cycle Q Clear(g_c), s	3.1	20.0	20.0	7.2	14.0	3.4	9.5	8.5	8.8	6.2	9.8	3.2
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	90	478	471	194	1162	518	254	531	495	176	476	404
V/C Ratio(X)	0.78	0.95	0.95	0.84	0.63	0.18	0.85	0.44	0.45	0.80	0.55	0.20
Avail Cap(c_a), veh/h	131	478	471	194	1162	518	256	531	495	216	476	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	37.5	28.7	28.7	35.0	22.8	19.2	33.5	22.6	22.7	35.3	25.9	23.4
Incr Delay (d2), s/veh	16.2	28.1	28.4	26.9	1.1	0.2	23.2	2.6	3.0	14.4	4.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.5	11.4	4.4	5.6	1.2	5.6	3.7	3.6	3.3	4.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	56.8	57.1	61.9	23.9	19.4	56.7	25.3	25.7	49.7	29.9	24.4
LnGrp LOS	D	E	E	E	C	B	E	C	C	D	C	C
Approach Vol, veh/h		968			990			675			485	
Approach Delay, s/veh		56.7			29.8			35.5			34.7	
Approach LOS		E			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	28.4	13.2	26.0	15.9	24.9	8.5	30.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	22.1	8.7	21.5	11.5	20.3	5.9	24.3				
Max Q Clear Time (g_c+I1), s	8.2	10.8	9.2	22.0	11.5	11.8	5.1	16.0				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	1.1	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			40.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	663	126	125	606	81	190	239	142	122	227	90
Future Volume (veh/h)	55	663	126	125	606	81	190	239	142	122	227	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	721	137	136	659	88	207	260	154	133	247	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	789	150	169	1115	497	245	700	401	167	520	440
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.14	0.32	0.32	0.09	0.28	0.28
Sat Flow, veh/h	1781	2979	566	1781	3554	1585	1781	2176	1247	1781	1870	1585
Grp Volume(v), veh/h	60	430	428	136	659	88	207	211	203	133	247	98
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	1585	1781	1777	1646	1781	1870	1585
Q Serve(g_s), s	2.7	18.8	18.8	6.0	12.5	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Cycle Q Clear(g_c), s	2.7	18.8	18.8	6.0	12.5	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	82	470	468	169	1115	497	245	571	529	167	520	440
V/C Ratio(X)	0.73	0.91	0.91	0.80	0.59	0.18	0.85	0.37	0.38	0.80	0.48	0.22
Avail Cap(c_a), veh/h	149	478	475	189	1115	497	256	571	529	212	520	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	37.7	28.5	28.5	35.5	23.1	19.9	33.7	20.9	21.0	35.5	24.0	22.2
Incr Delay (d2), s/veh	11.8	21.9	22.1	19.7	0.8	0.2	21.6	1.8	2.1	13.2	2.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.2	10.2	3.4	4.9	1.1	5.2	3.1	3.1	3.1	4.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	50.4	50.6	55.2	24.0	20.1	55.2	22.7	23.1	48.7	26.7	23.2
LnGrp LOS	D	D	D	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		918			883			621			478	
Approach Delay, s/veh		50.5			28.4			33.7			32.1	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.2	12.1	25.7	15.5	26.7	8.2	29.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	22.5	8.5	21.5	11.5	20.5	6.7	23.3				
Max Q Clear Time (g_c+I1), s	7.9	9.6	8.0	20.8	11.1	10.8	4.7	14.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.4	0.0	1.2	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay				37.1								
HCM 6th LOS				D								

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	883	56	75	843	11	0	0	107	0	0	47
Future Vol, veh/h	46	883	56	75	843	11	0	0	107	0	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	960	61	82	916	12	0	0	116	0	0	51
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	928	0	0	1021	0	0	-	-	480	-	-	458
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	733	-	-	675	-	-	0	0	532	0	0	550
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	733	-	-	675	-	-	-	-	532	-	-	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.9			13.7			12.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	532	733	-	-	675	-	-	550				
HCM Lane V/C Ratio	0.219	0.068	-	-	0.121	-	-	0.093				
HCM Control Delay (s)	13.7	10.3	-	-	11.1	-	-	12.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0.4	-	-	0.3				

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	988	61	91	845	24	0	0	138	0	0	46
Future Vol, veh/h	44	988	61	91	845	24	0	0	138	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1074	66	99	918	26	0	0	150	0	0	50
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	944	0	0	1140	0	0	-	-	537	-	-	459
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	722	-	-	609	-	-	0	0	488	0	0	549
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	722	-	-	609	-	-	-	-	488	-	-	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.1			15.6			12.2		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	488	722	-	-	609	-	-	549				
HCM Lane V/C Ratio	0.307	0.066	-	-	0.162	-	-	0.091				
HCM Control Delay (s)	15.6	10.3	-	-	12.1	-	-	12.2				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0.6	-	-	0.3				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	963	30	37	913	10	37	5	26	27	8	0
Future Volume (veh/h)	9	963	30	37	913	10	37	5	26	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1047	33	40	992	11	40	5	28	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	1450	647	228	1469	16	422	74	240	578	163	0
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	562	3554	1585	522	3600	40	754	181	582	1095	396	0
Grp Volume(v), veh/h	10	1047	33	40	490	513	73	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	562	1777	1585	522	1777	1863	1517	0	0	1491	0	0
Q Serve(g_s), s	0.7	12.4	0.6	3.5	11.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.0	12.4	0.6	15.8	11.3	11.3	1.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.55		0.38	0.76		0.00
Lane Grp Cap(c), veh/h	247	1450	647	228	725	760	736	0	0	741	0	0
V/C Ratio(X)	0.04	0.72	0.05	0.18	0.68	0.68	0.10	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	270	1599	713	250	800	838	736	0	0	741	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.0	12.4	8.9	19.1	12.1	12.1	9.0	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.5	0.0	0.2	1.2	1.2	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.9	0.2	0.4	3.5	3.7	0.5	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	13.9	9.0	19.3	13.3	13.3	9.3	0.0	0.0	9.0	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1090			1043			73			38		
Approach Delay, s/veh	13.8			13.5			9.3			9.0		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.1			24.9			25.1			24.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	3.3			14.4			2.6			17.8		
Green Ext Time (p_c), s	0.2			4.3			0.1			2.6		
Intersection Summary												
HCM 6th Ctrl Delay	13.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	959	27	32	1000	10	16	2	24	10	4	0
Future Volume (veh/h)	14	959	27	32	1000	10	16	2	24	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1042	29	35	1087	11	17	2	26	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1373	613	230	1393	14	307	75	371	572	188	0
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	514	3554	1585	527	3604	36	475	181	898	1047	454	0
Grp Volume(v), veh/h	15	1042	29	35	536	562	45	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	514	1777	1585	527	1777	1864	1555	0	0	1501	0	0
Q Serve(g_s), s	1.2	11.5	0.5	2.8	11.9	11.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.1	11.5	0.5	14.2	11.9	11.9	0.7	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.38		0.58	0.73		0.00
Lane Grp Cap(c), veh/h	222	1373	613	230	687	720	753	0	0	759	0	0
V/C Ratio(X)	0.07	0.76	0.05	0.15	0.78	0.78	0.06	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	229	1421	634	237	711	746	753	0	0	759	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	12.0	8.6	18.2	12.1	12.1	7.9	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.3	0.0	0.2	2.9	2.8	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	0.1	0.3	3.9	4.0	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	14.3	8.7	18.3	15.0	14.9	8.1	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1086				1133				45			
Approach Delay, s/veh	14.2				15.1				8.1			
Approach LOS	B				B				A			
Timer - Assigned Phs	2				4				8			
Phs Duration (G+Y+Rc), s	23.1				21.9				23.1			
Change Period (Y+Rc), s	4.5				4.5				4.5			
Max Green Setting (Gmax), s	18.0				18.0				18.0			
Max Q Clear Time (g_c+I1), s	2.7				15.1				2.2			
Green Ext Time (p_c), s	0.1				1.8				0.0			
Intersection Summary												
HCM 6th Ctrl Delay	14.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	922	18	22	769	127	5	6	41	164	5	166
Future Volume (veh/h)	165	922	18	22	769	127	5	6	41	164	5	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	1002	20	24	836	138	5	7	45	178	5	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	1273	25	46	931	415	213	274	430	215	838	710
Arrive On Green	0.12	0.36	0.36	0.03	0.26	0.26	0.27	0.27	0.27	0.12	0.45	0.45
Sat Flow, veh/h	1781	3563	71	1781	3554	1585	551	1011	1585	1781	1870	1585
Grp Volume(v), veh/h	179	500	522	24	836	138	12	0	45	178	5	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1858	1781	1777	1585	1562	0	1585	1781	1870	1585
Q Serve(g_s), s	7.9	20.1	20.1	1.1	18.2	5.6	0.0	0.0	1.7	7.8	0.1	5.7
Cycle Q Clear(g_c), s	7.9	20.1	20.1	1.1	18.2	5.6	0.4	0.0	1.7	7.8	0.1	5.7
Prop In Lane	1.00		0.04	1.00		1.00	0.42		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	635	664	46	931	415	487	0	430	215	838	710
V/C Ratio(X)	0.83	0.79	0.79	0.52	0.90	0.33	0.02	0.00	0.10	0.83	0.01	0.25
Avail Cap(c_a), veh/h	234	635	664	114	955	426	487	0	430	234	838	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.81	0.81	0.81	1.00	0.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	34.3	23.0	23.0	38.5	28.5	23.9	21.4	0.0	21.9	34.4	12.2	13.7
Incr Delay (d2), s/veh	13.7	4.2	4.0	7.2	9.3	0.4	0.1	0.0	0.5	19.4	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	8.3	8.7	0.5	8.3	2.0	0.2	0.0	0.7	4.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	27.2	27.0	45.7	37.8	24.3	21.5	0.0	22.4	53.7	12.2	14.6
LnGrp LOS	D	C	C	D	D	C	C	A	C	D	B	B
Approach Vol, veh/h	1201			998			57			363		
Approach Delay, s/veh	30.2			36.1			22.2			33.7		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	6		7	8				
Phs Duration (G+Y+Rc), s	14.2	26.2	6.6	33.1	40.4		14.2	25.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	10.5	19.5	5.1	26.9	34.5		10.5	21.5				
Max Q Clear Time (g_c+l1), s	9.8	3.7	3.1	22.1	7.7		9.9	20.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.5	0.6		0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	32.8											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	832	11	46	815	190	9	3	18	87	1	147
Future Volume (veh/h)	145	832	11	46	815	190	9	3	18	87	1	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	904	12	50	886	207	10	3	20	95	1	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1214	16	79	978	436	381	103	463	122	794	673
Arrive On Green	0.11	0.34	0.34	0.04	0.28	0.28	0.29	0.29	0.29	0.07	0.42	0.42
Sat Flow, veh/h	1781	3591	48	1781	3554	1585	994	353	1585	1781	1870	1585
Grp Volume(v), veh/h	158	447	469	50	886	207	13	0	20	95	1	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1347	0	1585	1781	1870	1585
Q Serve(g_s), s	6.1	15.6	15.6	1.9	16.8	7.6	0.0	0.0	0.6	3.7	0.0	4.5
Cycle Q Clear(g_c), s	6.1	15.6	15.6	1.9	16.8	7.6	0.3	0.0	0.6	3.7	0.0	4.5
Prop In Lane	1.00		0.03	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	601	629	79	978	436	484	0	463	122	794	673
V/C Ratio(X)	0.83	0.74	0.74	0.63	0.91	0.47	0.03	0.00	0.04	0.78	0.00	0.24
Avail Cap(c_a), veh/h	191	601	629	130	990	442	484	0	463	140	794	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.83	0.83	0.83	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	30.6	20.5	20.5	32.9	24.5	21.1	17.7	0.0	17.8	32.1	11.6	12.9
Incr Delay (d2), s/veh	15.5	2.9	2.7	6.7	9.9	0.7	0.1	0.0	0.2	21.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	6.2	6.4	0.9	7.7	2.6	0.2	0.0	0.2	2.2	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	23.4	23.2	39.6	34.4	21.8	17.8	0.0	17.9	53.1	11.6	13.7
LnGrp LOS	D	C	C	D	C	C	B	A	B	D	B	B
Approach Vol, veh/h		1074			1143			33			256	
Approach Delay, s/veh		26.6			32.4			17.9			28.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.3	24.9	7.6	28.2		34.2	12.0	23.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.1	21.9		29.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s	5.7	2.6	3.9	17.6		6.5	8.1	18.8				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.1		0.5	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/02/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	708	211	166	665	41	114	201	103	64	187	87
Future Volume (veh/h)	147	708	211	166	665	41	114	201	103	64	187	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	770	229	180	723	45	124	218	112	70	203	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	978	436	224	1020	455	898	862	426	441	891	402
Arrive On Green	0.11	0.28	0.28	0.13	0.29	0.29	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2098	2303	1139	1050	2381	1073
Grp Volume(v), veh/h	160	770	229	180	723	45	124	166	164	70	150	148
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1049	1777	1665	1050	1777	1677
Q Serve(g_s), s	5.2	12.0	7.3	5.9	10.9	1.2	2.6	3.9	4.1	3.0	3.4	3.6
Cycle Q Clear(g_c), s	5.2	12.0	7.3	5.9	10.9	1.2	6.2	3.9	4.1	7.1	3.4	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.64
Lane Grp Cap(c), veh/h	203	978	436	224	1020	455	898	665	623	441	665	628
V/C Ratio(X)	0.79	0.79	0.53	0.80	0.71	0.10	0.14	0.25	0.26	0.16	0.22	0.24
Avail Cap(c_a), veh/h	282	1125	502	252	1066	476	898	665	623	441	665	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	20.1	18.4	25.5	19.1	15.7	15.0	13.0	13.0	15.5	12.8	12.9
Incr Delay (d2), s/veh	6.4	2.2	0.6	15.5	2.1	0.1	0.3	0.9	1.0	0.8	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.6	2.4	3.2	4.2	0.4	0.6	1.5	1.5	0.7	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	22.3	19.1	41.1	21.2	15.8	15.3	13.8	14.0	16.2	13.6	13.8
LnGrp LOS	C	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1159			948			454			368	
Approach Delay, s/veh		23.0			24.7			14.3			14.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	12.0	21.0		27.0	11.3	21.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	8.5	19.0		19.0	9.5	18.0				
Max Q Clear Time (g_c+I1), s		8.2	7.9	14.0		9.1	7.2	12.9				
Green Ext Time (p_c), s		1.8	0.0	2.5		1.3	0.1	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	125	716	105	118	644	49	216	203	124	54	163	73
Future Volume (veh/h)	125	716	105	118	644	49	216	203	124	54	163	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	778	114	128	700	53	235	221	135	59	177	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	965	431	164	946	422	1030	886	520	469	996	427
Arrive On Green	0.10	0.27	0.27	0.09	0.27	0.27	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2180	2156	1264	1025	2422	1038
Grp Volume(v), veh/h	136	778	114	128	700	53	235	181	175	59	128	128
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1090	1777	1643	1025	1777	1684
Q Serve(g_s), s	4.5	12.2	3.4	4.2	10.8	1.5	4.6	4.0	4.2	2.4	2.7	2.9
Cycle Q Clear(g_c), s	4.5	12.2	3.4	4.2	10.8	1.5	7.5	4.0	4.2	6.6	2.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.62
Lane Grp Cap(c), veh/h	174	965	431	164	946	422	1030	730	675	469	730	692
V/C Ratio(X)	0.78	0.81	0.26	0.78	0.74	0.13	0.23	0.25	0.26	0.13	0.18	0.19
Avail Cap(c_a), veh/h	252	1096	489	252	1096	489	1030	730	675	469	730	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	20.4	17.1	26.6	20.1	16.7	13.7	11.6	11.6	13.8	11.2	11.3
Incr Delay (d2), s/veh	6.4	2.7	0.2	8.1	2.3	0.1	0.5	0.8	0.9	0.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.8	1.1	2.0	4.2	0.5	1.0	1.5	1.4	0.6	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	23.1	17.4	34.8	22.4	16.8	14.2	12.4	12.6	14.4	11.7	11.9
LnGrp LOS	C	C	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1028			881			591			315	
Approach Delay, s/veh		23.7			23.9			13.1			12.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.2	10.0	20.8		29.2	10.4	20.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	8.5	18.5		19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s		9.5	6.2	14.2		8.6	6.5	12.8				
Green Ext Time (p_c), s		2.3	0.1	2.1		1.2	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	689	147	128	664	161	150	271	94	147	327	85
Future Volume (veh/h)	36	689	147	128	664	161	150	271	94	147	327	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	725	155	135	699	169	158	285	99	155	344	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	914	408	255	1038	463	265	1054	470	264	1208	300
Arrive On Green	0.04	0.26	0.26	0.07	0.29	0.29	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4079	1013
Grp Volume(v), veh/h	38	725	155	135	699	169	158	285	99	155	285	148
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1688
Q Serve(g_s), s	1.3	11.6	4.9	2.3	10.5	5.1	2.7	3.7	2.8	2.6	3.9	4.1
Cycle Q Clear(g_c), s	1.3	11.6	4.9	2.3	10.5	5.1	2.7	3.7	2.8	2.6	3.9	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	69	914	408	255	1038	463	265	1054	470	264	1008	500
V/C Ratio(X)	0.55	0.79	0.38	0.53	0.67	0.37	0.60	0.27	0.21	0.59	0.28	0.30
Avail Cap(c_a), veh/h	147	1053	470	284	1053	470	284	1054	470	284	1008	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	21.1	18.6	27.1	19.0	17.0	27.1	16.3	16.0	27.1	16.4	16.5
Incr Delay (d2), s/veh	6.6	3.7	0.6	1.7	1.7	0.5	3.0	0.6	1.0	2.8	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.7	1.6	0.9	4.0	1.7	1.1	1.4	1.0	1.1	1.4	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	24.8	19.2	28.8	20.6	17.5	30.2	17.0	17.1	29.9	17.1	18.0
LnGrp LOS	D	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		918			1003			542			588	
Approach Delay, s/veh		24.3			21.2			20.8			20.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.0	20.1	9.2	22.5	6.9	22.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	5.7	4.3	13.6	4.7	6.1	3.3	12.5				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.1	0.0	1.9	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	761	114	110	651	134	122	222	93	104	283	35
Future Volume (veh/h)	99	761	114	110	651	134	122	222	93	104	283	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	801	120	116	685	141	128	234	98	109	298	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	961	429	243	945	421	250	1056	471	238	1354	164
Arrive On Green	0.07	0.27	0.27	0.07	0.27	0.27	0.07	0.30	0.30	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4614	559
Grp Volume(v), veh/h	104	801	120	116	685	141	128	234	98	109	218	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1770
Q Serve(g_s), s	3.5	13.0	3.7	2.0	10.7	4.4	2.2	3.0	2.8	1.9	3.0	3.1
Cycle Q Clear(g_c), s	3.5	13.0	3.7	2.0	10.7	4.4	2.2	3.0	2.8	1.9	3.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	133	961	429	243	945	421	250	1056	471	238	999	519
V/C Ratio(X)	0.78	0.83	0.28	0.48	0.72	0.33	0.51	0.22	0.21	0.46	0.22	0.23
Avail Cap(c_a), veh/h	145	1043	465	282	1043	465	282	1056	471	282	999	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	21.1	17.7	27.4	20.5	18.1	27.4	16.2	16.1	27.5	16.3	16.4
Incr Delay (d2), s/veh	22.0	5.6	0.4	1.5	2.3	0.5	1.6	0.5	1.0	1.4	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	5.4	1.2	0.8	4.2	1.5	0.9	1.1	1.0	0.7	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	26.6	18.0	28.9	22.7	18.6	29.0	16.7	17.2	28.8	16.9	17.4
LnGrp LOS	D	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1025			942			460			444	
Approach Delay, s/veh		28.0			22.9			20.2			19.9	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	22.7	8.8	21.1	8.9	22.5	9.1	20.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.9	5.0	4.0	15.0	4.2	5.1	5.5	12.7				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.6	0.0	1.5	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay				23.8								
HCM 6th LOS				C								

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	807	172	310	808	0	172	0	355	1	0	0
Future Volume (vph)	15	807	172	310	808	0	172	0	355	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1457	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1457	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	849	181	326	851	0	181	0	374	1	0	0
RTOR Reduction (vph)	0	0	101	0	0	0	0	129	139	0	0	0
Lane Group Flow (vph)	16	849	80	326	851	0	163	69	55	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		55	
v/s Ratio Prot	0.01	c0.24		c0.09	c0.24		c0.10	0.05				
v/s Ratio Perm			0.05						0.04		c0.00	
v/c Ratio	0.67	0.70	0.15	1.22	0.59		0.34	0.17	0.13		0.02	
Uniform Delay, d1	31.4	18.2	14.6	29.5	14.9		18.2	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	52.8	1.9	0.1	126.5	0.7		2.0	0.9	0.6		0.1	
Delay (s)	84.2	20.1	14.7	156.0	15.5		20.2	18.2	17.7		31.1	
Level of Service	F	C	B	F	B		C	B	B		C	
Approach Delay (s)		20.1			54.4			18.6			31.1	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			34.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	847	179	296	729	0	166	0	337	0	0	2
Future Volume (vph)	14	847	179	296	729	0	166	0	337	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	892	188	312	767	0	175	0	355	0	0	2
RTOR Reduction (vph)	0	0	100	0	0	0	0	122	133	0	2	0
Lane Group Flow (vph)	15	892	88	312	767	0	157	66	52	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		47	
v/s Ratio Prot	0.01	c0.25		c0.09	c0.22		c0.09	0.05			c0.00	
v/s Ratio Perm			0.06						0.03			
v/c Ratio	0.62	0.74	0.16	1.16	0.53		0.33	0.16	0.12		0.00	
Uniform Delay, d1	31.4	18.5	14.7	29.5	14.4		18.2	17.2	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	2.4	0.1	106.8	0.4		1.9	0.8	0.6		0.0	
Delay (s)	72.7	20.9	14.8	136.3	14.8		20.0	18.1	17.6		31.0	
Level of Service	E	C	B	F	B		C	B	B		C	
Approach Delay (s)		20.6			49.9			18.5			31.0	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			31.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	9	25	10	45	3	568	42	28	529	6
Future Vol, veh/h	0	9	9	25	10	45	3	568	42	28	529	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	27	11	49	3	617	46	30	575	7
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1315	1308	579	1295	1288	640	582	0	0	663	0	0
Stage 1	639	639	-	646	646	-	-	-	-	-	-	-
Stage 2	676	669	-	649	642	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	135	159	515	139	164	475	992	-	-	926	-	-
Stage 1	464	470	-	460	467	-	-	-	-	-	-	-
Stage 2	443	456	-	458	469	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	112	153	515	126	158	475	992	-	-	926	-	-
Mov Cap-2 Maneuver	112	153	-	126	158	-	-	-	-	-	-	-
Stage 1	463	455	-	459	466	-	-	-	-	-	-	-
Stage 2	387	455	-	425	454	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	21.6		30.9			0			0.4			
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	992	-	-	236	224	926	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.083	0.388	0.033	-	-				
HCM Control Delay (s)	8.6	-	-	21.6	30.9	9	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	1.7	0.1	-	-				

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Vol, veh/h	3	6	3	53	10	55	6	617	23	18	512	0
Future Vol, veh/h	3	6	3	53	10	55	6	617	23	18	512	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	7	3	58	11	60	7	671	25	20	557	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1330	1307	557	1300	1295	684	557	0	0	696	0	0
Stage 1	597	597	-	698	698	-	-	-	-	-	-	-
Stage 2	733	710	-	602	597	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	132	160	530	138	162	449	1014	-	-	900	-	-
Stage 1	490	491	-	431	442	-	-	-	-	-	-	-
Stage 2	412	437	-	486	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	106	155	530	130	157	449	1014	-	-	900	-	-
Mov Cap-2 Maneuver	106	155	-	130	157	-	-	-	-	-	-	-
Stage 1	487	480	-	428	439	-	-	-	-	-	-	-
Stage 2	346	434	-	466	480	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	28.7		51			0.1			0.3			
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1014	-	-	165	199	900	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.079	0.645	0.022	-	-				
HCM Control Delay (s)	8.6	-	-	28.7	51	9.1	-	-				
HCM Lane LOS	A	-	-	D	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	3.8	0.1	-	-				

Intersection

Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	113	4	74	112	18	7	180	75	20	179	9
Future Vol, veh/h	10	113	4	74	112	18	7	180	75	20	179	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	123	4	80	122	20	8	196	82	22	195	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	11.5	11.7	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	8%	36%	10%
Vol Thru, %	69%	89%	55%	86%
Vol Right, %	29%	3%	9%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	127	204	208
LT Vol	7	10	74	20
Through Vol	180	113	112	179
RT Vol	75	4	18	9
Lane Flow Rate	285	138	222	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.408	0.218	0.343	0.339
Departure Headway (Hd)	5.161	5.693	5.561	5.4
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	629	645	665
Service Time	3.203	3.743	3.605	3.444
HCM Lane V/C Ratio	0.41	0.219	0.344	0.34
HCM Control Delay	11.7	10.3	11.5	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2	0.8	1.5	1.5

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	67	11	81	138	20	32	178	65	16	141	16
Future Vol, veh/h	3	67	11	81	138	20	32	178	65	16	141	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	73	12	88	150	22	35	193	71	17	153	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	11.8	11.8	10.4
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	4%	34%	9%
Vol Thru, %	65%	83%	58%	82%
Vol Right, %	24%	14%	8%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	81	239	173
LT Vol	32	3	81	16
Through Vol	178	67	138	141
RT Vol	65	11	20	16
Lane Flow Rate	299	88	260	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.422	0.137	0.388	0.278
Departure Headway (Hd)	5.086	5.595	5.382	5.324
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	640	668	675
Service Time	3.116	3.636	3.415	3.359
HCM Lane V/C Ratio	0.422	0.138	0.389	0.279
HCM Control Delay	11.8	9.5	11.8	10.4
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.5	1.8	1.1

Intersection												
Intersection Delay, s/veh	8.9											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	193	17	27	201	5	19	0	9	2	5	0
Future Vol, veh/h	3	193	17	27	201	5	19	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	210	18	29	218	5	21	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	9	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	1%	12%	29%
Vol Thru, %	0%	91%	86%	71%
Vol Right, %	32%	8%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	213	233	7
LT Vol	19	3	27	2
Through Vol	0	193	201	5
RT Vol	9	17	5	0
Lane Flow Rate	30	232	253	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.267	0.294	0.011
Departure Headway (Hd)	4.934	4.146	4.185	5.084
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	852	846	708
Service Time	2.935	2.244	2.277	3.086
HCM Lane V/C Ratio	0.041	0.272	0.299	0.011
HCM Control Delay	8.2	8.8	9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	1.2	0

Intersection												
Intersection Delay, s/veh	9.1											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	164	18	16	254	4	15	0	11	2	4	3
Future Vol, veh/h	6	164	18	16	254	4	15	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	178	20	17	276	4	16	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.5	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	58%	3%	6%	22%
Vol Thru, %	0%	87%	93%	44%
Vol Right, %	42%	10%	1%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	188	274	9
LT Vol	15	6	16	2
Through Vol	0	164	254	4
RT Vol	11	18	4	3
Lane Flow Rate	28	204	298	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.243	0.344	0.013
Departure Headway (Hd)	4.892	4.277	4.158	4.902
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	735	844	852	733
Service Time	2.902	2.277	2.244	2.914
HCM Lane V/C Ratio	0.038	0.242	0.35	0.014
HCM Control Delay	8.1	8.6	9.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1	1.5	0

HCM 6th Signalized Intersection Summary

16: Claremont Blvd & 6st St/W Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	131	31	91	136	87	42	360	105	56	298	87
Future Volume (veh/h)	72	131	31	91	136	87	42	360	105	56	298	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	138	33	96	143	92	44	379	111	59	314	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	202	48	230	241	204	473	922	267	442	949	274
Arrive On Green	0.14	0.14	0.14	0.13	0.13	0.13	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1459	349	1781	1870	1585	1781	2719	787	1781	2722	784
Grp Volume(v), veh/h	76	0	171	96	143	92	44	246	244	59	203	203
Grp Sat Flow(s),veh/h/ln	1781	0	1808	1781	1870	1585	1781	1777	1729	1781	1777	1729
Q Serve(g_s), s	2.0	0.0	4.8	2.6	3.8	2.8	0.8	5.6	5.8	1.1	4.5	4.6
Cycle Q Clear(g_c), s	2.0	0.0	4.8	2.6	3.8	2.8	0.8	5.6	5.8	1.1	4.5	4.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.46	1.00		0.45
Lane Grp Cap(c), veh/h	246	0	250	230	241	204	473	602	586	442	620	603
V/C Ratio(X)	0.31	0.00	0.68	0.42	0.59	0.45	0.09	0.41	0.42	0.13	0.33	0.34
Avail Cap(c_a), veh/h	604	0	613	604	634	537	560	602	586	512	620	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	21.8	21.3	21.8	21.4	10.5	13.5	13.5	10.4	12.7	12.8
Incr Delay (d2), s/veh	0.7	0.0	3.3	1.2	2.3	1.5	0.1	2.0	2.2	0.1	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.0	1.1	1.7	1.1	0.3	2.2	2.2	0.4	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	0.0	25.1	22.5	24.1	22.9	10.6	15.5	15.7	10.6	14.1	14.3
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		247			331			534			465	
Approach Delay, s/veh		23.9			23.3			15.2			13.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	22.5		11.8	6.9	23.0		11.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.1	7.8		6.8	2.8	6.6		5.8				
Green Ext Time (p_c), s	0.0	2.0		0.8	0.0	1.7		1.1				
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

16: Claremont Blvd & 6st St/W Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	132	40	86	134	43	34	287	89	98	385	93
Future Volume (veh/h)	66	132	40	86	134	43	34	287	89	98	385	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	139	42	91	141	45	36	302	94	103	405	98
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	198	60	219	230	195	432	886	271	502	1036	248
Arrive On Green	0.14	0.14	0.14	0.12	0.12	0.12	0.04	0.33	0.33	0.07	0.36	0.36
Sat Flow, veh/h	1781	1379	417	1781	1870	1585	1781	2681	819	1781	2843	681
Grp Volume(v), veh/h	69	0	181	91	141	45	36	198	198	103	252	251
Grp Sat Flow(s),veh/h/ln	1781	0	1795	1781	1870	1585	1781	1777	1723	1781	1777	1748
Q Serve(g_s), s	1.9	0.0	5.2	2.6	3.9	1.4	0.7	4.6	4.7	2.0	5.7	5.8
Cycle Q Clear(g_c), s	1.9	0.0	5.2	2.6	3.9	1.4	0.7	4.6	4.7	2.0	5.7	5.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.48	1.00		0.39
Lane Grp Cap(c), veh/h	256	0	258	219	230	195	432	587	570	502	648	637
V/C Ratio(X)	0.27	0.00	0.70	0.42	0.61	0.23	0.08	0.34	0.35	0.21	0.39	0.39
Avail Cap(c_a), veh/h	589	0	594	589	618	524	527	587	570	537	648	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	22.2	22.1	22.7	21.6	11.2	13.7	13.8	10.5	12.8	12.8
Incr Delay (d2), s/veh	0.6	0.0	3.5	1.3	2.7	0.6	0.1	1.6	1.7	0.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.1	1.1	1.8	0.5	0.2	1.8	1.8	0.6	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	0.0	25.7	23.3	25.3	22.2	11.3	15.3	15.5	10.7	14.6	14.7
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		250			277			432			606	
Approach Delay, s/veh		24.5			24.1			15.0			14.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	22.5		12.3	6.6	24.3		11.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.0	6.7		7.2	2.7	7.8		5.9				
Green Ext Time (p_c), s	0.0	1.6		0.8	0.0	2.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	161	38	48	164	46	60	385	31	29	523	62
Future Volume (veh/h)	90	161	38	48	164	46	60	385	31	29	523	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	169	40	51	173	48	63	405	33	31	551	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	472	109	91	265	225	202	1862	150	62	1683	196
Arrive On Green	0.07	0.16	0.16	0.05	0.14	0.14	0.06	0.39	0.39	0.04	0.36	0.36
Sat Flow, veh/h	1781	2866	662	1781	1870	1585	3456	4817	387	1781	4637	540
Grp Volume(v), veh/h	95	103	106	51	173	48	63	285	153	31	403	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1751	1781	1870	1585	1728	1702	1801	1781	1702	1773
Q Serve(g_s), s	2.6	2.6	2.7	1.4	4.3	1.3	0.9	2.8	2.8	0.8	4.2	4.3
Cycle Q Clear(g_c), s	2.6	2.6	2.7	1.4	4.3	1.3	0.9	2.8	2.8	0.8	4.2	4.3
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.22	1.00		0.30
Lane Grp Cap(c), veh/h	131	292	288	91	265	225	202	1316	696	62	1236	644
V/C Ratio(X)	0.72	0.35	0.37	0.56	0.65	0.21	0.31	0.22	0.22	0.50	0.33	0.33
Avail Cap(c_a), veh/h	180	645	636	180	679	575	348	1316	696	180	1236	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	18.4	18.4	23.0	20.1	18.8	22.4	10.2	10.2	23.5	11.4	11.4
Incr Delay (d2), s/veh	8.8	0.7	0.8	5.4	2.7	0.5	0.9	0.4	0.7	6.0	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	1.0	0.6	1.8	0.4	0.3	0.8	1.0	0.4	1.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	19.1	19.2	28.4	22.8	19.3	23.3	10.6	10.9	29.5	12.1	12.8
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		304			272			501			647	
Approach Delay, s/veh		22.9			23.2			12.3			13.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	23.7	7.0	12.7	7.4	22.5	8.1	11.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.8	4.8	3.4	4.7	2.9	6.3	4.6	6.3				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.8	0.0	2.8	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			16.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	202	70	53	151	37	41	341	36	26	560	47
Future Volume (veh/h)	59	202	70	53	151	37	41	341	36	26	560	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	213	74	56	159	39	43	359	38	27	589	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	375	127	98	262	222	157	1841	191	56	1816	150
Arrive On Green	0.06	0.14	0.14	0.05	0.14	0.14	0.05	0.39	0.39	0.03	0.38	0.38
Sat Flow, veh/h	1781	2609	880	1781	1870	1585	3456	4698	488	1781	4807	396
Grp Volume(v), veh/h	62	143	144	56	159	39	43	258	139	27	416	222
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1870	1585	1728	1702	1782	1781	1702	1799
Q Serve(g_s), s	1.6	3.6	3.7	1.5	3.8	1.0	0.6	2.4	2.4	0.7	4.1	4.2
Cycle Q Clear(g_c), s	1.6	3.6	3.7	1.5	3.8	1.0	0.6	2.4	2.4	0.7	4.1	4.2
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.27	1.00		0.22
Lane Grp Cap(c), veh/h	105	256	246	98	262	222	157	1334	698	56	1286	680
V/C Ratio(X)	0.59	0.56	0.58	0.57	0.61	0.18	0.27	0.19	0.20	0.48	0.32	0.33
Avail Cap(c_a), veh/h	187	671	647	187	707	599	363	1334	698	187	1286	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	19.0	19.1	22.0	19.3	18.1	22.0	9.5	9.6	22.7	10.5	10.5
Incr Delay (d2), s/veh	5.3	1.9	2.2	5.2	2.3	0.4	0.9	0.3	0.6	6.2	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	1.4	0.7	1.5	0.3	0.2	0.7	0.8	0.4	1.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	20.9	21.3	27.1	21.5	18.4	22.9	9.9	10.2	28.9	11.2	11.8
LnGrp LOS	C	C	C	C	C	B	C	A	B	C	B	B
Approach Vol, veh/h	349			254			440			665		
Approach Delay, s/veh	22.2			22.3			11.2			12.1		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	23.2	7.1	11.4	6.7	22.5	7.3	11.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.7	4.4	3.5	5.7	2.6	6.2	3.6	5.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	1.1	0.0	2.9	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	15.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	38	24	46	37	24	37	18	533	16	21	532	20
Future Volume (veh/h)	38	24	46	37	24	37	18	533	16	21	532	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	26	50	40	26	40	20	579	17	23	578	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	40	476	96	41	476	42	839	711	47	808	31
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.45	0.45
Sat Flow, veh/h	0	132	1585	0	135	1585	1781	1870	1585	1781	1790	68
Grp Volume(v), veh/h	67	0	50	66	0	40	20	579	17	23	0	600
Grp Sat Flow(s),veh/h/ln	132	0	1585	135	0	1585	1781	1870	1585	1781	0	1858
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	1.1	0.7	14.8	0.4	0.8	0.0	15.7
Cycle Q Clear(g_c), s	18.0	0.0	1.4	18.0	0.0	1.1	0.7	14.8	0.4	0.8	0.0	15.7
Prop In Lane	0.61		1.00	0.61		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	136	0	476	137	0	476	42	839	711	47	0	839
V/C Ratio(X)	0.49	0.00	0.11	0.48	0.00	0.08	0.48	0.69	0.02	0.49	0.00	0.72
Avail Cap(c_a), veh/h	136	0	476	137	0	476	148	839	711	148	0	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	15.2	19.3	0.0	15.1	28.9	13.2	9.2	28.8	0.0	13.3
Incr Delay (d2), s/veh	2.7	0.0	0.1	2.6	0.0	0.1	8.1	4.6	0.1	7.6	0.0	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.7	0.0	0.4	0.4	6.5	0.1	0.4	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	0.0	15.3	22.0	0.0	15.2	37.0	17.8	9.3	36.4	0.0	18.5
LnGrp LOS	C	A	B	C	A	B	D	B	A	D	A	B
Approach Vol, veh/h		117			106			616			623	
Approach Delay, s/veh		19.4			19.4			18.2			19.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	31.6		22.5	6.1	31.4		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.7	17.7		20.0	2.8	16.8		20.0				
Green Ext Time (p_c), s	0.0	2.0		0.0	0.0	2.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	17	15	38	25	24	28	14	446	38	21	561	17
Future Volume (veh/h)	17	15	38	25	24	28	14	446	38	21	561	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	16	41	27	26	30	15	485	41	23	610	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	71	181	112	75	181	33	1186	1005	47	1161	34
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.02	0.63	0.63	0.03	0.64	0.64
Sat Flow, veh/h	190	617	1585	186	658	1585	1781	1870	1585	1781	1807	53
Grp Volume(v), veh/h	34	0	41	53	0	30	15	485	41	23	0	628
Grp Sat Flow(s),veh/h/ln	806	0	1585	844	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.1	0.0	1.4	0.1	0.0	1.0	0.5	7.7	0.6	0.8	0.0	10.9
Cycle Q Clear(g_c), s	5.4	0.0	1.4	5.4	0.0	1.0	0.5	7.7	0.6	0.8	0.0	10.9
Prop In Lane	0.53		1.00	0.51		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	181	187	0	181	33	1186	1005	47	0	1195
V/C Ratio(X)	0.18	0.00	0.23	0.28	0.00	0.17	0.46	0.41	0.04	0.49	0.00	0.53
Avail Cap(c_a), veh/h	472	0	476	477	0	476	148	1186	1005	148	0	1195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	24.2	24.3	0.0	24.0	29.1	5.4	4.1	28.8	0.0	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.8	0.0	0.4	9.6	1.0	0.1	7.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.7	0.0	0.4	0.3	2.6	0.2	0.4	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	24.8	25.1	0.0	24.4	38.7	6.5	4.2	36.4	0.0	7.5
LnGrp LOS	C	A	C	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		75			83			541			651	
Approach Delay, s/veh		24.7			24.9			7.2			8.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	42.9		11.4	6.1	42.5		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.5	12.9		7.4	2.8	9.7		7.4				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	2.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	59	85	131	52	105	116	487	178	37	471	89
Future Volume (veh/h)	33	59	85	131	52	105	116	487	178	37	471	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	64	92	142	57	114	126	529	193	40	512	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	350	297	315	104	209	469	1023	867	462	786	149
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.07	0.55	0.55	0.04	0.51	0.51
Sat Flow, veh/h	1214	1870	1585	1231	557	1113	1781	1870	1585	1781	1529	290
Grp Volume(v), veh/h	36	64	92	142	0	171	126	529	193	40	0	609
Grp Sat Flow(s),veh/h/ln	1214	1870	1585	1231	0	1670	1781	1870	1585	1781	0	1818
Q Serve(g_s), s	1.7	1.7	3.0	6.6	0.0	5.6	1.9	10.7	3.8	0.6	0.0	14.7
Cycle Q Clear(g_c), s	7.2	1.7	3.0	8.3	0.0	5.6	1.9	10.7	3.8	0.6	0.0	14.7
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	235	350	297	315	0	313	469	1023	867	462	0	935
V/C Ratio(X)	0.15	0.18	0.31	0.45	0.00	0.55	0.27	0.52	0.22	0.09	0.00	0.65
Avail Cap(c_a), veh/h	372	561	476	454	0	501	491	1023	867	538	0	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.77	0.77	0.77	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	20.5	21.0	24.0	0.0	22.1	7.6	8.6	7.0	6.8	0.0	10.6
Incr Delay (d2), s/veh	0.3	0.2	0.6	1.0	0.0	1.5	0.2	1.4	0.5	0.1	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.7	1.1	1.9	0.0	2.2	0.6	3.8	1.1	0.2	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	20.8	21.6	25.0	0.0	23.6	7.8	10.0	7.5	6.8	0.0	14.1
LnGrp LOS	C	C	C	C	A	C	A	B	A	A	A	B
Approach Vol, veh/h		192			313			848			649	
Approach Delay, s/veh		22.1			24.2			9.1			13.7	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	37.3		15.7	8.9	35.4		15.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	12.7		9.2	3.9	16.7		10.3				
Green Ext Time (p_c), s	0.0	3.1		0.4	0.0	2.4		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	44	120	111	95	69	147	475	127	34	404	66
Future Volume (veh/h)	52	44	120	111	95	69	147	475	127	34	404	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	48	130	121	103	75	160	516	138	37	439	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	337	286	312	181	132	551	1040	882	490	810	133
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.56	0.56	0.04	0.52	0.52
Sat Flow, veh/h	1206	1870	1585	1206	1006	733	1781	1870	1585	1781	1567	257
Grp Volume(v), veh/h	57	48	130	121	0	178	160	516	138	37	0	511
Grp Sat Flow(s),veh/h/ln	1206	1870	1585	1206	0	1739	1781	1870	1585	1781	0	1824
Q Serve(g_s), s	2.7	1.3	4.4	5.6	0.0	5.6	2.4	10.1	2.5	0.6	0.0	11.3
Cycle Q Clear(g_c), s	8.3	1.3	4.4	6.9	0.0	5.6	2.4	10.1	2.5	0.6	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	225	337	286	312	0	314	551	1040	882	490	0	943
V/C Ratio(X)	0.25	0.14	0.45	0.39	0.00	0.57	0.29	0.50	0.16	0.08	0.00	0.54
Avail Cap(c_a), veh/h	369	561	476	456	0	522	576	1040	882	570	0	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	20.7	22.0	23.6	0.0	22.5	6.7	8.2	6.5	6.6	0.0	9.7
Incr Delay (d2), s/veh	0.6	0.2	1.1	0.8	0.0	1.6	0.2	1.5	0.3	0.1	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.5	1.6	1.6	0.0	2.3	0.7	3.6	0.8	0.2	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	20.9	23.1	24.4	0.0	24.1	7.0	9.6	6.8	6.7	0.0	12.0
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		235			299			814			548	
Approach Delay, s/veh		23.5			24.2			8.6			11.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	37.9		15.3	9.2	35.5		15.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.5	23.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	12.1		10.3	4.4	13.3		8.9				
Green Ext Time (p_c), s	0.0	3.0		0.5	0.0	2.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				13.8								
HCM 6th LOS				B								

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	92	55	14	87	42	60	140	33	30	146	28
Future Vol, veh/h	33	92	55	14	87	42	60	140	33	30	146	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	100	60	15	95	46	65	152	36	33	159	30
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.8	9.8	12.6	11.9
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	26%	100%	0%	0%	100%	0%	0%	15%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	72%
Vol Right, %	14%	0%	0%	100%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	33	92	55	14	87	42	204
LT Vol	60	33	0	0	14	0	0	30
Through Vol	140	0	92	0	0	87	0	146
RT Vol	33	0	0	55	0	0	42	28
Lane Flow Rate	253	36	100	60	15	95	46	222
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.412	0.067	0.173	0.092	0.029	0.165	0.071	0.36
Departure Headway (Hd)	5.851	6.743	6.232	5.517	6.809	6.298	5.583	5.846
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	615	531	575	649	526	569	640	616
Service Time	3.584	4.486	3.975	3.259	4.553	4.042	3.326	3.581
HCM Lane V/C Ratio	0.411	0.068	0.174	0.092	0.029	0.167	0.072	0.36
HCM Control Delay	12.6	10	10.3	8.8	9.8	10.3	8.8	11.9
HCM Lane LOS	B	A	B	A	A	B	A	B
HCM 95th-tile Q	2	0.2	0.6	0.3	0.1	0.6	0.2	1.6

Intersection												
Intersection Delay, s/veh	12.6											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	91	65	27	152	56	49	151	23	44	161	41
Future Vol, veh/h	45	91	65	27	152	56	49	151	23	44	161	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	99	71	29	165	61	53	164	25	48	175	45
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.4	11.3	13.9	14.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	68%	0%	100%	0%	0%	100%	0%	65%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	45	91	65	27	152	56	246
LT Vol	49	45	0	0	27	0	0	44
Through Vol	151	0	91	0	0	152	0	161
RT Vol	23	0	0	65	0	0	56	41
Lane Flow Rate	242	49	99	71	29	165	61	267
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.429	0.097	0.182	0.116	0.058	0.302	0.099	0.465
Departure Headway (Hd)	6.367	7.156	6.642	5.924	7.085	6.572	5.854	6.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	562	498	537	601	503	544	608	572
Service Time	4.134	4.937	4.423	3.703	4.86	4.347	3.628	4.028
HCM Lane V/C Ratio	0.431	0.098	0.184	0.118	0.058	0.303	0.1	0.467
HCM Control Delay	13.9	10.7	10.9	9.5	10.3	12.2	9.3	14.4
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.1	0.3	0.7	0.4	0.2	1.3	0.3	2.4

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	425	78	223	508	57	101	44	217	83	76	67
Future Volume (veh/h)	43	425	78	223	508	57	101	44	217	83	76	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	462	85	242	552	62	110	48	236	90	83	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	678	302	290	1096	489	602	749	668	471	793	630
Arrive On Green	0.05	0.19	0.19	0.16	0.31	0.31	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1231	1777	1585	1095	1882	1496
Grp Volume(v), veh/h	47	462	85	242	552	62	110	48	236	90	78	78
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1231	1777	1585	1095	1777	1601
Q Serve(g_s), s	1.6	7.3	2.8	7.9	7.6	1.7	3.6	1.0	6.1	3.7	1.6	1.8
Cycle Q Clear(g_c), s	1.6	7.3	2.8	7.9	7.6	1.7	5.4	1.0	6.1	9.7	1.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	81	678	302	290	1096	489	602	749	668	471	749	675
V/C Ratio(X)	0.58	0.68	0.28	0.83	0.50	0.13	0.18	0.06	0.35	0.19	0.10	0.12
Avail Cap(c_a), veh/h	172	1066	476	312	1344	600	602	749	668	471	749	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	22.6	20.8	24.3	17.0	14.9	12.2	10.3	11.8	15.1	10.5	10.6
Incr Delay (d2), s/veh	6.5	1.2	0.5	15.5	0.3	0.1	0.6	0.2	1.3	0.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	1.0	4.3	2.9	0.6	1.0	0.4	2.1	0.9	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.8	21.3	39.8	17.3	15.0	12.8	10.5	13.2	16.0	10.8	10.9
LnGrp LOS	C	C	C	D	B	B	B	B	B	B	B	B
Approach Vol, veh/h		594			856			394			246	
Approach Delay, s/veh		24.3			23.5			12.7			12.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.8	14.3	16.0		29.8	7.2	23.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	5.8	22.7				
Max Q Clear Time (g_c+I1), s		8.1	9.9	9.3		11.7	3.6	9.6				
Green Ext Time (p_c), s		1.5	0.0	2.2		0.6	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	36	444	82	226	473	62	102	54	171	59	61	57
Future Volume (veh/h)	36	444	82	226	473	62	102	54	171	59	61	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	483	89	246	514	67	111	59	186	64	66	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	421	1510	673	436	1510	673	619	731	652	509	755	632
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	887	3554	1585	912	3554	1585	1262	1777	1585	1135	1834	1537
Grp Volume(v), veh/h	39	483	89	246	514	67	111	59	186	64	64	64
Grp Sat Flow(s),veh/h/ln	887	1777	1585	912	1777	1585	1262	1777	1585	1135	1777	1594
Q Serve(g_s), s	1.7	5.0	1.9	13.5	5.3	1.4	3.3	1.1	4.3	2.2	1.2	1.4
Cycle Q Clear(g_c), s	7.1	5.0	1.9	18.5	5.3	1.4	4.6	1.1	4.3	6.5	1.2	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	421	1510	673	436	1510	673	619	731	652	509	731	656
V/C Ratio(X)	0.09	0.32	0.13	0.56	0.34	0.10	0.18	0.08	0.29	0.13	0.09	0.10
Avail Cap(c_a), veh/h	488	1777	793	505	1777	793	619	731	652	509	731	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	10.5	9.6	16.7	10.6	9.5	11.3	9.8	10.8	13.0	9.9	9.9
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.1	0.1	0.6	0.2	1.0	0.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	0.6	2.6	1.8	0.4	0.9	0.4	1.5	0.6	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	10.7	9.7	17.8	10.8	9.6	11.9	10.1	11.8	13.5	10.1	10.2
LnGrp LOS	B	B	A	B	B	A	B	B	B	B	B	B
Approach Vol, veh/h		611			827			356			192	
Approach Delay, s/veh		10.7			12.7			11.6			11.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.1		27.9		27.1		27.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		6.6		9.1		8.5		20.5				
Green Ext Time (p_c), s		1.4		3.6		0.6		2.9				
Intersection Summary												
HCM 6th Ctrl Delay				11.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	532	102	87	511	96	111	93	73	108	85	143
Future Volume (veh/h)	75	532	102	87	511	96	111	93	73	108	85	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	578	111	95	555	104	121	101	79	117	92	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	827	369	124	844	376	684	846	717	675	846	717
Arrive On Green	0.06	0.23	0.23	0.07	0.24	0.24	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1304	1870	1585	1294	1870	1585
Grp Volume(v), veh/h	82	578	111	95	555	104	121	101	79	117	92	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1304	1870	1585	1294	1870	1585
Q Serve(g_s), s	2.5	8.2	3.2	2.9	7.8	2.9	3.2	1.7	1.6	3.2	1.6	3.3
Cycle Q Clear(g_c), s	2.5	8.2	3.2	2.9	7.8	2.9	4.8	1.7	1.6	4.9	1.6	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	827	369	124	844	376	684	846	717	675	846	717
V/C Ratio(X)	0.71	0.70	0.30	0.77	0.66	0.28	0.18	0.12	0.11	0.17	0.11	0.22
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	684	846	717	675	846	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.84	0.84	0.84	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	19.3	17.4	25.1	18.9	17.1	10.1	8.7	8.7	10.1	8.7	9.1
Incr Delay (d2), s/veh	6.9	0.9	0.4	9.8	0.7	0.3	0.3	0.1	0.2	0.6	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.1	1.1	1.5	3.0	1.0	0.8	0.6	0.5	0.9	0.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	20.3	17.8	34.9	19.7	17.4	10.3	8.9	8.8	10.7	8.9	9.8
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		771			754			301			364	
Approach Delay, s/veh		21.2			21.3			9.5			9.9	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	8.3	17.3		29.4	8.1	17.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5				
Max Q Clear Time (g_c+I1), s		6.8	4.9	10.2		6.9	4.5	9.8				
Green Ext Time (p_c), s		0.9	0.0	2.6		1.1	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			17.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	552	64	84	432	79	148	87	71	99	119	134
Future Volume (veh/h)	65	552	64	84	432	79	148	87	71	99	119	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	600	70	91	470	86	161	95	77	108	129	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	843	376	122	872	389	646	840	712	677	840	712
Arrive On Green	0.06	0.24	0.24	0.07	0.25	0.25	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1261	1870	1585	1301	1870	1585
Grp Volume(v), veh/h	71	600	70	91	470	86	161	95	77	108	129	146
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1261	1870	1585	1301	1870	1585
Q Serve(g_s), s	2.1	8.5	1.9	2.8	6.3	2.4	4.8	1.6	1.5	2.9	2.2	3.1
Cycle Q Clear(g_c), s	2.1	8.5	1.9	2.8	6.3	2.4	7.0	1.6	1.5	4.5	2.2	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	843	376	122	872	389	646	840	712	677	840	712
V/C Ratio(X)	0.66	0.71	0.19	0.75	0.54	0.22	0.25	0.11	0.11	0.16	0.15	0.21
Avail Cap(c_a), veh/h	162	1163	519	178	1195	533	646	840	712	677	840	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.86	0.86	0.86	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	19.2	16.7	25.2	18.0	16.6	11.0	8.8	8.8	10.1	9.0	9.2
Incr Delay (d2), s/veh	6.5	1.2	0.2	8.2	0.4	0.2	0.6	0.2	0.2	0.5	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.3	0.7	1.4	2.4	0.8	1.2	0.6	0.5	0.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	20.4	17.0	33.4	18.5	16.8	11.7	9.0	9.0	10.6	9.4	9.8
LnGrp LOS	C	C	B	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	741			647			333			383		
Approach Delay, s/veh	21.2			20.4			10.3			9.9		
Approach LOS	C			C			B			A		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	29.2		8.3	17.6		29.2		7.8	18.0			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.0		5.5	18.0		18.0		5.0	18.5			
Max Q Clear Time (g_c+I1), s	9.0		4.8	10.5		6.5		4.1	8.3			
Green Ext Time (p_c), s	0.9		0.0	2.5		1.2		0.0	2.5			
Intersection Summary												
HCM 6th Ctrl Delay	17.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	547	154	516	524	137	137	113	479	149	106	52
Future Volume (veh/h)	35	547	154	516	524	137	137	113	479	149	106	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	595	167	561	570	149	149	123	521	162	115	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	758	338	518	1159	517	558	576	488	434	723	339
Arrive On Green	0.04	0.21	0.21	0.15	0.33	0.33	0.07	0.31	0.31	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2348	1101
Grp Volume(v), veh/h	38	595	167	561	570	149	149	123	521	162	85	87
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1672
Q Serve(g_s), s	1.5	11.1	6.5	10.5	9.0	4.9	4.0	3.4	21.6	4.3	2.4	2.6
Cycle Q Clear(g_c), s	1.5	11.1	6.5	10.5	9.0	4.9	4.0	3.4	21.6	4.3	2.4	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	66	758	338	518	1159	517	558	576	488	434	547	515
V/C Ratio(X)	0.57	0.78	0.49	1.08	0.49	0.29	0.27	0.21	1.07	0.37	0.16	0.17
Avail Cap(c_a), veh/h	145	914	408	518	1159	517	558	576	488	434	547	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	26.0	24.2	29.8	18.9	17.5	14.8	17.9	24.2	14.9	17.6	17.7
Incr Delay (d2), s/veh	6.6	3.3	1.0	63.6	0.3	0.3	0.2	0.8	58.3	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	2.3	8.5	3.3	1.6	1.4	1.5	14.9	1.6	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	29.3	25.2	93.4	19.3	17.9	15.0	18.7	82.6	15.5	18.2	18.4
LnGrp LOS	D	C	C	F	B	B	B	B	F	B	B	B
Approach Vol, veh/h		800			1280			793			334	
Approach Delay, s/veh		28.9			51.6			60.0			16.9	
Approach LOS		C			D			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	26.1	15.0	19.4	9.5	26.1	7.1	27.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.5	10.5	18.0	5.0	18.5	5.7	22.8				
Max Q Clear Time (g_c+I1), s	6.3	23.6	12.5	13.1	6.0	4.6	3.5	11.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.7	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			44.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	607	123	400	510	122	102	124	525	138	81	27
Future Volume (veh/h)	33	607	123	400	510	122	102	124	525	138	81	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	660	134	435	554	133	111	135	571	150	88	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	807	360	489	1182	527	581	566	480	415	827	261
Arrive On Green	0.04	0.23	0.23	0.14	0.33	0.33	0.06	0.30	0.30	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2657	839
Grp Volume(v), veh/h	36	660	134	435	554	133	111	135	571	150	58	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1719
Q Serve(g_s), s	1.4	12.3	5.0	8.7	8.6	4.3	2.9	3.8	21.2	4.0	1.6	1.7
Cycle Q Clear(g_c), s	1.4	12.3	5.0	8.7	8.6	4.3	2.9	3.8	21.2	4.0	1.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	64	807	360	489	1182	527	581	566	480	415	553	535
V/C Ratio(X)	0.56	0.82	0.37	0.89	0.47	0.25	0.19	0.24	1.19	0.36	0.10	0.11
Avail Cap(c_a), veh/h	145	914	408	489	1182	527	598	566	480	415	553	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	25.7	22.8	29.5	18.5	17.0	15.0	18.3	24.4	15.1	17.2	17.2
Incr Delay (d2), s/veh	6.4	4.5	0.5	18.1	0.3	0.2	0.1	0.9	103.5	0.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	1.7	4.5	3.1	1.4	1.1	1.6	20.7	1.5	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	30.2	23.4	47.6	18.8	17.3	15.2	19.3	127.9	15.6	17.5	17.6
LnGrp LOS	D	C	C	D	B	B	B	B	F	B	B	B
Approach Vol, veh/h		830			1122			817			267	
Approach Delay, s/veh		29.5			29.8			94.6			16.5	
Approach LOS		C			C			F			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	25.7	14.4	20.4	8.9	26.3	7.0	27.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.1	9.9	18.0	5.1	19.0	5.7	22.2				
Max Q Clear Time (g_c+I1), s	6.0	23.2	10.7	14.3	4.9	3.7	3.4	10.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	0.4	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	600	454	63	504	337	186	0	580	90	0	479
Future Volume (veh/h)	128	600	454	63	504	337	186	0	580	90	0	479
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	139	652	493	68	548	366	202	0	630	98	0	521
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	173	1019	455	90	853	380	860	0	0	860	0	0
Arrive On Green	0.10	0.29	0.29	0.05	0.24	0.24	0.48	0.00	0.00	0.48	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	202		1781	98	
Grp Volume(v), veh/h	139	652	493	68	548	366	202	11.5		98	10.7	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	5.7	12.0	21.5	2.8	10.4	17.1	5.0			2.3		
Cycle Q Clear(g_c), s	5.7	12.0	21.5	2.8	10.4	17.1	5.0			2.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	173	1019	455	90	853	380	860			860		
V/C Ratio(X)	0.80	0.64	1.08	0.76	0.64	0.96	0.23			0.11		
Avail Cap(c_a), veh/h	178	1019	455	143	853	380	860			860		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	33.1	23.4	26.7	35.2	25.6	28.2	11.3			10.6		
Incr Delay (d2), s/veh	22.0	1.4	66.8	12.1	1.7	36.2	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.7	15.6	1.4	4.2	9.7	1.7			0.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	24.7	93.6	47.2	27.3	64.4	11.5			10.7		
LnGrp LOS	E	C	F	D	C	E	B			B		
Approach Vol, veh/h	1284			982								
Approach Delay, s/veh	54.4			42.5								
Approach LOS	D			D								
Timer - Assigned Phs	1	3		4	5	7		8				
Phs Duration (G+Y+Rc), s	40.7	8.3		26.0	40.7	11.8		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	6.0		19.5	10.5	7.5		18.0				
Max Q Clear Time (g_c+I1), s	4.3	4.8		23.5	7.0	7.7		19.1				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.2	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	44.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	601	475	48	437	347	130	0	696	76	0	464
Future Volume (veh/h)	189	601	475	48	437	347	130	0	696	76	0	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	205	653	516	52	475	377	141	0	757	83	0	504
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	245	1185	529	79	853	380	788	0	0	788	0	0
Arrive On Green	0.14	0.33	0.33	0.04	0.24	0.24	0.44	0.00	0.00	0.44	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	141		1781	83	
Grp Volume(v), veh/h	205	653	516	52	475	377	141	12.8		83	12.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	8.4	11.3	24.1	2.2	8.8	17.8	3.6			2.0		
Cycle Q Clear(g_c), s	8.4	11.3	24.1	2.2	8.8	17.8	3.6			2.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	245	1185	529	79	853	380	788			788		
V/C Ratio(X)	0.84	0.55	0.98	0.66	0.56	0.99	0.18			0.11		
Avail Cap(c_a), veh/h	273	1185	529	121	853	380	788			788		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	31.5	20.4	24.7	35.3	25.0	28.4	12.7			12.2		
Incr Delay (d2), s/veh	18.3	0.5	32.9	9.1	0.8	43.6	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.6	4.2	12.7	1.1	3.5	10.7	1.3			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	21.0	57.6	44.4	25.8	72.1	12.8			12.3		
LnGrp LOS	D	C	E	D	C	E	B			B		
Approach Vol, veh/h	1374			904								
Approach Delay, s/veh	39.0			46.2								
Approach LOS	D			D								
Timer - Assigned Phs	1	3		4	5	7		8				
Phs Duration (G+Y+Rc), s	37.7	7.8		29.5	37.7	14.8		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.2	5.1		24.4	8.5	11.5		18.0				
Max Q Clear Time (g_c+l1), s	4.0	4.2		26.1	5.6	10.4		19.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	0.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	39.2											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	0	18	1	0	0	19	468	1	1	499	216
Future Volume (vph)	234	0	18	1	0	0	19	468	1	1	499	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.46	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3538		865	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	0	20	1	0	0	21	509	1	1	542	235
RTOR Reduction (vph)	0	111	15	0	0	0	0	0	0	0	0	98
Lane Group Flow (vph)	127	18	3	0	1	0	21	510	0	1	542	137
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Effective Green, g (s)	11.3	11.3	11.3		1.2		3.0	54.0		46.5	46.5	46.5
Actuated g/C Ratio	0.14	0.14	0.14		0.01		0.04	0.68		0.58	0.58	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	237	227	212		27		66	2388		502	2057	920
v/s Ratio Prot	c0.08	0.01					0.01	c0.14			c0.15	
v/s Ratio Perm			0.00		c0.00					0.00		0.09
v/c Ratio	0.54	0.08	0.01		0.04		0.32	0.21		0.00	0.26	0.15
Uniform Delay, d1	31.9	29.8	29.5		38.8		37.5	4.9		7.0	8.3	7.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.2	0.0		0.6		2.8	0.2		0.0	0.3	0.3
Delay (s)	34.2	30.0	29.6		39.4		40.3	5.1		7.0	8.6	8.0
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.9			39.4			6.5			8.4	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			33.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	0	23	4	7	1	12	416	2	2	431	196
Future Volume (vph)	251	0	23	4	7	1	12	416	2	2	431	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1611	1504		1815		1770	3537		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.49	1.00	1.00
Satd. Flow (perm)	1681	1611	1504		1843		1770	3537		913	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	273	0	25	4	8	1	13	452	2	2	468	213
RTOR Reduction (vph)	0	116	19	0	1	0	0	0	0	0	0	88
Lane Group Flow (vph)	139	21	3	0	12	0	13	454	0	2	468	125
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	12.0	12.0	12.0		1.5		1.5	53.0		47.0	47.0	47.0
Effective Green, g (s)	12.0	12.0	12.0		1.5		1.5	53.0		47.0	47.0	47.0
Actuated g/C Ratio	0.15	0.15	0.15		0.02		0.02	0.66		0.59	0.59	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	252	241	225		34		33	2343		536	2079	930
v/s Ratio Prot	c0.08	0.01					0.01	c0.13			c0.13	
v/s Ratio Perm			0.00		c0.01					0.00		0.08
v/c Ratio	0.55	0.09	0.01		0.35		0.39	0.19		0.00	0.23	0.13
Uniform Delay, d1	31.5	29.3	29.0		38.8		38.8	5.2		6.8	7.8	7.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.2	0.0		6.2		7.6	0.2		0.0	0.3	0.3
Delay (s)	34.1	29.4	29.0		45.0		46.4	5.4		6.8	8.1	7.7
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.6			45.0			6.6			8.0	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			12.7									
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			80.0									
Intersection Capacity Utilization			33.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	667	152	150	675	86	200	273	148	130	243	74
Future Volume (veh/h)	64	667	152	150	675	86	200	273	148	130	243	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	725	165	163	734	93	217	297	161	141	264	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	773	176	194	1162	518	254	671	355	176	476	404
Arrive On Green	0.05	0.27	0.27	0.11	0.33	0.33	0.14	0.30	0.30	0.10	0.25	0.25
Sat Flow, veh/h	1781	2875	654	1781	3554	1585	1781	2247	1187	1781	1870	1585
Grp Volume(v), veh/h	70	448	442	163	734	93	217	233	225	141	264	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1753	1781	1777	1585	1781	1777	1657	1781	1870	1585
Q Serve(g_s), s	3.1	19.7	19.7	7.2	14.0	3.4	9.5	8.5	8.8	6.2	9.8	3.2
Cycle Q Clear(g_c), s	3.1	19.7	19.7	7.2	14.0	3.4	9.5	8.5	8.8	6.2	9.8	3.2
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	90	478	471	194	1162	518	254	531	495	176	476	404
V/C Ratio(X)	0.78	0.94	0.94	0.84	0.63	0.18	0.85	0.44	0.45	0.80	0.55	0.20
Avail Cap(c_a), veh/h	131	478	471	194	1162	518	256	531	495	216	476	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	37.5	28.6	28.6	35.0	22.8	19.2	33.5	22.6	22.7	35.3	25.9	23.4
Incr Delay (d2), s/veh	16.2	26.4	26.8	26.9	1.1	0.2	23.2	2.6	3.0	14.4	4.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.2	11.1	4.4	5.6	1.2	5.6	3.7	3.6	3.3	4.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	55.0	55.4	61.9	23.9	19.4	56.7	25.3	25.7	49.7	29.9	24.4
LnGrp LOS	D	E	E	E	C	B	E	C	C	D	C	C
Approach Vol, veh/h		960			990			675			485	
Approach Delay, s/veh		55.1			29.8			35.5			34.7	
Approach LOS		E			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	28.4	13.2	26.0	15.9	24.9	8.5	30.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	22.1	8.7	21.5	11.5	20.3	5.9	24.3				
Max Q Clear Time (g_c+I1), s	8.2	10.8	9.2	21.7	11.5	11.8	5.1	16.0				
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	1.1	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay				39.6								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary 6: Foothill Blvd & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	663	126	125	596	81	190	239	142	122	227	90
Future Volume (veh/h)	55	663	126	125	596	81	190	239	142	122	227	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	721	137	136	648	88	207	260	154	133	247	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	789	150	169	1115	497	245	700	401	167	520	440
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.14	0.32	0.32	0.09	0.28	0.28
Sat Flow, veh/h	1781	2979	566	1781	3554	1585	1781	2176	1247	1781	1870	1585
Grp Volume(v), veh/h	60	430	428	136	648	88	207	211	203	133	247	98
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	1585	1781	1777	1646	1781	1870	1585
Q Serve(g_s), s	2.7	18.8	18.8	6.0	12.2	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Cycle Q Clear(g_c), s	2.7	18.8	18.8	6.0	12.2	3.2	9.1	7.3	7.6	5.9	8.8	3.8
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	82	470	468	169	1115	497	245	571	529	167	520	440
V/C Ratio(X)	0.73	0.91	0.91	0.80	0.58	0.18	0.85	0.37	0.38	0.80	0.48	0.22
Avail Cap(c_a), veh/h	154	478	475	189	1115	497	256	571	529	212	520	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	37.7	28.5	28.5	35.5	23.0	19.9	33.7	20.9	21.0	35.5	24.0	22.2
Incr Delay (d2), s/veh	11.8	21.9	22.1	19.7	0.8	0.2	21.6	1.8	2.1	13.8	2.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.2	10.2	3.4	4.8	1.1	5.2	3.1	3.1	3.1	4.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	50.4	50.6	55.2	23.8	20.1	55.2	22.7	23.1	49.3	26.8	23.3
LnGrp LOS	D	D	D	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		918			872			621			478	
Approach Delay, s/veh		50.5			28.3			33.7			32.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.2	12.1	25.7	15.5	26.7	8.2	29.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	22.5	8.5	21.5	11.5	20.5	6.9	23.1				
Max Q Clear Time (g_c+I1), s	7.9	9.6	8.0	20.8	11.1	10.8	4.7	14.2				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.4	0.0	1.2	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay				37.2								
HCM 6th LOS				D								

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	876	56	75	843	11	0	0	107	0	0	47
Future Vol, veh/h	46	876	56	75	843	11	0	0	107	0	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	952	61	82	916	12	0	0	116	0	0	51
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	928	0	0	1013	0	0	-	-	476	-	-	458
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	733	-	-	680	-	-	0	0	535	0	0	550
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	733	-	-	680	-	-	-	-	535	-	-	550
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.9			13.6			12.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	535	733	-	-	680	-	-	550				
HCM Lane V/C Ratio	0.217	0.068	-	-	0.12	-	-	0.093				
HCM Control Delay (s)	13.6	10.3	-	-	11	-	-	12.2				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0.4	-	-	0.3				

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	988	61	91	835	24	0	0	138	0	0	46
Future Vol, veh/h	44	988	61	91	835	24	0	0	138	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1074	66	99	908	26	0	0	150	0	0	50
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	934	0	0	1140	0	0	-	-	537	-	-	454
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	729	-	-	609	-	-	0	0	488	0	0	553
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	729	-	-	609	-	-	-	-	488	-	-	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.2			15.6			12.2		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	488	729	-	-	609	-	-	553				
HCM Lane V/C Ratio	0.307	0.066	-	-	0.162	-	-	0.09				
HCM Control Delay (s)	15.6	10.3	-	-	12.1	-	-	12.2				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0.6	-	-	0.3				

HCM 6th Signalized Intersection Summary 8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	9	956	30	37	913	10	37	5	26	27	8	0
Future Volume (veh/h)	9	956	30	37	913	10	37	5	26	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1039	33	40	992	11	40	5	28	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1445	645	229	1464	16	423	75	240	579	164	0
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	562	3554	1585	526	3600	40	754	180	582	1095	396	0
Grp Volume(v), veh/h	10	1039	33	40	490	513	73	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	562	1777	1585	526	1777	1863	1517	0	0	1490	0	0
Q Serve(g_s), s	0.7	12.3	0.6	3.4	11.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.0	12.3	0.6	15.7	11.3	11.3	1.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.55		0.38	0.76		0.00
Lane Grp Cap(c), veh/h	246	1445	645	229	723	758	738	0	0	743	0	0
V/C Ratio(X)	0.04	0.72	0.05	0.17	0.68	0.68	0.10	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	270	1599	713	252	800	838	738	0	0	743	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.1	12.4	9.0	19.0	12.2	12.2	9.0	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.4	0.0	0.2	1.2	1.2	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.9	0.2	0.4	3.6	3.7	0.5	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	13.9	9.0	19.2	13.4	13.3	9.2	0.0	0.0	8.9	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h		1082			1043			73			38	
Approach Delay, s/veh		13.7			13.6			9.2			8.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.2		24.8		25.2		24.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		22.5		18.5		22.5				
Max Q Clear Time (g_c+I1), s		3.3		14.3		2.6		17.7				
Green Ext Time (p_c), s		0.2		4.3		0.1		2.6				
Intersection Summary												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	959	27	32	990	10	16	2	24	10	4	0
Future Volume (veh/h)	14	959	27	32	990	10	16	2	24	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1042	29	35	1076	11	17	2	26	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1373	612	229	1392	14	307	75	372	572	188	0
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	519	3554	1585	527	3604	37	475	181	898	1047	454	0
Grp Volume(v), veh/h	15	1042	29	35	531	556	45	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	519	1777	1585	527	1777	1864	1555	0	0	1501	0	0
Q Serve(g_s), s	1.2	11.5	0.5	2.8	11.8	11.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.9	11.5	0.5	14.2	11.8	11.8	0.7	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.38		0.58	0.73		0.00
Lane Grp Cap(c), veh/h	225	1373	612	229	686	720	753	0	0	759	0	0
V/C Ratio(X)	0.07	0.76	0.05	0.15	0.77	0.77	0.06	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	232	1421	634	237	711	745	753	0	0	759	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.7	12.0	8.6	18.2	12.1	12.1	7.9	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.4	0.0	0.2	2.8	2.7	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	0.1	0.3	3.8	4.0	0.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	14.3	8.7	18.3	14.9	14.8	8.1	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1086			1122			45			15		
Approach Delay, s/veh	14.2			15.0			8.1			7.8		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.1			21.9			23.1			21.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	2.7			14.9			2.2			16.2		
Green Ext Time (p_c), s	0.1			1.9			0.0			1.1		
Intersection Summary												
HCM 6th Ctrl Delay	14.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	915	18	22	769	127	5	6	34	143	5	166
Future Volume (veh/h)	165	915	18	22	769	127	5	6	34	143	5	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	995	20	24	836	138	5	7	37	155	5	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	1285	26	46	943	421	220	283	446	190	832	705
Arrive On Green	0.12	0.36	0.36	0.03	0.27	0.27	0.28	0.28	0.28	0.11	0.44	0.44
Sat Flow, veh/h	1781	3563	72	1781	3554	1585	553	1007	1585	1781	1870	1585
Grp Volume(v), veh/h	179	496	519	24	836	138	12	0	37	155	5	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1585	1560	0	1585	1781	1870	1585
Q Serve(g_s), s	7.9	19.8	19.8	1.1	18.1	5.6	0.0	0.0	1.4	6.8	0.1	5.7
Cycle Q Clear(g_c), s	7.9	19.8	19.8	1.1	18.1	5.6	0.4	0.0	1.4	6.8	0.1	5.7
Prop In Lane	1.00		0.04	1.00		1.00	0.42		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	641	670	46	943	421	503	0	446	190	832	705
V/C Ratio(X)	0.83	0.77	0.77	0.52	0.89	0.33	0.02	0.00	0.08	0.81	0.01	0.26
Avail Cap(c_a), veh/h	234	641	670	114	982	438	503	0	446	212	832	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.81	0.81	0.81	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	34.3	22.7	22.7	38.5	28.2	23.6	20.8	0.0	21.1	34.9	12.4	13.9
Incr Delay (d2), s/veh	13.7	3.8	3.6	7.2	8.0	0.4	0.1	0.0	0.4	19.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	8.2	8.5	0.5	8.1	2.0	0.2	0.0	0.5	3.8	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	26.5	26.3	45.7	36.2	24.0	20.9	0.0	21.5	53.9	12.4	14.8
LnGrp LOS	D	C	C	D	D	C	C	A	C	D	B	B
Approach Vol, veh/h		1194			998			49			340	
Approach Delay, s/veh		29.6			34.8			21.4			32.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.1	27.0	6.6	33.4		40.1	14.2	25.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.9	5.1	27.5		33.9	10.5	22.1				
Max Q Clear Time (g_c+I1), s	8.8	3.4	3.1	21.8		7.7	9.9	20.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.9		0.6	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay				31.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	832	11	36	805	158	9	3	18	87	1	147
Future Volume (veh/h)	145	832	11	36	805	158	9	3	18	87	1	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	904	12	39	875	172	10	3	20	95	1	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1232	16	68	973	434	383	104	465	122	797	676
Arrive On Green	0.11	0.34	0.34	0.04	0.27	0.27	0.29	0.29	0.29	0.07	0.43	0.43
Sat Flow, veh/h	1781	3591	48	1781	3554	1585	994	353	1585	1781	1870	1585
Grp Volume(v), veh/h	158	447	469	39	875	172	13	0	20	95	1	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1347	0	1585	1781	1870	1585
Q Serve(g_s), s	6.1	15.5	15.5	1.5	16.6	6.2	0.0	0.0	0.6	3.7	0.0	4.5
Cycle Q Clear(g_c), s	6.1	15.5	15.5	1.5	16.6	6.2	0.3	0.0	0.6	3.7	0.0	4.5
Prop In Lane	1.00		0.03	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	609	639	68	973	434	486	0	465	122	797	676
V/C Ratio(X)	0.83	0.73	0.73	0.58	0.90	0.40	0.03	0.00	0.04	0.78	0.00	0.24
Avail Cap(c_a), veh/h	191	609	639	130	990	442	486	0	465	140	797	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.83	0.83	0.83	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	30.6	20.2	20.2	33.1	24.5	20.7	17.6	0.0	17.7	32.1	11.5	12.8
Incr Delay (d2), s/veh	15.5	2.6	2.5	6.3	9.3	0.5	0.1	0.0	0.2	21.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	6.1	6.3	0.7	7.5	2.1	0.2	0.0	0.2	2.2	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	22.8	22.7	39.4	33.8	21.2	17.7	0.0	17.9	53.1	11.5	13.6
LnGrp LOS	D	C	C	D	C	C	B	A	B	D	B	B
Approach Vol, veh/h		1074			1086			33			256	
Approach Delay, s/veh		26.2			32.0			17.8			28.2	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.3	25.1	7.2	28.5		34.3	12.0	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.1	21.9		29.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s	5.7	2.6	3.5	17.5		6.5	8.1	18.6				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.1		0.5	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay				28.9								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	147	708	176	123	665	41	114	201	103	64	180	87
Future Volume (veh/h)	147	708	176	123	665	41	114	201	103	64	180	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	770	191	134	723	45	124	218	112	70	196	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	975	435	172	913	407	974	931	461	476	952	443
Arrive On Green	0.11	0.27	0.27	0.10	0.26	0.26	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2111	2303	1139	1050	2354	1096
Grp Volume(v), veh/h	160	770	191	134	723	45	124	166	164	70	146	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1056	1777	1665	1050	1777	1673
Q Serve(g_s), s	5.2	12.0	6.0	4.4	11.4	1.3	2.4	3.7	3.9	2.8	3.2	3.4
Cycle Q Clear(g_c), s	5.2	12.0	6.0	4.4	11.4	1.3	5.8	3.7	3.9	6.7	3.2	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.66
Lane Grp Cap(c), veh/h	203	975	435	172	913	407	974	718	673	476	718	677
V/C Ratio(X)	0.79	0.79	0.44	0.78	0.79	0.11	0.13	0.23	0.24	0.15	0.20	0.21
Avail Cap(c_a), veh/h	282	1125	502	252	1066	476	974	718	673	476	718	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	20.2	18.0	26.5	20.8	17.0	13.6	11.7	11.8	14.0	11.6	11.7
Incr Delay (d2), s/veh	6.6	2.3	0.5	9.1	3.6	0.1	0.3	0.7	0.8	0.6	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.6	2.0	2.1	4.6	0.4	0.5	1.4	1.3	0.7	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	22.4	18.4	35.6	24.4	17.2	13.8	12.5	12.7	14.7	12.2	12.4
LnGrp LOS	C	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1121			902			454			361	
Approach Delay, s/veh		23.2			25.7			12.9			12.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.8	10.3	21.0		28.8	11.3	19.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	8.5	19.0		19.0	9.5	18.0				
Max Q Clear Time (g_c+I1), s		7.8	6.4	14.0		8.7	7.2	13.4				
Green Ext Time (p_c), s		1.8	0.1	2.4		1.3	0.1	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	716	105	118	644	49	163	193	114	54	163	73
Future Volume (veh/h)	125	716	105	118	644	49	163	193	114	54	163	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	778	114	128	700	53	177	210	124	59	177	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	965	431	164	946	422	1030	899	509	481	996	427
Arrive On Green	0.10	0.27	0.27	0.09	0.27	0.27	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2180	2187	1237	1046	2422	1038
Grp Volume(v), veh/h	136	778	114	128	700	53	177	169	165	59	128	128
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1090	1777	1648	1046	1777	1684
Q Serve(g_s), s	4.5	12.2	3.4	4.2	10.8	1.5	3.4	3.7	3.9	2.3	2.7	2.9
Cycle Q Clear(g_c), s	4.5	12.2	3.4	4.2	10.8	1.5	6.3	3.7	3.9	6.3	2.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.62
Lane Grp Cap(c), veh/h	174	965	431	164	946	422	1030	730	677	481	730	692
V/C Ratio(X)	0.78	0.81	0.26	0.78	0.74	0.13	0.17	0.23	0.24	0.12	0.18	0.19
Avail Cap(c_a), veh/h	252	1096	489	252	1096	489	1030	730	677	481	730	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	20.4	17.1	26.6	20.1	16.7	13.3	11.5	11.6	13.6	11.2	11.3
Incr Delay (d2), s/veh	6.4	2.7	0.2	8.1	2.3	0.1	0.4	0.7	0.8	0.5	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.8	1.1	2.0	4.2	0.5	0.8	1.4	1.3	0.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	23.1	17.4	34.8	22.4	16.8	13.6	12.2	12.4	14.1	11.7	11.9
LnGrp LOS	C	C	B	C	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1028			881			511			315	
Approach Delay, s/veh		23.7			23.9			12.8			12.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.2	10.0	20.8		29.2	10.4	20.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	8.5	18.5		19.5	8.5	18.5				
Max Q Clear Time (g_c+I1), s		8.3	6.2	14.2		8.3	6.5	12.8				
Green Ext Time (p_c), s		2.1	0.1	2.1		1.2	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	689	147	128	650	161	150	271	94	147	320	71
Future Volume (veh/h)	36	689	147	128	650	161	150	271	94	147	320	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	725	155	135	684	169	158	285	99	155	337	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	914	408	255	1038	463	265	1054	470	264	1247	267
Arrive On Green	0.04	0.26	0.26	0.07	0.29	0.29	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4209	903
Grp Volume(v), veh/h	38	725	155	135	684	169	158	285	99	155	270	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1708
Q Serve(g_s), s	1.3	11.6	4.9	2.3	10.3	5.1	2.7	3.7	2.8	2.6	3.7	3.9
Cycle Q Clear(g_c), s	1.3	11.6	4.9	2.3	10.3	5.1	2.7	3.7	2.8	2.6	3.7	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	69	914	408	255	1038	463	265	1054	470	264	1008	506
V/C Ratio(X)	0.55	0.79	0.38	0.53	0.66	0.37	0.60	0.27	0.21	0.59	0.27	0.28
Avail Cap(c_a), veh/h	147	1053	470	284	1053	470	284	1054	470	284	1008	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	21.1	18.6	27.1	18.9	17.0	27.1	16.3	16.0	27.1	16.3	16.4
Incr Delay (d2), s/veh	6.6	3.7	0.6	1.7	1.5	0.5	3.0	0.6	1.0	2.8	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.7	1.6	0.9	3.9	1.7	1.1	1.4	1.0	1.1	1.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	24.8	19.2	28.8	20.4	17.5	30.2	17.0	17.1	29.9	17.0	17.8
LnGrp LOS	D	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		918			988			542			567	
Approach Delay, s/veh		24.3			21.0			20.8			20.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.0	20.1	9.2	22.5	6.9	22.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	5.7	4.3	13.6	4.7	5.9	3.3	12.3				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.1	0.0	1.8	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	740	114	110	651	134	122	222	93	104	283	35
Future Volume (veh/h)	78	740	114	110	651	134	122	222	93	104	283	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	779	120	116	685	141	128	234	98	109	298	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	948	423	244	980	437	251	1061	473	239	1361	165
Arrive On Green	0.06	0.27	0.27	0.07	0.28	0.28	0.07	0.30	0.30	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4614	559
Grp Volume(v), veh/h	82	779	120	116	685	141	128	234	98	109	218	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1770
Q Serve(g_s), s	2.8	12.6	3.7	2.0	10.6	4.3	2.2	3.0	2.8	1.8	2.9	3.0
Cycle Q Clear(g_c), s	2.8	12.6	3.7	2.0	10.6	4.3	2.2	3.0	2.8	1.8	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	110	948	423	244	980	437	251	1061	473	239	1004	522
V/C Ratio(X)	0.75	0.82	0.28	0.48	0.70	0.32	0.51	0.22	0.21	0.46	0.22	0.22
Avail Cap(c_a), veh/h	146	1048	468	283	1048	468	283	1061	473	283	1004	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	21.0	17.7	27.3	19.8	17.6	27.2	16.1	16.0	27.3	16.2	16.2
Incr Delay (d2), s/veh	13.6	4.9	0.4	1.4	1.9	0.4	1.6	0.5	1.0	1.4	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.2	1.2	0.8	4.0	1.4	0.9	1.1	1.0	0.7	1.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	25.9	18.1	28.7	21.7	18.0	28.9	16.5	17.0	28.7	16.7	17.2
LnGrp LOS	D	C	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		981			942			460			444	
Approach Delay, s/veh		26.3			22.0			20.1			19.8	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	22.7	8.8	20.8	8.9	22.5	8.3	21.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.8	5.0	4.0	14.6	4.2	5.0	4.8	12.6				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.7	0.0	1.5	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	807	172	310	794	0	172	0	355	1	0	0
Future Volume (vph)	15	807	172	310	794	0	172	0	355	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1457	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1457	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	849	181	326	836	0	181	0	374	1	0	0
RTOR Reduction (vph)	0	0	101	0	0	0	0	129	139	0	0	0
Lane Group Flow (vph)	16	849	80	326	836	0	163	69	55	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		55	
v/s Ratio Prot	0.01	c0.24		c0.09	c0.24		c0.10	0.05				
v/s Ratio Perm			0.05						0.04		c0.00	
v/c Ratio	0.67	0.70	0.15	1.22	0.58		0.34	0.17	0.13		0.02	
Uniform Delay, d1	31.4	18.2	14.6	29.5	14.8		18.2	17.3	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	52.8	1.9	0.1	126.5	0.6		2.0	0.9	0.6		0.1	
Delay (s)	84.2	20.1	14.7	156.0	15.4		20.2	18.2	17.7		31.1	
Level of Service	F	C	B	F	B		C	B	B		C	
Approach Delay (s)		20.1			54.8			18.6			31.1	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			34.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			 			 	
Traffic Volume (vph)	14	826	179	296	729	0	166	0	337	0	0	2
Future Volume (vph)	14	826	179	296	729	0	166	0	337	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1458	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	869	188	312	767	0	175	0	355	0	0	2
RTOR Reduction (vph)	0	0	103	0	0	0	0	122	133	0	2	0
Lane Group Flow (vph)	15	869	85	312	767	0	157	66	52	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	412	425		47	
v/s Ratio Prot	0.01	c0.25		c0.09	c0.22		c0.09	0.05			c0.00	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.62	0.72	0.16	1.16	0.53		0.33	0.16	0.12		0.00	
Uniform Delay, d1	31.4	18.4	14.6	29.5	14.4		18.2	17.2	17.1		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	2.1	0.1	106.8	0.4		1.9	0.8	0.6		0.0	
Delay (s)	72.7	20.4	14.8	136.3	14.8		20.0	18.1	17.6		31.0	
Level of Service	E	C	B	F	B		C	B	B		C	
Approach Delay (s)		20.2			49.9			18.5			31.0	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			57.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↱	↰		↱	↰	
Traffic Vol, veh/h	0	9	9	25	10	45	3	568	35	28	529	6
Future Vol, veh/h	0	9	9	25	10	45	3	568	35	28	529	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	27	11	49	3	617	38	30	575	7
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1311	1300	579	1291	1284	636	582	0	0	655	0	0
Stage 1	639	639	-	642	642	-	-	-	-	-	-	-
Stage 2	672	661	-	649	642	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	161	515	140	165	478	992	-	-	932	-	-
Stage 1	464	470	-	463	469	-	-	-	-	-	-	-
Stage 2	445	460	-	458	469	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	113	155	515	127	159	478	992	-	-	932	-	-
Mov Cap-2 Maneuver	113	155	-	127	159	-	-	-	-	-	-	-
Stage 1	463	455	-	462	468	-	-	-	-	-	-	-
Stage 2	389	459	-	425	454	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	21.5		30.6			0			0.4			
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	992	-	-	238	226	932	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.082	0.385	0.033	-	-				
HCM Control Delay (s)	8.6	-	-	21.5	30.6	9	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	1.7	0.1	-	-				

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↱	↰		↱	↰	
Traffic Vol, veh/h	3	6	3	43	10	55	6	617	23	18	512	0
Future Vol, veh/h	3	6	3	43	10	55	6	617	23	18	512	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	7	3	47	11	60	7	671	25	20	557	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1330	1307	557	1300	1295	684	557	0	0	696	0	0
Stage 1	597	597	-	698	698	-	-	-	-	-	-	-
Stage 2	733	710	-	602	597	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	132	160	530	138	162	449	1014	-	-	900	-	-
Stage 1	490	491	-	431	442	-	-	-	-	-	-	-
Stage 2	412	437	-	486	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	106	155	530	130	157	449	1014	-	-	900	-	-
Mov Cap-2 Maneuver	106	155	-	130	157	-	-	-	-	-	-	-
Stage 1	487	480	-	428	439	-	-	-	-	-	-	-
Stage 2	346	434	-	466	480	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	28.7		42.3			0.1			0.3			
HCM LOS	D		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1014	-	-	165	209	900	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.079	0.562	0.022	-	-				
HCM Control Delay (s)	8.6	-	-	28.7	42.3	9.1	-	-				
HCM Lane LOS	A	-	-	D	E	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	3	0.1	-	-				

HCM 6th AWSC
14: College Ave & 6th St/6st St

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Intersection

Intersection Delay, s/veh 11.2
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	106	4	74	112	18	7	180	75	20	179	9
Future Vol, veh/h	10	106	4	74	112	18	7	180	75	20	179	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	115	4	80	122	20	8	196	82	22	195	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	11.4	11.7	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	8%	36%	10%
Vol Thru, %	69%	88%	55%	86%
Vol Right, %	29%	3%	9%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	120	204	208
LT Vol	7	10	74	20
Through Vol	180	106	112	179
RT Vol	75	4	18	9
Lane Flow Rate	285	130	222	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.206	0.341	0.337
Departure Headway (Hd)	5.134	5.685	5.54	5.371
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	630	647	669
Service Time	3.173	3.732	3.582	3.414
HCM Lane V/C Ratio	0.407	0.206	0.343	0.338
HCM Control Delay	11.7	10.2	11.4	11.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2	0.8	1.5	1.5

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	67	11	81	128	20	32	178	65	16	141	16
Future Vol, veh/h	3	67	11	81	128	20	32	178	65	16	141	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	73	12	88	139	22	35	193	71	17	153	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	11.6	11.7	10.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	4%	35%	9%
Vol Thru, %	65%	83%	56%	82%
Vol Right, %	24%	14%	9%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	81	229	173
LT Vol	32	3	81	16
Through Vol	178	67	128	141
RT Vol	65	11	20	16
Lane Flow Rate	299	88	249	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.419	0.136	0.372	0.276
Departure Headway (Hd)	5.049	5.566	5.376	5.286
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	714	644	670	679
Service Time	3.08	3.605	3.405	3.32
HCM Lane V/C Ratio	0.419	0.137	0.372	0.277
HCM Control Delay	11.7	9.5	11.6	10.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.5	1.7	1.1

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	186	17	27	201	5	19	0	9	2	5	0
Future Vol, veh/h	3	186	17	27	201	5	19	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	202	18	29	218	5	21	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	9	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	1%	12%	29%
Vol Thru, %	0%	90%	86%	71%
Vol Right, %	32%	8%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	206	233	7
LT Vol	19	3	27	2
Through Vol	0	186	201	5
RT Vol	9	17	5	0
Lane Flow Rate	30	224	253	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.258	0.294	0.011
Departure Headway (Hd)	4.918	4.145	4.18	5.067
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	851	846	710
Service Time	2.919	2.243	2.269	3.07
HCM Lane V/C Ratio	0.041	0.263	0.299	0.011
HCM Control Delay	8.1	8.7	9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1	1.2	0

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	164	18	16	244	4	15	0	11	2	4	3
Future Vol, veh/h	6	164	18	16	244	4	15	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	178	20	17	265	4	16	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.3	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	58%	3%	6%	22%
Vol Thru, %	0%	87%	92%	44%
Vol Right, %	42%	10%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	188	264	9
LT Vol	15	6	16	2
Through Vol	0	164	244	4
RT Vol	11	18	4	3
Lane Flow Rate	28	204	287	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.242	0.331	0.013
Departure Headway (Hd)	4.867	4.266	4.158	4.876
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	738	846	852	737
Service Time	2.877	2.266	2.244	2.889
HCM Lane V/C Ratio	0.038	0.241	0.337	0.014
HCM Control Delay	8.1	8.6	9.3	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.9	1.5	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	131	31	91	136	73	42	339	105	56	298	87
Future Volume (veh/h)	65	131	31	91	136	73	42	339	105	56	298	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	138	33	96	143	77	44	357	111	59	314	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	201	48	228	239	203	474	910	279	452	952	274
Arrive On Green	0.14	0.14	0.14	0.13	0.13	0.13	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	1781	1459	349	1781	1870	1585	1781	2678	821	1781	2722	784
Grp Volume(v), veh/h	68	0	171	96	143	77	44	235	233	59	203	203
Grp Sat Flow(s),veh/h/ln	1781	0	1808	1781	1870	1585	1781	1777	1723	1781	1777	1729
Q Serve(g_s), s	1.8	0.0	4.8	2.6	3.8	2.4	0.8	5.3	5.5	1.1	4.4	4.6
Cycle Q Clear(g_c), s	1.8	0.0	4.8	2.6	3.8	2.4	0.8	5.3	5.5	1.1	4.4	4.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.48	1.00		0.45
Lane Grp Cap(c), veh/h	245	0	249	228	239	203	474	604	585	452	621	605
V/C Ratio(X)	0.28	0.00	0.69	0.42	0.60	0.38	0.09	0.39	0.40	0.13	0.33	0.34
Avail Cap(c_a), veh/h	605	0	614	605	636	539	562	604	585	523	621	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	21.8	21.3	21.8	21.2	10.4	13.3	13.3	10.3	12.6	12.7
Incr Delay (d2), s/veh	0.6	0.0	3.4	1.2	2.4	1.2	0.1	1.9	2.0	0.1	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.0	1.1	1.7	0.9	0.3	2.0	2.0	0.4	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	25.1	22.5	24.2	22.3	10.5	15.2	15.4	10.5	14.1	14.2
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		239			316			512			465	
Approach Delay, s/veh		24.0			23.2			14.9			13.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	22.5		11.8	6.9	23.0		11.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.1	7.5		6.8	2.8	6.6		5.8				
Green Ext Time (p_c), s	0.0	1.9		0.7	0.0	1.7		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				17.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	132	40	86	134	43	34	287	89	77	353	83
Future Volume (veh/h)	66	132	40	86	134	43	34	287	89	77	353	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	139	42	91	141	45	36	302	94	81	372	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	198	60	220	231	195	448	895	273	494	1033	239
Arrive On Green	0.14	0.14	0.14	0.12	0.12	0.12	0.04	0.33	0.33	0.07	0.36	0.36
Sat Flow, veh/h	1781	1379	417	1781	1870	1585	1781	2681	819	1781	2865	663
Grp Volume(v), veh/h	69	0	181	91	141	45	36	198	198	81	229	230
Grp Sat Flow(s),veh/h/ln	1781	0	1795	1781	1870	1585	1781	1777	1723	1781	1777	1751
Q Serve(g_s), s	1.9	0.0	5.2	2.5	3.9	1.4	0.7	4.5	4.7	1.5	5.1	5.2
Cycle Q Clear(g_c), s	1.9	0.0	5.2	2.5	3.9	1.4	0.7	4.5	4.7	1.5	5.1	5.2
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.48	1.00		0.38
Lane Grp Cap(c), veh/h	256	0	258	220	231	195	448	593	575	494	640	631
V/C Ratio(X)	0.27	0.00	0.70	0.41	0.61	0.23	0.08	0.33	0.34	0.16	0.36	0.36
Avail Cap(c_a), veh/h	595	0	599	595	624	529	545	593	575	543	640	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	22.0	21.8	22.4	21.3	11.0	13.5	13.5	10.4	12.7	12.7
Incr Delay (d2), s/veh	0.6	0.0	3.4	1.2	2.6	0.6	0.1	1.5	1.6	0.2	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.1	1.1	1.7	0.5	0.2	1.7	1.7	0.5	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	25.4	23.1	25.0	21.9	11.0	15.0	15.1	10.6	14.2	14.3
LnGrp LOS	C	A	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		250			277			432			540	
Approach Delay, s/veh		24.2			23.9			14.7			13.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	22.5		12.3	6.6	23.9		11.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.5	6.7		7.2	2.7	7.2		5.9				
Green Ext Time (p_c), s	0.0	1.6		0.8	0.0	1.9		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				17.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	161	38	48	157	46	53	371	31	29	523	62
Future Volume (veh/h)	90	161	38	48	157	46	53	371	31	29	523	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	169	40	51	165	48	56	391	33	31	551	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	461	106	91	258	218	188	1855	154	63	1701	198
Arrive On Green	0.07	0.16	0.16	0.05	0.14	0.14	0.05	0.39	0.39	0.04	0.37	0.37
Sat Flow, veh/h	1781	2866	662	1781	1870	1585	3456	4803	400	1781	4637	540
Grp Volume(v), veh/h	95	103	106	51	165	48	56	276	148	31	403	213
Grp Sat Flow(s),veh/h/ln	1781	1777	1751	1781	1870	1585	1728	1702	1798	1781	1702	1773
Q Serve(g_s), s	2.6	2.5	2.6	1.4	4.1	1.3	0.8	2.7	2.7	0.8	4.2	4.2
Cycle Q Clear(g_c), s	2.6	2.5	2.6	1.4	4.1	1.3	0.8	2.7	2.7	0.8	4.2	4.2
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.22	1.00		0.30
Lane Grp Cap(c), veh/h	132	286	282	91	258	218	188	1315	694	63	1249	651
V/C Ratio(X)	0.72	0.36	0.38	0.56	0.64	0.22	0.30	0.21	0.21	0.50	0.32	0.33
Avail Cap(c_a), veh/h	182	652	643	182	686	582	352	1315	694	182	1249	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	18.3	18.4	22.7	20.0	18.8	22.3	10.1	10.1	23.2	11.2	11.2
Incr Delay (d2), s/veh	8.4	0.8	0.8	5.3	2.6	0.5	0.9	0.4	0.7	6.0	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	0.9	0.6	1.7	0.4	0.3	0.8	0.9	0.4	1.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	19.1	19.2	28.1	22.6	19.3	23.2	10.4	10.8	29.2	11.8	12.5
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		304			264			480			647	
Approach Delay, s/veh		22.7			23.1			12.0			12.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	23.4	7.0	12.4	7.2	22.5	8.1	11.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.8	4.7	3.4	4.6	2.8	6.2	4.6	6.1				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.8	0.0	2.8	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	192	60	53	151	37	41	341	36	26	528	47
Future Volume (veh/h)	59	192	60	53	151	37	41	341	36	26	528	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	202	63	56	159	39	43	359	38	27	556	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	375	114	98	254	215	158	1851	192	56	1817	159
Arrive On Green	0.06	0.14	0.14	0.06	0.14	0.14	0.05	0.39	0.39	0.03	0.38	0.38
Sat Flow, veh/h	1781	2686	815	1781	1870	1585	3456	4698	488	1781	4782	417
Grp Volume(v), veh/h	62	132	133	56	159	39	43	258	139	27	394	211
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1870	1585	1728	1702	1782	1781	1702	1795
Q Serve(g_s), s	1.6	3.3	3.4	1.5	3.8	1.0	0.6	2.4	2.4	0.7	3.8	3.9
Cycle Q Clear(g_c), s	1.6	3.3	3.4	1.5	3.8	1.0	0.6	2.4	2.4	0.7	3.8	3.9
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.27	1.00		0.23
Lane Grp Cap(c), veh/h	105	248	241	98	254	215	158	1341	702	56	1293	682
V/C Ratio(X)	0.59	0.53	0.55	0.57	0.63	0.18	0.27	0.19	0.20	0.48	0.30	0.31
Avail Cap(c_a), veh/h	188	675	655	188	711	602	365	1341	702	188	1293	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	18.9	19.0	21.8	19.3	18.1	21.9	9.4	9.4	22.6	10.3	10.3
Incr Delay (d2), s/veh	5.2	1.8	2.0	5.1	2.5	0.4	0.9	0.3	0.6	6.2	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.2	1.3	0.7	1.5	0.3	0.2	0.7	0.8	0.3	1.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	20.7	21.0	27.0	21.9	18.5	22.8	9.7	10.1	28.8	10.9	11.5
LnGrp LOS	C	C	C	C	C	B	C	A	B	C	B	B
Approach Vol, veh/h		327			254			440			632	
Approach Delay, s/veh		22.0			22.5			11.1			11.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	23.2	7.1	11.1	6.7	22.5	7.3	10.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.7	4.4	3.5	5.4	2.6	5.9	3.6	5.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	1.0	0.0	2.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	31	24	46	37	24	37	18	533	16	21	532	20
Future Volume (veh/h)	31	24	46	37	24	37	18	533	16	21	532	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	26	50	40	26	40	20	579	17	23	578	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	48	475	97	41	475	42	839	711	47	808	31
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.02	0.45	0.45	0.03	0.45	0.45
Sat Flow, veh/h	1	159	1585	1	136	1585	1781	1870	1585	1781	1790	68
Grp Volume(v), veh/h	60	0	50	66	0	40	20	579	17	23	0	600
Grp Sat Flow(s),veh/h/ln	160	0	1585	137	0	1585	1781	1870	1585	1781	0	1858
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	1.1	0.7	14.8	0.4	0.8	0.0	15.7
Cycle Q Clear(g_c), s	18.0	0.0	1.4	18.0	0.0	1.1	0.7	14.8	0.4	0.8	0.0	15.7
Prop In Lane	0.57		1.00	0.61		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	142	0	475	137	0	475	42	839	711	47	0	839
V/C Ratio(X)	0.42	0.00	0.11	0.48	0.00	0.08	0.48	0.69	0.02	0.49	0.00	0.72
Avail Cap(c_a), veh/h	142	0	476	137	0	476	148	839	711	148	0	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	15.2	19.4	0.0	15.1	28.9	13.2	9.2	28.8	0.0	13.3
Incr Delay (d2), s/veh	2.0	0.0	0.1	2.6	0.0	0.1	8.1	4.6	0.1	7.6	0.0	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.5	0.7	0.0	0.4	0.4	6.5	0.1	0.4	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	0.0	15.3	21.9	0.0	15.2	37.0	17.8	9.3	36.4	0.0	18.5
LnGrp LOS	B	A	B	C	A	B	D	B	A	D	A	B
Approach Vol, veh/h		110			106			616			623	
Approach Delay, s/veh		17.5			19.4			18.2			19.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	31.6		22.5	6.1	31.4		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.7	17.7		20.0	2.8	16.8		20.0				
Green Ext Time (p_c), s	0.0	2.0		0.0	0.0	2.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	17	15	38	25	24	28	14	446	28	21	561	17
Future Volume (veh/h)	17	15	38	25	24	28	14	446	28	21	561	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	16	41	27	26	30	15	485	30	23	610	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	71	181	112	75	181	33	1186	1005	47	1161	34
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.02	0.63	0.63	0.03	0.64	0.64
Sat Flow, veh/h	190	617	1585	186	658	1585	1781	1870	1585	1781	1807	53
Grp Volume(v), veh/h	34	0	41	53	0	30	15	485	30	23	0	628
Grp Sat Flow(s),veh/h/ln	806	0	1585	844	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.1	0.0	1.4	0.1	0.0	1.0	0.5	7.7	0.4	0.8	0.0	10.9
Cycle Q Clear(g_c), s	5.4	0.0	1.4	5.4	0.0	1.0	0.5	7.7	0.4	0.8	0.0	10.9
Prop In Lane	0.53		1.00	0.51		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	184	0	181	187	0	181	33	1186	1005	47	0	1195
V/C Ratio(X)	0.18	0.00	0.23	0.28	0.00	0.17	0.46	0.41	0.03	0.49	0.00	0.53
Avail Cap(c_a), veh/h	472	0	476	477	0	476	148	1186	1005	148	0	1195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	24.2	24.3	0.0	24.0	29.1	5.4	4.1	28.8	0.0	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.8	0.0	0.4	9.6	1.0	0.1	7.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.7	0.0	0.4	0.3	2.6	0.1	0.4	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	24.8	25.1	0.0	24.4	38.7	6.5	4.1	36.4	0.0	7.5
LnGrp LOS	C	A	C	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		75			83			530			651	
Approach Delay, s/veh		24.7			24.9			7.3			8.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	42.9		11.4	6.1	42.5		11.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.5	12.9		7.4	2.8	9.7		7.4				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	2.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	52	85	131	52	85	116	487	178	37	471	89
Future Volume (veh/h)	33	52	85	131	52	85	116	487	178	37	471	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	57	92	142	57	92	126	529	193	40	512	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	341	289	314	117	189	476	1033	875	467	794	150
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.55	0.55	0.04	0.52	0.52
Sat Flow, veh/h	1239	1870	1585	1239	644	1039	1781	1870	1585	1781	1529	290
Grp Volume(v), veh/h	36	57	92	142	0	149	126	529	193	40	0	609
Grp Sat Flow(s),veh/h/ln	1239	1870	1585	1239	0	1683	1781	1870	1585	1781	0	1818
Q Serve(g_s), s	1.6	1.5	3.0	6.6	0.0	4.8	1.9	10.6	3.7	0.6	0.0	14.5
Cycle Q Clear(g_c), s	6.4	1.5	3.0	8.1	0.0	4.8	1.9	10.6	3.7	0.6	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	247	341	289	314	0	307	476	1033	875	467	0	945
V/C Ratio(X)	0.15	0.17	0.32	0.45	0.00	0.49	0.26	0.51	0.22	0.09	0.00	0.64
Avail Cap(c_a), veh/h	393	561	476	460	0	505	497	1033	875	543	0	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.77	0.77	0.77	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	20.7	21.3	24.1	0.0	22.0	7.4	8.4	6.9	6.6	0.0	10.4
Incr Delay (d2), s/veh	0.3	0.2	0.6	1.0	0.0	1.2	0.2	1.4	0.4	0.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.7	1.1	1.9	0.0	1.9	0.6	3.8	1.1	0.2	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	20.9	21.9	25.1	0.0	23.2	7.7	9.8	7.3	6.7	0.0	13.8
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h		185			291			848			649	
Approach Delay, s/veh		22.2			24.1			8.9			13.4	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	37.6		15.4	8.9	35.7		15.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	2.6	12.6		8.4	3.9	16.5		10.1				
Green Ext Time (p_c), s	0.0	3.1		0.4	0.0	2.4		0.8				
Intersection Summary												
HCM 6th Ctrl Delay				13.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	44	120	111	85	69	147	475	127	34	404	66
Future Volume (veh/h)	52	44	120	111	85	69	147	475	127	34	404	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	48	130	121	92	75	160	516	138	37	439	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	327	277	305	167	136	558	1051	891	496	819	134
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.08	0.56	0.56	0.04	0.52	0.52
Sat Flow, veh/h	1218	1870	1585	1206	953	777	1781	1870	1585	1781	1567	257
Grp Volume(v), veh/h	57	48	130	121	0	167	160	516	138	37	0	511
Grp Sat Flow(s),veh/h/ln	1218	1870	1585	1206	0	1730	1781	1870	1585	1781	0	1824
Q Serve(g_s), s	2.7	1.3	4.4	5.7	0.0	5.3	2.4	10.0	2.5	0.6	0.0	11.1
Cycle Q Clear(g_c), s	8.0	1.3	4.4	7.0	0.0	5.3	2.4	10.0	2.5	0.6	0.0	11.1
Prop In Lane	1.00		1.00	1.00		0.45	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	226	327	277	305	0	303	558	1051	891	496	0	953
V/C Ratio(X)	0.25	0.15	0.47	0.40	0.00	0.55	0.29	0.49	0.15	0.07	0.00	0.54
Avail Cap(c_a), veh/h	378	561	476	456	0	519	583	1051	891	576	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	21.0	22.3	23.9	0.0	22.6	6.5	8.0	6.3	6.4	0.0	9.5
Incr Delay (d2), s/veh	0.6	0.2	1.2	0.8	0.0	1.6	0.2	1.4	0.3	0.1	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.6	1.7	1.6	0.0	2.2	0.7	3.6	0.7	0.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	21.2	23.5	24.8	0.0	24.2	6.8	9.4	6.6	6.5	0.0	11.7
LnGrp LOS	C	C	C	C	A	C	A	A	A	A	A	B
Approach Vol, veh/h	235			288			814			548		
Approach Delay, s/veh	23.8			24.4			8.4			11.3		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.8	38.2	15.0		9.2	35.9	15.0					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.5	23.0	18.0					
Max Q Clear Time (g_c+I1), s	2.6	12.0	10.0		4.4	13.1	9.0					
Green Ext Time (p_c), s	0.0	3.0	0.5		0.0	2.5	0.9					
Intersection Summary												
HCM 6th Ctrl Delay	13.6											
HCM 6th LOS	B											

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	85	55	14	87	42	60	140	33	30	146	28
Future Vol, veh/h	33	85	55	14	87	42	60	140	33	30	146	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	92	60	15	95	46	65	152	36	33	159	30
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	9.7	9.8	12.6	11.8
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	26%	100%	0%	0%	100%	0%	0%	15%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	72%
Vol Right, %	14%	0%	0%	100%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	33	85	55	14	87	42	204
LT Vol	60	33	0	0	14	0	0	30
Through Vol	140	0	85	0	0	87	0	146
RT Vol	33	0	0	55	0	0	42	28
Lane Flow Rate	253	36	92	60	15	95	46	222
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.41	0.067	0.16	0.092	0.029	0.165	0.071	0.359
Departure Headway (Hd)	5.826	6.737	6.226	5.511	6.79	6.279	5.563	5.822
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	618	532	576	649	527	571	643	619
Service Time	3.56	4.48	3.969	3.253	4.534	4.022	3.307	3.556
HCM Lane V/C Ratio	0.409	0.068	0.16	0.092	0.028	0.166	0.072	0.359
HCM Control Delay	12.6	10	10.2	8.8	9.7	10.3	8.7	11.8
HCM Lane LOS	B	A	B	A	A	B	A	B
HCM 95th-tile Q	2	0.2	0.6	0.3	0.1	0.6	0.2	1.6

Intersection												
Intersection Delay, s/veh	12.5											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	91	65	27	142	56	49	151	23	44	161	41
Future Vol, veh/h	45	91	65	27	142	56	49	151	23	44	161	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	99	71	29	154	61	53	164	25	48	175	45
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.4	11.1	13.8	14.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	68%	0%	100%	0%	0%	100%	0%	65%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	45	91	65	27	142	56	246
LT Vol	49	45	0	0	27	0	0	44
Through Vol	151	0	91	0	0	142	0	161
RT Vol	23	0	0	65	0	0	56	41
Lane Flow Rate	242	49	99	71	29	154	61	267
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.426	0.097	0.182	0.116	0.058	0.281	0.099	0.462
Departure Headway (Hd)	6.326	7.125	6.612	5.894	7.075	6.562	5.844	6.223
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	501	540	604	504	545	609	578
Service Time	4.093	4.901	4.387	3.668	4.848	4.335	3.616	3.988
HCM Lane V/C Ratio	0.427	0.098	0.183	0.118	0.058	0.283	0.1	0.462
HCM Control Delay	13.8	10.7	10.9	9.4	10.3	11.9	9.3	14.3
HCM Lane LOS	B	B	B	A	B	B	A	B
HCM 95th-tile Q	2.1	0.3	0.7	0.4	0.2	1.1	0.3	2.4

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	2	74	4	1	5	58	396	4	2	325	95
Future Volume (veh/h)	97	2	74	4	1	5	58	396	4	2	325	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	2	80	4	1	5	63	430	4	2	353	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	167	141	18	5	20	732	2545	24	738	2507	1118
Arrive On Green	0.09	0.09	0.09	0.01	0.01	0.01	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1781	1870	1585	1439	360	1585	935	3608	34	954	3554	1585
Grp Volume(v), veh/h	105	2	80	5	0	5	63	212	222	2	353	103
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1798	0	1585	935	1777	1864	954	1777	1585
Q Serve(g_s), s	4.0	0.1	3.4	0.2	0.0	0.2	1.7	2.8	2.8	0.0	2.3	1.4
Cycle Q Clear(g_c), s	4.0	0.1	3.4	0.2	0.0	0.2	3.9	2.8	2.8	2.8	2.3	1.4
Prop In Lane	1.00		1.00	0.80		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	159	167	141	23	0	20	732	1253	1315	738	2507	1118
V/C Ratio(X)	0.66	0.01	0.57	0.22	0.00	0.25	0.09	0.17	0.17	0.00	0.14	0.09
Avail Cap(c_a), veh/h	471	494	419	462	0	408	732	1253	1315	738	2507	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	30.9	29.1	30.6	34.2	0.0	34.2	4.0	3.4	3.4	3.9	3.4	3.2
Incr Delay (d2), s/veh	4.7	0.0	3.5	4.8	0.0	6.4	0.2	0.3	0.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.4	0.1	0.0	0.1	0.2	0.7	0.7	0.0	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	29.1	34.1	39.0	0.0	40.6	4.2	3.7	3.7	3.9	3.5	3.4
LnGrp LOS	D	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	187			10			497			458		
Approach Delay, s/veh	34.8			39.8			3.8			3.5		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	53.9			10.7			53.9			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	5.9			6.0			4.8			2.2		
Green Ext Time (p_c), s	2.3			0.4			2.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	9.0											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	3	78	3	0	5	55	321	1	5	393	95
Future Volume (veh/h)	83	3	78	3	0	5	55	321	1	5	393	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	3	85	3	0	5	60	349	1	5	427	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	156	132	18	0	16	692	2593	7	807	2535	1131
Arrive On Green	0.08	0.08	0.08	0.01	0.00	0.01	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	874	3635	10	1031	3554	1585
Grp Volume(v), veh/h	90	3	85	3	0	5	60	171	179	5	427	103
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	874	1777	1868	1031	1777	1585
Q Serve(g_s), s	3.4	0.1	3.6	0.1	0.0	0.2	1.7	2.1	2.1	0.1	2.7	1.4
Cycle Q Clear(g_c), s	3.4	0.1	3.6	0.1	0.0	0.2	4.4	2.1	2.1	2.2	2.7	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	149	156	132	18	0	16	692	1268	1333	807	2535	1131
V/C Ratio(X)	0.61	0.02	0.64	0.16	0.00	0.31	0.09	0.13	0.13	0.01	0.17	0.09
Avail Cap(c_a), veh/h	471	494	419	458	0	408	692	1268	1333	807	2535	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	31.0	29.4	31.1	34.3	0.0	34.4	4.0	3.2	3.2	3.5	3.3	3.1
Incr Delay (d2), s/veh	3.9	0.0	5.1	4.1	0.0	10.2	0.2	0.2	0.2	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5	0.1	0.0	0.1	0.2	0.5	0.5	0.0	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	29.5	36.2	38.4	0.0	44.6	4.2	3.4	3.4	3.5	3.4	3.2
LnGrp LOS	C	C	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	178			8			410			535		
Approach Delay, s/veh	35.4			42.3			3.5			3.4		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	54.4			10.3			54.4			5.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	6.4			5.6			4.7			2.2		
Green Ext Time (p_c), s	1.8			0.4			2.6			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	567	167	161	366	61	113	564	375	134	472	64
Future Volume (veh/h)	103	567	167	161	366	61	113	564	375	134	472	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	616	182	175	398	66	123	613	408	146	513	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	782	349	214	925	412	150	1085	484	173	1000	136
Arrive On Green	0.08	0.22	0.22	0.12	0.26	0.26	0.08	0.31	0.31	0.10	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3143	427
Grp Volume(v), veh/h	112	616	182	175	398	66	123	613	408	146	289	294
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1793
Q Serve(g_s), s	4.3	11.4	7.1	6.7	6.5	2.3	4.8	10.1	16.9	5.6	9.3	9.4
Cycle Q Clear(g_c), s	4.3	11.4	7.1	6.7	6.5	2.3	4.8	10.1	16.9	5.6	9.3	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	143	782	349	214	925	412	150	1085	484	173	565	571
V/C Ratio(X)	0.78	0.79	0.52	0.82	0.43	0.16	0.82	0.57	0.84	0.84	0.51	0.51
Avail Cap(c_a), veh/h	181	914	408	216	985	439	150	1085	484	173	565	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	31.6	25.7	24.0	30.0	21.6	20.0	31.5	20.4	22.7	31.1	19.4	19.5
Incr Delay (d2), s/veh	15.8	4.0	1.2	19.5	0.3	0.2	28.8	2.1	16.3	24.5	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.0	2.6	3.9	2.6	0.8	3.2	4.3	8.0	3.5	4.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	29.7	25.3	49.6	21.9	20.2	60.3	22.5	39.0	55.6	22.0	22.0
LnGrp LOS	D	C	C	D	C	C	E	C	D	E	C	C
Approach Vol, veh/h	910			639			1144			729		
Approach Delay, s/veh	31.0			29.3			32.5			28.8		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	25.9	12.9	19.9	10.4	26.8	10.1	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.8	18.7	8.5	18.0	5.9	19.6	7.1	19.4				
Max Q Clear Time (g_c+l1), s	7.6	18.9	8.7	13.4	6.8	11.4	6.3	8.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	2.3	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	30.7											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

22: Arrow Hwy & Indian Hill Blvd

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	947	161	161	456	76	143	466	438	131	420	63
Future Volume (veh/h)	96	947	161	161	456	76	143	466	438	131	420	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1029	175	175	496	83	155	507	476	142	457	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1111	495	205	1256	560	188	975	435	174	827	122
Arrive On Green	0.07	0.31	0.31	0.23	0.71	0.71	0.11	0.27	0.27	0.10	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3105	460
Grp Volume(v), veh/h	104	1029	175	175	496	83	155	507	476	142	260	265
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1788
Q Serve(g_s), s	5.2	25.2	7.7	8.5	5.1	1.5	7.7	10.9	24.7	7.0	11.3	11.5
Cycle Q Clear(g_c), s	5.2	25.2	7.7	8.5	5.1	1.5	7.7	10.9	24.7	7.0	11.3	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	133	1111	495	205	1256	560	188	975	435	174	473	476
V/C Ratio(X)	0.78	0.93	0.35	0.85	0.40	0.15	0.82	0.52	1.09	0.82	0.55	0.56
Avail Cap(c_a), veh/h	234	1125	502	228	1256	560	216	975	435	188	473	476
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	40.9	29.9	23.9	33.9	9.3	8.8	39.4	27.6	32.7	39.8	28.4	28.4
Incr Delay (d2), s/veh	9.6	12.8	0.4	21.8	0.2	0.1	19.9	2.0	71.1	19.7	3.9	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	12.3	2.9	4.4	1.6	0.5	4.3	4.8	17.7	4.0	5.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	42.7	24.3	55.7	9.5	8.9	59.3	29.6	103.7	59.5	32.3	32.4
LnGrp LOS	D	D	C	E	A	A	E	C	F	E	C	C
Approach Vol, veh/h	1308			754			1138			667		
Approach Delay, s/veh	40.9			20.1			64.7			38.1		
Approach LOS	D			C			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	29.2	14.9	32.6	14.0	28.5	11.2	36.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	22.5	11.5	28.5	10.9	21.1	11.8	28.2				
Max Q Clear Time (g_c+I1), s	9.0	26.7	10.5	27.2	9.7	13.5	7.2	7.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	1.9	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay	43.3											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 23: College Ave & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	938	28	14	492	79	23	53	26	80	59	82
Future Volume (veh/h)	74	938	28	14	492	79	23	53	26	80	59	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1020	30	15	535	86	25	58	28	87	64	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1279	38	216	1113	178	208	443	187	751	817	693
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	803	3525	104	537	3067	491	252	1014	427	1311	1870	1585
Grp Volume(v), veh/h	80	514	536	15	309	312	111	0	0	87	64	89
Grp Sat Flow(s),veh/h/ln	803	1777	1852	537	1777	1782	1693	0	0	1311	1870	1585
Q Serve(g_s), s	3.8	11.7	11.7	1.2	6.0	6.1	0.0	0.0	0.0	0.0	0.9	1.5
Cycle Q Clear(g_c), s	9.9	11.7	11.7	12.8	6.0	6.1	1.7	0.0	0.0	1.3	0.9	1.5
Prop In Lane	1.00		0.06	1.00		0.28	0.23		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	343	645	672	216	645	647	838	0	0	751	817	693
V/C Ratio(X)	0.23	0.80	0.80	0.07	0.48	0.48	0.13	0.00	0.00	0.12	0.08	0.13
Avail Cap(c_a), veh/h	373	711	741	236	711	713	838	0	0	751	817	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.91	0.91	0.91	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	12.8	12.8	18.6	11.1	11.1	7.6	0.0	0.0	7.5	7.4	7.6
Incr Delay (d2), s/veh	0.2	3.9	3.7	0.1	0.5	0.5	0.3	0.0	0.0	0.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.4	4.5	0.1	2.0	2.0	0.6	0.0	0.0	0.4	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	16.7	16.6	18.7	11.6	11.6	7.9	0.0	0.0	7.8	7.6	7.9
LnGrp LOS	B	B	B	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1130			636			111			240		
Approach Delay, s/veh	16.5			11.7			7.9			7.8		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.2			20.8			24.2			20.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	3.7			13.7			3.5			14.8		
Green Ext Time (p_c), s	0.4			2.7			0.7			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	13.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1377	30	26	574	55	22	52	36	89	78	72
Future Volume (veh/h)	59	1377	30	26	574	55	22	52	36	89	78	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	1497	33	28	624	60	24	57	39	97	85	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1772	39	165	1633	157	148	323	192	600	657	557
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	757	3555	78	340	3276	315	215	920	546	1300	1870	1585
Grp Volume(v), veh/h	64	747	783	28	338	346	120	0	0	97	85	78
Grp Sat Flow(s),veh/h/ln	757	1777	1856	340	1777	1814	1681	0	0	1300	1870	1585
Q Serve(g_s), s	3.4	21.8	21.9	4.7	7.1	7.1	0.0	0.0	0.0	0.0	1.9	2.0
Cycle Q Clear(g_c), s	10.5	21.8	21.9	26.6	7.1	7.1	2.8	0.0	0.0	2.2	1.9	2.0
Prop In Lane	1.00		0.04	1.00		0.17	0.20		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	408	886	925	165	886	904	663	0	0	600	657	557
V/C Ratio(X)	0.16	0.84	0.85	0.17	0.38	0.38	0.18	0.00	0.00	0.16	0.13	0.14
Avail Cap(c_a), veh/h	428	933	975	174	933	952	663	0	0	600	657	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.39	0.86	0.86	0.86	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.0	13.0	24.6	9.3	9.3	13.5	0.0	0.0	13.3	13.2	13.3
Incr Delay (d2), s/veh	0.1	2.8	2.8	0.4	0.2	0.2	0.6	0.0	0.0	0.6	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.8	8.1	0.4	2.3	2.4	1.1	0.0	0.0	0.9	0.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	15.9	15.8	25.0	9.6	9.6	14.1	0.0	0.0	13.9	13.6	13.8
LnGrp LOS	B	B	B	C	A	A	B	A	A	B	B	B
Approach Vol, veh/h	1594			712			120			260		
Approach Delay, s/veh	15.7			10.2			14.1			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.6			34.4			25.6			34.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	4.8			23.9			4.2			28.6		
Green Ext Time (p_c), s	0.5			5.6			0.9			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	14.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	811	39	39	355	46	76	217	68	50	180	119
Future Volume (veh/h)	169	811	39	39	355	46	76	217	68	50	180	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	882	42	42	386	50	83	236	74	54	196	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	1019	49	71	662	85	106	969	296	83	651	552
Arrive On Green	0.13	0.30	0.30	0.04	0.21	0.21	0.06	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	1781	3453	164	1781	3166	407	1781	2680	820	1781	1870	1585
Grp Volume(v), veh/h	184	454	470	42	215	221	83	155	155	54	196	129
Grp Sat Flow(s),veh/h/ln	1781	1777	1841	1781	1777	1797	1781	1777	1723	1781	1870	1585
Q Serve(g_s), s	7.0	16.9	16.9	1.6	7.6	7.7	3.2	4.3	4.4	2.1	5.3	4.0
Cycle Q Clear(g_c), s	7.0	16.9	16.9	1.6	7.6	7.7	3.2	4.3	4.4	2.1	5.3	4.0
Prop In Lane	1.00		0.09	1.00		0.23	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	224	524	543	71	371	376	106	642	623	83	651	552
V/C Ratio(X)	0.82	0.87	0.87	0.59	0.58	0.59	0.78	0.24	0.25	0.65	0.30	0.23
Avail Cap(c_a), veh/h	242	569	589	130	457	462	140	642	623	127	651	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	23.4	23.4	33.0	24.9	25.0	32.5	15.6	15.7	32.8	16.6	16.2
Incr Delay (d2), s/veh	12.3	8.3	8.0	7.6	1.4	1.5	18.3	0.9	1.0	8.4	1.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.4	7.6	0.8	3.1	3.2	1.9	1.7	1.8	1.1	2.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	31.6	31.4	40.7	26.4	26.4	50.8	16.5	16.6	41.2	17.8	17.2
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		1108			478			393			379	
Approach Delay, s/veh		33.2			27.6			23.8			20.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	29.8	7.3	25.2	8.7	28.9	13.3	19.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.5	5.1	22.4	5.5	19.0	9.5	18.0				
Max Q Clear Time (g_c+I1), s	4.1	6.4	3.6	18.9	5.2	7.3	9.0	9.7				
Green Ext Time (p_c), s	0.0	1.4	0.0	1.7	0.0	1.2	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay				28.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1241	45	39	424	70	84	248	64	79	233	147
Future Volume (veh/h)	187	1241	45	39	424	70	84	248	64	79	233	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1349	49	42	461	76	91	270	70	86	253	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1418	51	68	934	153	116	756	192	110	498	422
Arrive On Green	0.14	0.41	0.41	0.04	0.31	0.31	0.07	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	1781	3497	127	1781	3056	501	1781	2805	714	1781	1870	1585
Grp Volume(v), veh/h	203	685	713	42	267	270	91	169	171	86	253	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1780	1781	1777	1742	1781	1870	1585
Q Serve(g_s), s	8.9	29.8	29.9	1.9	9.8	9.9	4.0	6.1	6.4	3.8	9.2	6.6
Cycle Q Clear(g_c), s	8.9	29.8	29.9	1.9	9.8	9.9	4.0	6.1	6.4	3.8	9.2	6.6
Prop In Lane	1.00		0.07	1.00		0.28	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	245	721	749	68	543	544	116	479	470	110	498	422
V/C Ratio(X)	0.83	0.95	0.95	0.62	0.49	0.50	0.78	0.35	0.36	0.78	0.51	0.38
Avail Cap(c_a), veh/h	383	724	753	114	543	544	118	479	470	118	498	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	23.0	23.0	37.9	22.7	22.7	36.8	23.6	23.7	37.0	24.9	24.0
Incr Delay (d2), s/veh	4.4	13.5	13.5	9.0	0.7	0.7	27.7	2.0	2.2	26.4	3.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	13.5	14.0	0.9	3.9	3.9	2.6	2.7	2.8	2.5	4.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	36.5	36.5	46.9	23.4	23.4	64.5	25.6	25.8	63.3	28.6	26.5
LnGrp LOS	D	D	D	D	C	C	E	C	C	E	C	C
Approach Vol, veh/h		1601			579			431			499	
Approach Delay, s/veh		36.7			25.1			33.9			33.9	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	26.1	7.5	36.9	9.7	25.8	15.5	29.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.3	19.0	5.1	32.6	5.3	19.0	17.2	20.5				
Max Q Clear Time (g_c+I1), s	5.8	8.4	3.9	31.9	6.0	11.2	10.9	11.9				
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.0	1.3	0.3	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	11	71	6	1	4	70	386	65	98	354	36
Future Volume (veh/h)	29	11	71	6	1	4	70	386	65	98	354	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	12	77	7	1	4	76	420	71	107	385	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	23	148	16	18	73	98	2075	925	136	2151	960
Arrive On Green	0.06	0.11	0.11	0.01	0.06	0.06	0.05	0.58	0.58	0.08	0.61	0.61
Sat Flow, veh/h	1781	218	1400	1781	327	1308	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	32	0	89	7	0	5	76	420	71	107	385	39
Grp Sat Flow(s),veh/h/ln	1781	0	1618	1781	0	1635	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	0.0	4.2	0.3	0.0	0.2	3.4	4.5	1.6	4.7	3.8	0.8
Cycle Q Clear(g_c), s	1.4	0.0	4.2	0.3	0.0	0.2	3.4	4.5	1.6	4.7	3.8	0.8
Prop In Lane	1.00		0.87	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	171	16	0	91	98	2075	925	136	2151	960
V/C Ratio(X)	0.31	0.00	0.52	0.44	0.00	0.05	0.78	0.20	0.08	0.79	0.18	0.04
Avail Cap(c_a), veh/h	401	0	627	111	0	368	145	2075	925	169	2151	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	36.1	0.0	33.8	39.4	0.0	35.8	37.3	7.9	7.3	36.3	7.0	6.4
Incr Delay (d2), s/veh	1.6	0.0	2.4	17.6	0.0	0.2	14.4	0.2	0.2	16.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.7	0.2	0.0	0.1	1.8	1.5	0.5	2.6	1.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	36.3	57.0	0.0	36.0	51.7	8.1	7.4	52.8	7.2	6.5
LnGrp LOS	D	A	D	E	A	D	D	A	A	D	A	A
Approach Vol, veh/h	121			12			567			531		
Approach Delay, s/veh	36.7			48.3			13.8			16.3		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	51.2	5.2	13.0	8.9	52.9	9.2	9.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.6	18.4	5.0	31.0	6.5	19.5	18.0	18.0				
Max Q Clear Time (g_c+I1), s	6.7	6.5	2.3	6.2	5.4	5.8	3.4	2.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.5	0.0	2.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	68	95	16	63	55	374	2	3	339	38
Future Volume (veh/h)	31	0	68	95	16	63	55	374	2	3	339	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	0	74	103	17	68	60	407	2	3	368	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	0	117	132	28	112	82	2214	988	7	2065	921
Arrive On Green	0.06	0.00	0.07	0.07	0.09	0.09	0.05	0.62	0.62	0.00	0.58	0.58
Sat Flow, veh/h	1781	0	1585	1781	327	1308	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	34	0	74	103	0	85	60	407	2	3	368	41
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1635	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.5	0.0	3.6	4.5	0.0	4.0	2.7	3.9	0.0	0.1	3.9	0.9
Cycle Q Clear(g_c), s	1.5	0.0	3.6	4.5	0.0	4.0	2.7	3.9	0.0	0.1	3.9	0.9
Prop In Lane	1.00		1.00	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	0	117	132	0	140	82	2214	988	7	2065	921
V/C Ratio(X)	0.31	0.00	0.63	0.78	0.00	0.60	0.73	0.18	0.00	0.42	0.18	0.04
Avail Cap(c_a), veh/h	401	0	509	229	0	368	156	2214	988	111	2065	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	35.9	0.0	36.0	36.4	0.0	35.3	37.7	6.4	5.7	39.7	7.8	7.2
Incr Delay (d2), s/veh	1.6	0.0	5.6	9.4	0.0	4.1	11.8	0.2	0.0	33.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.6	2.3	0.0	1.7	1.4	1.2	0.0	0.1	1.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	41.6	45.8	0.0	39.4	49.5	6.6	5.7	73.2	8.0	7.3
LnGrp LOS	D	A	D	D	A	D	D	A	A	E	A	A
Approach Vol, veh/h	108			188			469			412		
Approach Delay, s/veh	40.3			42.9			12.1			8.4		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	54.3	10.4	10.4	8.2	51.0	9.5	11.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	10.3	25.7	7.0	19.0	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.1	5.9	6.5	5.6	4.7	5.9	3.5	6.0				
Green Ext Time (p_c), s	0.0	2.1	0.1	0.3	0.0	1.9	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	18.3											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	75	11	0	108	0	3
Future Vol, veh/h	75	11	0	108	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	12	0	117	0	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	47
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1012
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.6	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	1012	-	-	-		
HCM Lane V/C Ratio	0.003	-	-	-		
HCM Control Delay (s)	8.6	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0	-	-	-		

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	82	0	1	67	0	47
Future Vol, veh/h	82	0	1	67	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	1	73	0	51

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	89
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.14	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.22	-
Pot Cap-1 Maneuver	-	1504	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1504	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1015	-	-	1504	-
HCM Lane V/C Ratio	0.05	-	-	0.001	-
HCM Control Delay (s)	8.7	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/25/2024

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	92	0	0	34
Future Vol, veh/h	0	3	92	0	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	100	0	0	37
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	50	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1008	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1008	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 1008		-		
HCM Lane V/C Ratio	-	- 0.003		-		
HCM Control Delay (s)	-	- 8.6		-		
HCM Lane LOS	-	- A		-		
HCM 95th %tile Q(veh)	-	- 0		-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

03/25/2024

Intersection

Int Delay, s/veh 2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	47	24	0	0	118
Future Vol, veh/h	0	47	24	0	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	51	26	0	0	128

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	13	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1064	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1064	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 1064	-
HCM Lane V/C Ratio	-	- 0.048	-
HCM Control Delay (s)	-	- 8.6	-
HCM Lane LOS	-	- A	-
HCM 95th %tile Q(veh)	-	- 0.2	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/02/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	3	0	25	26	33
Future Vol, veh/h	0	3	0	25	26	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	0	26	27	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	31	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	878	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	878	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 878		-	-		
HCM Lane V/C Ratio	- 0.004		-	-		
HCM Control Delay (s)	- 9.1		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0		-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

03/25/2024

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	47	1	27	29	0
Future Vol, veh/h	0	47	1	27	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	1	28	31	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	16	31
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.14	5.34
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.92	3.12
Pot Cap-1 Maneuver	0	897	1117
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	897	1117
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1117	-	897	-	-
HCM Lane V/C Ratio	0.001	-	0.055	-	-
HCM Control Delay (s)	8.2	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th Signalized Intersection Summary

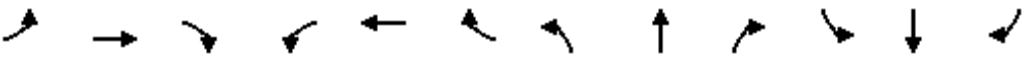
29: Richton St & Monte Vista Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	0	38	2	510	38	28	630	0
Future Volume (veh/h)	0	0	0	45	0	38	2	510	38	28	630	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	47	0	40	2	537	40	29	663	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	93	152	128	5	1694	126	121	2744	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.08	0.00	0.51	0.51	0.04	0.54	0.00
Sat Flow, veh/h	0	-64965	0	1781	1870	1585	1781	3353	249	3456	5274	0
Grp Volume(v), veh/h	0	0	0	47	0	40	2	284	293	29	663	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1825	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	3.4	3.4	0.3	2.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	0.8	0.0	3.4	3.4	0.3	2.5	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.14	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	93	152	128	5	898	922	121	2744	0
V/C Ratio(X)	0.00	0.00	0.00	0.51	0.00	0.31	0.40	0.32	0.32	0.24	0.24	0.00
Avail Cap(c_a), veh/h	0	945	0	250	945	801	250	898	922	485	2744	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.4	0.0	15.4	17.7	5.2	5.2	16.7	4.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	1.4	44.5	0.9	0.9	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	0.3	0.1	0.9	0.9	0.1	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.6	0.0	16.8	62.3	6.1	6.1	17.7	4.6	0.0
LnGrp LOS	A	A	A	C	A	B	E	A	A	B	A	A
Approach Vol, veh/h	0			87			579			692		
Approach Delay, s/veh	0.0			18.9			6.3			5.1		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	6.4	1.0	4.6	23.6	7.4					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	5.4	2.9	0.0	2.0	4.5	2.8					
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	3.8	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				6.5								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary 29: Richton St & Monte Vista Ave

03/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↔		↔	↔	
Traffic Volume (veh/h)	0	1	0	63	1	33	0	538	51	22	761	0
Future Volume (veh/h)	0	1	0	63	1	33	0	538	51	22	761	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	66	1	35	0	566	54	23	801	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	78	0	114	401	340	4	1420	135	97	2907	0
Arrive On Green	0.00	0.04	0.00	0.06	0.21	0.21	0.00	0.43	0.43	0.03	0.57	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	1781	3279	312	3456	5274	0
Grp Volume(v), veh/h	0	1	0	66	1	35	0	306	314	23	801	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1814	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.7	0.0	4.9	4.9	0.3	3.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	0.7	0.0	4.9	4.9	0.3	3.3	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	0	78	0	114	401	340	4	769	786	97	2907	0
V/C Ratio(X)	0.00	0.01	0.00	0.58	0.00	0.10	0.00	0.40	0.40	0.24	0.28	0.00
Avail Cap(c_a), veh/h	0	810	0	214	810	686	214	769	786	416	2907	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	19.1	0.0	18.9	12.8	13.1	0.0	8.1	8.1	19.8	4.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	4.5	0.0	0.1	0.0	1.5	1.5	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	0.2	0.0	1.7	1.7	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.2	0.0	23.5	12.8	13.3	0.0	9.6	9.6	21.0	4.8	0.0
LnGrp LOS	A	B	A	C	B	B	A	A	A	C	A	A
Approach Vol, veh/h		1			102			620			824	
Approach Delay, s/veh		19.2			19.8			9.6			5.3	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	22.5	7.2	6.2	0.0	28.2		13.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	2.3	6.9	3.5	2.0	0.0	5.3		2.7				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	4.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			8.0									
HCM 6th LOS			A									

APPENDIX E

**HORIZON YEAR WITHOUT PROJECT LEVEL-OF-
SERVICE WORKSHEET**

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Future Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	801	301	442	1371	79	164	72	328	50	234	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	903	403	485	1733	773	332	522	465	204	763	260
Arrive On Green	0.04	0.25	0.25	0.27	0.49	0.49	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1064	1777	1585	985	2600	887
Grp Volume(v), veh/h	42	801	301	442	1371	79	164	72	328	50	158	158
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1064	1777	1585	985	1777	1711
Q Serve(g_s), s	1.7	16.3	13.1	18.0	24.1	2.0	10.6	2.2	13.8	3.6	5.2	5.4
Cycle Q Clear(g_c), s	1.7	16.3	13.1	18.0	24.1	2.0	16.0	2.2	13.8	17.4	5.2	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	69	903	403	485	1733	773	332	522	465	204	522	502
V/C Ratio(X)	0.61	0.89	0.75	0.91	0.79	0.10	0.49	0.14	0.70	0.25	0.30	0.31
Avail Cap(c_a), veh/h	119	924	412	534	1753	782	332	522	465	204	522	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.39	0.39	0.39	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	26.9	25.7	26.4	16.0	10.4	26.9	19.5	23.6	31.3	20.5	20.6
Incr Delay (d2), s/veh	8.3	10.3	7.2	8.9	1.0	0.0	4.2	0.4	7.1	2.9	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.8	5.5	8.4	8.9	0.7	3.0	1.0	5.8	1.0	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	37.2	32.9	35.3	17.0	10.4	31.1	20.0	30.7	34.2	22.0	22.3
LnGrp LOS	D	D	C	D	B	B	C	B	C	C	C	C
Approach Vol, veh/h		1144			1892			564			366	
Approach Delay, s/veh		36.3			21.0			29.4			23.8	
Approach LOS		D			C			C			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.5	24.9	23.6		26.5	7.4	41.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	22.5	19.5		19.5	5.0	37.0				
Max Q Clear Time (g_c+I1), s		18.0	20.0	18.3		19.4	3.7	26.1				
Green Ext Time (p_c), s		0.5	0.4	0.8		0.0	0.0	7.1				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1042	127	234	967	67	261	126	297	54	89	48
Future Volume (veh/h)	64	1042	127	234	967	67	261	126	297	54	89	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1133	138	254	1051	73	284	137	323	59	97	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	1230	549	293	1625	725	429	527	470	212	679	342
Arrive On Green	0.05	0.35	0.35	0.16	0.46	0.46	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1239	1777	1585	932	2289	1151
Grp Volume(v), veh/h	70	1133	138	254	1051	73	284	137	323	59	74	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1239	1777	1585	932	1777	1663
Q Serve(g_s), s	2.7	21.4	4.4	9.7	16.0	1.8	15.3	4.1	12.6	4.2	2.1	2.3
Cycle Q Clear(g_c), s	2.7	21.4	4.4	9.7	16.0	1.8	17.7	4.1	12.6	16.8	2.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	95	1230	549	293	1625	725	429	527	470	212	527	494
V/C Ratio(X)	0.74	0.92	0.25	0.87	0.65	0.10	0.66	0.26	0.69	0.28	0.14	0.15
Avail Cap(c_a), veh/h	155	1244	555	293	1625	725	429	527	470	212	527	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.69	0.69	0.69	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	22.0	16.4	28.5	14.6	10.8	24.6	18.8	21.7	29.2	18.1	18.1
Incr Delay (d2), s/veh	10.7	11.2	0.2	17.2	0.6	0.0	5.6	0.8	5.7	3.3	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.1	1.5	5.3	5.8	0.6	4.9	1.7	5.1	1.1	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	33.1	16.6	45.7	15.3	10.8	30.3	19.6	27.5	32.4	18.6	18.8
LnGrp LOS	D	C	B	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		1341			1378			744			208	
Approach Delay, s/veh		32.0			20.6			27.1			22.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	16.0	28.7		25.3	8.2	36.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	11.5	24.5		20.5	6.1	29.9				
Max Q Clear Time (g_c+I1), s		19.7	11.7	23.4		18.8	4.7	18.0				
Green Ext Time (p_c), s		0.4	0.0	0.8		0.2	0.0	6.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Future Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1374	613	198	1560	696	361	659	558	426	659	558
Arrive On Green	0.06	0.39	0.39	0.11	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1005	1870	1585	1114	1870	1585
Grp Volume(v), veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1005	1870	1585	1114	1870	1585
Q Serve(g_s), s	4.5	23.8	15.9	8.1	39.5	0.9	25.1	3.8	6.1	4.8	6.6	7.9
Cycle Q Clear(g_c), s	4.5	23.8	15.9	8.1	39.5	0.9	31.7	3.8	6.1	8.6	6.6	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	1374	613	198	1560	696	361	659	558	426	659	558
V/C Ratio(X)	0.86	0.78	0.58	0.83	1.01	0.04	1.09	0.17	0.27	0.19	0.29	0.34
Avail Cap(c_a), veh/h	105	1374	613	234	1560	696	361	659	558	426	659	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	0.53	0.53	0.53	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	24.2	21.8	39.1	25.2	14.4	35.2	20.1	20.9	23.1	21.0	21.4
Incr Delay (d2), s/veh	25.8	1.3	0.6	10.8	18.5	0.0	66.2	0.4	0.9	1.0	1.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.8	5.8	4.1	19.5	0.3	14.6	1.7	2.4	1.3	2.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	25.6	22.4	50.0	43.8	14.4	101.5	20.5	21.8	24.0	22.1	23.1
LnGrp LOS	E	C	C	D	F	B	F	C	C	C	C	C
Approach Vol, veh/h		1515			1765			657			458	
Approach Delay, s/veh		27.4			43.9			69.1			22.8	
Approach LOS		C			D			E			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.2	14.5	39.3		36.2	9.8	44.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.7	11.8	33.0		31.7	5.3	39.5				
Max Q Clear Time (g_c+I1), s		33.7	10.1	25.8		10.6	6.5	41.5				
Green Ext Time (p_c), s		0.0	0.1	4.7		1.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	1068	173	213	1122	75	180	95	109	64	94	126
Future Volume (veh/h)	134	1068	173	213	1122	75	180	95	109	64	94	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1161	188	232	1220	82	196	103	118	70	102	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1273	568	275	1456	649	431	551	467	430	551	467
Arrive On Green	0.10	0.36	0.36	0.15	0.41	0.41	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1293	1870	1585	1291	1870	1585
Grp Volume(v), veh/h	146	1161	188	232	1220	82	196	103	118	70	102	137
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1293	1870	1585	1291	1870	1585
Q Serve(g_s), s	5.6	21.8	6.0	8.9	21.6	2.3	9.3	2.9	4.0	3.0	2.8	4.7
Cycle Q Clear(g_c), s	5.6	21.8	6.0	8.9	21.6	2.3	12.2	2.9	4.0	5.9	2.8	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1273	568	275	1456	649	431	551	467	430	551	467
V/C Ratio(X)	0.80	0.91	0.33	0.84	0.84	0.13	0.45	0.19	0.25	0.16	0.19	0.29
Avail Cap(c_a), veh/h	224	1295	577	293	1456	649	431	551	467	430	551	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	0.63	0.63	0.63	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	21.4	16.4	28.8	18.6	12.9	23.0	18.4	18.8	20.6	18.4	19.1
Incr Delay (d2), s/veh	5.8	3.9	0.1	12.8	2.9	0.1	2.8	0.6	1.1	0.8	0.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.0	2.1	4.6	8.6	0.8	3.0	1.3	1.5	1.0	1.3	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	25.3	16.5	41.6	21.5	12.9	25.8	19.0	19.9	21.4	19.2	20.7
LnGrp LOS	D	C	B	D	C	B	C	B	B	C	B	C
Approach Vol, veh/h	1495			1534			417			309		
Approach Delay, s/veh	25.3			24.1			22.4			20.3		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	25.1		15.3	29.6		25.1	11.7	33.2				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.5		11.5	25.5		19.5	8.8	28.2				
Max Q Clear Time (g_c+I1), s	14.2		10.9	23.8		7.9	7.6	23.6				
Green Ext Time (p_c), s	0.8		0.0	1.3		0.9	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			24.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Future Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
Arrive On Green	0.05	0.28	0.28	0.18	0.42	0.42	0.06	0.25	0.25	0.06	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Cycle Q Clear(g_c), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
V/C Ratio(X)	0.73	0.90	0.61	0.90	0.94	0.14	0.59	0.18	1.10	0.26	0.20	0.26
Avail Cap(c_a), veh/h	111	1031	460	626	1490	664	438	471	399	391	438	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	27.6	24.8	32.1	22.3	14.4	24.4	23.5	29.9	20.5	23.9	24.2
Incr Delay (d2), s/veh	9.2	7.4	1.4	16.3	12.2	0.1	2.0	0.8	75.1	0.4	1.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.6	4.2	6.4	13.3	1.0	1.8	1.3	15.3	1.3	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	35.0	26.2	48.4	34.5	14.5	26.3	24.3	105.1	20.8	24.9	25.8
LnGrp LOS	D	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1241			2063			782			285	
Approach Delay, s/veh		33.7			37.4			70.4			23.8	
Approach LOS		C			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	24.6	19.0	27.2	9.6	24.2	8.2	38.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.3	14.5	23.2	5.1	19.2	5.0	32.7				
Max Q Clear Time (g_c+I1), s	5.3	22.1	14.8	21.7	7.1	6.1	4.6	32.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.7	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			41.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1010	211	493	1045	143	340	129	568	98	84	81
Future Volume (veh/h)	69	1010	211	493	1045	143	340	129	568	98	84	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1098	229	536	1136	155	370	140	617	107	91	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1125	502	557	1506	672	468	499	423	318	406	353
Arrive On Green	0.05	0.32	0.32	0.16	0.42	0.42	0.03	0.09	0.09	0.06	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1798	1567
Grp Volume(v), veh/h	75	1098	229	536	1136	155	370	140	617	107	90	89
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1588
Q Serve(g_s), s	3.7	27.5	10.4	13.9	24.4	5.6	8.7	6.3	24.0	4.1	3.7	4.1
Cycle Q Clear(g_c), s	3.7	27.5	10.4	13.9	24.4	5.6	8.7	6.3	24.0	4.1	3.7	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	96	1125	502	557	1506	672	468	499	423	318	401	358
V/C Ratio(X)	0.78	0.98	0.46	0.96	0.75	0.23	0.79	0.28	1.46	0.34	0.22	0.25
Avail Cap(c_a), veh/h	129	1125	502	557	1506	672	468	499	423	318	401	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	30.4	24.6	37.5	22.0	16.6	29.7	33.0	41.0	24.8	28.4	28.6
Incr Delay (d2), s/veh	10.1	13.5	0.3	28.9	2.2	0.2	8.2	1.3	218.6	0.6	1.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	12.9	3.7	7.7	9.5	1.9	3.8	3.1	35.7	1.7	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	43.9	24.9	66.4	24.2	16.7	37.9	34.3	259.7	25.4	29.7	30.3
LnGrp LOS	D	D	C	E	C	B	D	C	F	C	C	C
Approach Vol, veh/h		1402			1827			1127			286	
Approach Delay, s/veh		41.3			35.9			158.9			28.3	
Approach LOS		D			D			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	28.5	19.0	33.0	13.2	24.8	9.4	42.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	24.0	14.5	28.5	8.7	20.3	6.5	36.5				
Max Q Clear Time (g_c+I1), s	6.1	26.0	15.9	29.5	10.7	6.1	5.7	26.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	5.5				
Intersection Summary												
HCM 6th Ctrl Delay			66.9									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Future Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	100	685	621	32	1343	695	177	0	564	45	0	613
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	111	1446	645	49	1321	589	808	0	0	808	0	0
Arrive On Green	0.06	0.41	0.41	0.03	0.37	0.37	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	177		1781	45	
Grp Volume(v), veh/h	100	685	621	32	1343	695	177	20.0		45	18.4	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	C		1781	B	
Q Serve(g_s), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Cycle Q Clear(g_c), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	111	1446	645	49	1321	589	808			808		
V/C Ratio(X)	0.90	0.47	0.96	0.66	1.02	1.18	0.22			0.06		
Avail Cap(c_a), veh/h	111	1446	645	94	1321	589	808			808		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	55.9	26.2	34.7	57.8	37.7	37.7	19.9			18.4		
Incr Delay (d2), s/veh	54.7	0.2	26.4	14.0	29.0	97.5	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.6	6.9	21.3	1.1	23.6	32.3	2.9			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.5	26.4	61.2	71.9	66.7	135.2	20.0			18.4		
LnGrp LOS	F	C	E	E	F	F	C			B		
Approach Vol, veh/h		1406			2070							
Approach Delay, s/veh		47.7			89.8							
Approach LOS		D			F							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	58.9		7.8	53.3	58.9		12.0	49.1				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	8.6		6.3	45.8	12.5		7.5	44.6				
Max Q Clear Time (g_c+I1), s	3.7		4.1	47.9	9.2		8.7	46.6				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			69.6									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1129	480	32	924	428	122	0	821	77	0	590
Future Volume (veh/h)	142	1129	480	32	924	428	122	0	821	77	0	590
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	154	1227	522	35	1004	465	133	0	892	84	0	641
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	173	1300	580	55	1066	476	834	0	0	834	0	0
Arrive On Green	0.10	0.37	0.37	0.03	0.30	0.30	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	133		1781	84	
Grp Volume(v), veh/h	154	1227	522	35	1004	465	133	15.4		84	14.9	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	8.5	33.4	31.1	1.9	27.6	29.1	4.3			2.6		
Cycle Q Clear(g_c), s	8.5	33.4	31.1	1.9	27.6	29.1	4.3			2.6		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	173	1300	580	55	1066	476	834			834		
V/C Ratio(X)	0.89	0.94	0.90	0.63	0.94	0.98	0.16			0.10		
Avail Cap(c_a), veh/h	173	1300	580	89	1066	476	834			834		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	44.6	30.7	30.0	47.9	34.1	34.7	15.3			14.9		
Incr Delay (d2), s/veh	39.3	13.7	17.1	11.3	15.6	35.4	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.5	15.6	13.7	1.0	13.4	15.1	1.6			1.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.9	44.4	47.1	59.2	49.7	70.1	15.4			14.9		
LnGrp LOS	F	D	D	E	D	E	B			B		
Approach Vol, veh/h	1903			1504								
Approach Delay, s/veh	48.3			56.2								
Approach LOS	D			E								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	51.3		7.6	41.1	51.3		14.2	34.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	7.5		5.0	34.7	8.3		9.7	30.0				
Max Q Clear Time (g_c+I1), s	4.6		3.9	35.4	6.3		10.5	31.1				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	49.6											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Future Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	0.92	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.98	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1528	1504		1770		1770	3537			3539	1583
Flt Permitted	0.95	0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1528	1504		1863		1770	3537			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	2	214	1	0	0	315	574	2	0	517	327
RTOR Reduction (vph)	0	46	118	0	0	0	0	0	0	0	0	201
Lane Group Flow (vph)	150	99	21	0	1	0	315	576	0	0	517	126
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Effective Green, g (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Actuated g/C Ratio	0.15	0.15	0.15		0.01		0.25	0.69			0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	250	227	223		24		444	2432			1368	612
v/s Ratio Prot	c0.09	0.06					c0.18	0.16			c0.15	
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio	0.60	0.44	0.09		0.04		0.71	0.24			0.38	0.21
Uniform Delay, d1	35.8	34.9	33.1		43.8		30.7	5.2			19.8	18.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.8	1.3	0.2		0.7		5.1	0.2			0.8	0.8
Delay (s)	39.6	36.2	33.2		44.5		35.9	5.5			20.6	19.2
Level of Service	D	D	C		D		D	A			C	B
Approach Delay (s)		36.4			44.5			16.2			20.1	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.8				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			50.1%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	0	260	4	9	1	292	683	2	1	488	232
Future Volume (vph)	321	0	260	4	9	1	292	683	2	1	488	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.94	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1547	1504		1822		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.37	1.00	1.00
Satd. Flow (perm)	1681	1547	1504		1846		1770	3538		688	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	349	0	283	4	10	1	317	742	2	1	530	252
RTOR Reduction (vph)	0	105	163	0	1	0	0	0	0	0	0	161
Lane Group Flow (vph)	220	109	35	0	14	0	317	744	0	1	530	91
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	15.8	15.8	15.8		1.5		22.8	59.2		31.9	31.9	31.9
Effective Green, g (s)	15.8	15.8	15.8		1.5		22.8	59.2		31.9	31.9	31.9
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.25	0.66		0.35	0.35	0.35
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	295	271	264		30		448	2327		243	1254	561
v/s Ratio Prot	c0.13	0.07					c0.18	0.21			c0.15	
v/s Ratio Perm			0.02		c0.01					0.00		0.06
v/c Ratio	0.75	0.40	0.13		0.47		0.71	0.32		0.00	0.42	0.16
Uniform Delay, d1	35.2	32.9	31.3		43.9		30.6	6.7		18.8	22.1	19.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		0.42	0.41	0.47
Incremental Delay, d2	9.8	1.0	0.2		11.1		5.1	0.4		0.0	0.7	0.4
Delay (s)	45.0	33.9	31.5		54.9		35.6	7.0		7.9	9.8	9.7
Level of Service	D	C	C		D		D	A		A	A	A
Approach Delay (s)		37.0			54.9			15.6			9.8	
Approach LOS		D			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			19.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			59.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Indian Hill Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Future Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	848	187	128	952	198	251	393	112	305	587	227
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	930	205	141	1097	489	170	677	191	336	637	540
Arrive On Green	0.09	0.32	0.32	0.08	0.31	0.31	0.10	0.25	0.25	0.19	0.34	0.34
Sat Flow, veh/h	1781	2894	638	1781	3554	1585	1781	2737	771	1781	1870	1585
Grp Volume(v), veh/h	134	521	514	128	952	198	251	254	251	305	587	227
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	1781	1777	1732	1781	1870	1585
Q Serve(g_s), s	8.1	30.9	30.9	7.8	27.8	10.9	10.5	13.8	14.1	18.4	33.2	12.1
Cycle Q Clear(g_c), s	8.1	30.9	30.9	7.8	27.8	10.9	10.5	13.8	14.1	18.4	33.2	12.1
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	163	571	564	141	1097	489	170	440	428	336	637	540
V/C Ratio(X)	0.82	0.91	0.91	0.91	0.87	0.40	1.48	0.58	0.59	0.91	0.92	0.42
Avail Cap(c_a), veh/h	251	603	595	141	1097	489	170	440	428	382	637	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	49.1	35.8	35.8	50.3	35.9	30.0	49.8	36.3	36.4	43.7	34.9	27.9
Incr Delay (d2), s/veh	11.8	17.7	17.9	49.4	7.6	0.5	243.2	5.4	5.8	18.5	16.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.6	15.5	5.4	12.7	4.1	16.1	6.5	6.5	9.8	17.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	53.5	53.8	99.7	43.5	30.6	292.9	41.8	42.2	62.2	51.6	29.7
LnGrp LOS	E	D	D	F	D	C	F	D	D	E	D	C
Approach Vol, veh/h		1169			1278			756			1119	
Approach Delay, s/veh		54.5			47.1			125.3			50.0	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	31.7	13.2	39.8	15.0	42.0	14.6	38.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.6	22.4	8.7	37.3	10.5	35.5	15.5	30.5				
Max Q Clear Time (g_c+I1), s	20.4	16.1	9.8	32.9	12.5	35.2	10.1	29.8				
Green Ext Time (p_c), s	0.3	1.6	0.0	2.4	0.0	0.2	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			63.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

6: Indian Hill Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	971	243	127	919	182	285	453	127	170	314	121
Future Volume (veh/h)	105	971	243	127	919	182	285	453	127	170	314	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	1055	264	138	999	198	310	492	138	185	341	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	987	246	141	1237	552	281	679	189	220	399	338
Arrive On Green	0.08	0.35	0.35	0.08	0.35	0.35	0.16	0.25	0.25	0.12	0.21	0.21
Sat Flow, veh/h	1781	2819	702	1781	3554	1585	1781	2744	765	1781	1870	1585
Grp Volume(v), veh/h	114	663	656	138	999	198	310	318	312	185	341	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1585	1781	1777	1733	1781	1870	1585
Q Serve(g_s), s	5.7	31.5	31.5	7.0	22.9	8.4	14.2	14.7	14.9	9.1	15.8	6.4
Cycle Q Clear(g_c), s	5.7	31.5	31.5	7.0	22.9	8.4	14.2	14.7	14.9	9.1	15.8	6.4
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	144	622	610	141	1237	552	281	440	429	220	399	338
V/C Ratio(X)	0.79	1.07	1.07	0.98	0.81	0.36	1.10	0.72	0.73	0.84	0.85	0.39
Avail Cap(c_a), veh/h	196	622	610	141	1237	552	281	440	429	259	399	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	40.6	29.3	29.3	41.4	26.6	21.8	37.9	31.0	31.1	38.6	34.1	30.4
Incr Delay (d2), s/veh	14.3	54.9	58.2	70.2	4.1	0.4	84.1	9.9	10.4	16.5	17.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	21.8	22.0	5.7	9.7	3.0	12.6	7.3	7.2	4.9	9.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	84.1	87.5	111.6	30.7	22.2	122.0	40.9	41.5	55.1	52.0	33.3
LnGrp LOS	D	F	F	F	C	C	F	D	D	E	D	C
Approach Vol, veh/h	1433			1335			940			658		
Approach Delay, s/veh	83.4			37.8			67.8			49.1		
Approach LOS	F			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	26.8	11.6	36.0	18.7	23.7	11.8	35.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.1	20.3	7.1	31.5	14.2	19.2	9.9	28.7				
Max Q Clear Time (g_c+I1), s	11.1	16.9	9.0	33.5	16.2	17.8	7.7	24.9				
Green Ext Time (p_c), s	0.1	1.2	0.0	0.0	0.0	0.4	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay	60.9											
HCM 6th LOS	E											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Future Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1239	87	134	1392	11	1	0	100	0	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1403	0	0	1326	0	0	2249	2956	620	2326	3032	696
Stage 1	-	-	-	-	-	-	1285	1285	-	1660	1660	-
Stage 2	-	-	-	-	-	-	964	1671	-	666	1372	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	483	-	-	517	-	-	23	14	431	20	13	384
Stage 1	-	-	-	-	-	-	174	233	-	101	153	-
Stage 2	-	-	-	-	-	-	274	151	-	415	212	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	483	-	-	517	-	-	17	10	431	12	9	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	10	-	12	9	-
Stage 1	-	-	-	-	-	-	166	222	-	96	113	-
Stage 2	-	-	-	-	-	-	198	112	-	304	202	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.3			19.9			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	483	-	-	517	-	-	384
HCM Lane V/C Ratio	0.296	0.047	-	-	0.259	-	-	0.023
HCM Control Delay (s)	19.9	12.8	-	-	14.4	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	1	-	-	0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1244	60	74	1240	5	0	0	122	0	0	27
Future Vol, veh/h	21	1244	60	74	1240	5	0	0	122	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1352	65	80	1348	5	0	0	133	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1353	0	0	1417	0	0	2232	2911	676	2230	2971	674
Stage 1	-	-	-	-	-	-	1398	1398	-	1508	1508	-
Stage 2	-	-	-	-	-	-	834	1513	-	722	1463	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	504	-	-	477	-	-	23	15	396	24	14	397
Stage 1	-	-	-	-	-	-	148	206	-	126	182	-
Stage 2	-	-	-	-	-	-	329	181	-	384	191	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	504	-	-	477	-	-	18	12	396	13	11	397
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	12	-	13	11	-
Stage 1	-	-	-	-	-	-	141	197	-	120	151	-
Stage 2	-	-	-	-	-	-	254	151	-	244	182	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			18.6			14.8		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	396	504	-	-	477	-	-	397
HCM Lane V/C Ratio	0.335	0.045	-	-	0.169	-	-	0.074
HCM Control Delay (s)	18.6	12.5	-	-	14.1	-	-	14.8
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.6	-	-	0.2

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Future Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1251	89	76	1526	12	12	3	18	13	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1854	827	236	1885	15	233	82	280	391	219	0
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	337	3554	1585	444	3614	28	460	251	854	895	667	0
Grp Volume(v), veh/h	4	1251	89	76	750	788	33	0	0	21	0	0
Grp Sat Flow(s),veh/h/ln	337	1777	1585	444	1777	1865	1565	0	0	1562	0	0
Q Serve(g_s), s	0.6	15.6	1.7	9.1	21.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.6	15.6	1.7	24.7	21.0	21.0	0.8	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.36		0.55	0.62		0.00
Lane Grp Cap(c), veh/h	178	1854	827	236	927	973	596	0	0	610	0	0
V/C Ratio(X)	0.02	0.67	0.11	0.32	0.81	0.81	0.06	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	185	1925	859	245	962	1010	596	0	0	610	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	10.6	7.3	19.7	11.9	11.9	13.8	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.9	0.1	0.3	2.2	2.1	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.1	0.5	0.9	7.2	7.5	0.3	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	11.5	7.3	20.0	14.0	14.0	14.0	0.0	0.0	13.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1344			1614			33			21		
Approach Delay, s/veh	11.3			14.3			14.0			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.2			35.8			24.2			35.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	2.8			23.6			2.5			26.7		
Green Ext Time (p_c), s	0.1			5.7			0.0			4.6		
Intersection Summary												
HCM 6th Ctrl Delay	12.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1532	21	13	1260	13	85	10	83	28	8	0
Future Volume (veh/h)	9	1532	21	13	1260	13	85	10	83	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1665	23	14	1370	14	92	11	90	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1882	840	154	1909	20	292	58	229	450	122	0
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.32	0.32	0.32	0.32	0.32	0.00
Sat Flow, veh/h	391	3554	1585	298	3604	37	636	181	714	1074	380	0
Grp Volume(v), veh/h	10	1665	23	14	675	709	193	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	391	1777	1585	298	1777	1864	1532	0	0	1454	0	0
Q Serve(g_s), s	1.2	24.9	0.4	2.6	17.3	17.3	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.5	24.9	0.4	27.5	17.3	17.3	5.6	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.48		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	214	1882	840	154	941	987	579	0	0	572	0	0
V/C Ratio(X)	0.05	0.88	0.03	0.09	0.72	0.72	0.33	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	219	1925	859	158	962	1010	579	0	0	572	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.7	12.5	6.7	24.6	10.7	10.7	15.7	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	5.2	0.0	0.1	1.2	1.2	1.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.1	0.1	0.2	5.7	6.0	2.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	17.7	6.7	24.8	11.9	11.9	17.2	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1698			1398			193			39	
Approach Delay, s/veh		17.6			12.0			17.2			14.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.7		36.3		23.7		36.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5		32.5				
Max Q Clear Time (g_c+I1), s		7.6		26.9		2.9		29.5				
Green Ext Time (p_c), s		0.8		4.6		0.1		2.3				
Intersection Summary												
HCM 6th Ctrl Delay				15.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Future Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	990	11	12	1198	129	5	2	18	160	5	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1668	19	26	1244	555	239	85	343	188	696	590
Arrive On Green	0.13	0.46	0.46	0.01	0.35	0.35	0.22	0.22	0.22	0.11	0.37	0.37
Sat Flow, veh/h	1781	3600	40	1781	3554	1585	785	391	1585	1781	1870	1585
Grp Volume(v), veh/h	207	489	512	12	1198	129	7	0	18	160	5	387
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1175	0	1585	1781	1870	1585
Q Serve(g_s), s	10.3	18.3	18.3	0.6	29.8	5.2	0.0	0.0	0.8	7.9	0.2	18.3
Cycle Q Clear(g_c), s	10.3	18.3	18.3	0.6	29.8	5.2	0.3	0.0	0.8	7.9	0.2	18.3
Prop In Lane	1.00		0.02	1.00		1.00	0.71		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	823	863	26	1244	555	323	0	343	188	696	590
V/C Ratio(X)	0.91	0.59	0.59	0.47	0.96	0.23	0.02	0.00	0.05	0.85	0.01	0.66
Avail Cap(c_a), veh/h	228	823	863	99	1244	555	323	0	343	188	696	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.46	0.46	0.46	1.00	0.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	38.7	17.9	17.9	44.0	28.7	20.7	27.7	0.0	27.9	39.6	17.8	23.5
Incr Delay (d2), s/veh	27.9	0.8	0.8	6.0	10.2	0.1	0.1	0.0	0.3	25.7	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	7.0	7.3	0.3	13.4	1.8	0.1	0.0	0.3	4.7	0.1	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	18.7	18.6	50.0	38.9	20.8	27.8	0.0	28.2	65.3	17.8	28.3
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		1208			1339			25			552	
Approach Delay, s/veh		26.9			37.2			28.1			38.9	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	14.0	24.0	5.8	46.2		38.0	16.0	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.5	5.0	38.0		33.5	11.5	31.5				
Max Q Clear Time (g_c+I1), s	9.9	2.8	2.6	20.3		20.3	12.3	31.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8		1.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1243	11	27	1017	126	16	8	26	120	5	187
Future Volume (veh/h)	183	1243	11	27	1017	126	16	8	26	120	5	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1351	12	29	1105	137	17	9	28	130	5	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	1576	14	51	1187	530	271	131	388	161	720	610
Arrive On Green	0.13	0.44	0.44	0.03	0.33	0.33	0.24	0.24	0.24	0.09	0.38	0.38
Sat Flow, veh/h	1781	3609	32	1781	3554	1585	839	534	1585	1781	1870	1585
Grp Volume(v), veh/h	199	665	698	29	1105	137	26	0	28	130	5	203
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1373	0	1585	1781	1870	1585
Q Serve(g_s), s	9.8	30.3	30.4	1.4	27.0	5.7	0.0	0.0	1.2	6.4	0.1	8.1
Cycle Q Clear(g_c), s	9.8	30.3	30.4	1.4	27.0	5.7	1.0	0.0	1.2	6.4	0.1	8.1
Prop In Lane	1.00		0.02	1.00		1.00	0.65		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	776	814	51	1187	530	402	0	388	161	720	610
V/C Ratio(X)	0.85	0.86	0.86	0.57	0.93	0.26	0.06	0.00	0.07	0.81	0.01	0.33
Avail Cap(c_a), veh/h	247	776	814	101	1204	537	402	0	388	168	720	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.68	0.68	0.68	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	38.3	22.8	22.8	43.2	29.0	21.8	26.0	0.0	26.1	40.2	17.1	19.5
Incr Delay (d2), s/veh	10.0	3.8	3.6	6.6	9.3	0.2	0.3	0.0	0.4	21.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	12.3	12.8	0.7	12.2	2.0	0.5	0.0	0.5	3.7	0.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	26.6	26.5	49.8	38.2	22.0	26.3	0.0	26.5	61.5	17.1	20.8
LnGrp LOS	D	C	C	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		1562			1271			54			338	
Approach Delay, s/veh		29.3			36.7			26.4			36.4	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.6	26.5	7.1	43.8		39.1	16.3	34.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	20.5	5.1	37.9		33.5	12.5	30.5				
Max Q Clear Time (g_c+I1), s	8.4	3.2	3.4	32.4		10.1	11.8	29.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.7		0.6	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay				32.9								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Future Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	862	138	147	1048	49	259	365	182	63	309	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1197	534	186	1146	511	696	771	378	297	869	295
Arrive On Green	0.12	0.34	0.34	0.10	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1882	2310	1133	860	2604	884
Grp Volume(v), veh/h	170	862	138	147	1048	49	259	279	268	63	209	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	941	1777	1666	860	1777	1711
Q Serve(g_s), s	5.6	12.7	3.8	4.8	17.0	1.3	7.3	7.5	7.6	3.8	5.3	5.5
Cycle Q Clear(g_c), s	5.6	12.7	3.8	4.8	17.0	1.3	12.8	7.5	7.6	11.4	5.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.52
Lane Grp Cap(c), veh/h	212	1197	534	186	1146	511	696	593	556	297	593	571
V/C Ratio(X)	0.80	0.72	0.26	0.79	0.91	0.10	0.37	0.47	0.48	0.21	0.35	0.36
Avail Cap(c_a), veh/h	223	1197	534	229	1155	515	696	593	556	297	593	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	17.4	14.5	26.2	19.5	14.2	20.0	15.8	15.9	20.4	15.1	15.1
Incr Delay (d2), s/veh	14.6	1.7	0.2	13.9	11.2	0.1	1.5	2.6	2.9	1.6	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.7	1.2	2.6	7.7	0.4	1.5	3.0	2.9	0.8	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	19.1	14.7	40.2	30.7	14.3	21.5	18.4	18.8	22.0	16.7	16.9
LnGrp LOS	D	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1170			1244			806			479	
Approach Delay, s/veh		21.7			31.2			19.5			17.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5	10.8	24.7		24.5	11.6	23.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	7.7	19.3		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		14.8	6.8	14.7		13.4	7.6	19.0				
Green Ext Time (p_c), s		2.0	0.0	2.4		1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 10: Claremont Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1178	180	108	837	47	124	254	107	102	257	117
Future Volume (veh/h)	150	1178	180	108	837	47	124	254	107	102	257	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	1280	196	117	910	51	135	276	116	111	279	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	1416	632	149	1308	583	632	762	312	329	742	329
Arrive On Green	0.11	0.40	0.40	0.08	0.37	0.37	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1900	2458	1007	992	2394	1062
Grp Volume(v), veh/h	163	1280	196	117	910	51	135	198	194	111	205	201
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	950	1777	1689	992	1777	1679
Q Serve(g_s), s	5.8	22.0	5.5	4.2	14.1	1.4	3.9	5.6	5.8	6.4	5.9	6.1
Cycle Q Clear(g_c), s	5.8	22.0	5.5	4.2	14.1	1.4	10.0	5.6	5.8	12.2	5.9	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.63
Lane Grp Cap(c), veh/h	204	1416	632	149	1308	583	632	551	524	329	551	521
V/C Ratio(X)	0.80	0.90	0.31	0.78	0.70	0.09	0.21	0.36	0.37	0.34	0.37	0.39
Avail Cap(c_a), veh/h	247	1449	646	178	1312	585	632	551	524	329	551	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	18.4	13.4	29.2	17.5	13.4	21.5	17.4	17.5	22.3	17.5	17.6
Incr Delay (d2), s/veh	7.9	4.6	0.1	17.2	1.6	0.1	0.7	1.8	2.0	2.8	1.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.4	1.7	2.4	5.2	0.4	0.9	2.3	2.3	1.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	23.0	13.6	46.4	19.1	13.5	22.2	19.2	19.4	25.0	19.4	19.7
LnGrp LOS	D	C	B	D	B	B	C	B	B	C	B	B
Approach Vol, veh/h	1639			1078			527			517		
Approach Delay, s/veh	23.1			21.8			20.1			20.7		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	24.7		9.9	30.4		24.7		11.9	28.4			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.5		6.5	26.5		18.5		9.0	24.0			
Max Q Clear Time (g_c+I1), s	12.0		6.2	24.0		14.2		7.8	16.1			
Green Ext Time (p_c), s	1.6		0.0	1.9		1.1		0.0	3.7			
Intersection Summary												
HCM 6th Ctrl Delay	22.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Future Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	658	288	114	847	174	268	637	129	113	526	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	1011	451	236	973	434	273	1048	467	235	1281	184
Arrive On Green	0.08	0.28	0.28	0.07	0.27	0.27	0.08	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4508	649
Grp Volume(v), veh/h	119	658	288	114	847	174	268	637	129	113	395	208
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1753
Q Serve(g_s), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Cycle Q Clear(g_c), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	141	1011	451	236	973	434	273	1048	467	235	967	498
V/C Ratio(X)	0.85	0.65	0.64	0.48	0.87	0.40	0.98	0.61	0.28	0.48	0.41	0.42
Avail Cap(c_a), veh/h	141	1011	451	273	1010	450	273	1048	467	273	967	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	19.9	19.8	28.4	21.9	18.8	29.1	19.2	17.1	28.4	18.4	18.4
Incr Delay (d2), s/veh	35.4	1.5	3.0	1.5	8.1	0.6	49.5	2.6	1.5	1.5	1.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.9	3.6	0.8	6.3	1.9	3.7	3.8	1.5	0.8	2.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	21.4	22.8	30.0	30.1	19.4	78.6	21.8	18.6	30.0	19.6	21.0
LnGrp LOS	E	C	C	C	C	B	E	C	B	C	B	C
Approach Vol, veh/h		1065			1135			1034			716	
Approach Delay, s/veh		26.6			28.4			36.1			21.7	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	23.2	8.8	22.5	9.5	22.5	9.5	21.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.0	11.8	4.0	12.3	6.9	8.1	6.2	16.4				
Green Ext Time (p_c), s	0.0	2.3	0.0	2.5	0.0	2.5	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	1014	225	167	710	306	179	516	143	197	618	70
Future Volume (veh/h)	139	1014	225	167	710	306	179	516	143	197	618	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1067	237	176	747	322	188	543	151	207	651	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1000	446	267	997	445	270	1000	446	270	1311	148
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4656	524
Grp Volume(v), veh/h	146	1067	237	176	747	322	188	543	151	207	474	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1776
Q Serve(g_s), s	5.0	18.0	8.1	3.2	12.2	11.7	3.4	8.3	4.8	3.8	7.4	7.5
Cycle Q Clear(g_c), s	5.0	18.0	8.1	3.2	12.2	11.7	3.4	8.3	4.8	3.8	7.4	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	139	1000	446	267	997	445	270	1000	446	270	958	500
V/C Ratio(X)	1.05	1.07	0.53	0.66	0.75	0.72	0.70	0.54	0.34	0.77	0.49	0.50
Avail Cap(c_a), veh/h	139	1000	446	270	1000	446	270	1000	446	270	958	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	23.0	19.4	28.7	21.0	20.8	28.7	19.5	18.2	28.9	19.2	19.2
Incr Delay (d2), s/veh	89.6	48.0	1.2	5.7	3.2	5.7	7.5	2.1	2.0	12.4	1.8	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	13.2	2.8	1.4	4.9	4.5	1.6	3.2	1.8	1.9	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.1	70.9	20.6	34.4	24.1	26.5	36.3	21.6	20.3	41.3	21.0	22.8
LnGrp LOS	F	F	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1450			1245			882			932	
Approach Delay, s/veh		67.6			26.2			24.5			26.0	
Approach LOS		E			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.4	22.5	9.5	22.5	9.5	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	10.3	5.2	20.0	5.4	9.5	7.0	14.2				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	2.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			39.1									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Future Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	605	268	177	940	0	409	0	144	0	0	1
RTOR Reduction (vph)	0	0	185	0	0	0	0	105	91	0	1	0
Lane Group Flow (vph)	4	605	83	177	940	0	213	105	39	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Effective Green, g (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Actuated g/C Ratio	0.01	0.31	0.31	0.08	0.38		0.30	0.30	0.30		0.01	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1090	487	287	1340		501	478	448		44	
v/s Ratio Prot	0.00	0.17		c0.05	c0.27		c0.13	0.07			c0.00	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.17	0.56	0.17	0.62	0.70		0.43	0.22	0.09		0.00	
Uniform Delay, d1	29.8	17.6	15.4	27.0	16.0		17.2	16.1	15.4		29.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.6	0.2	3.9	1.7		2.6	1.1	0.4		0.0	
Delay (s)	33.4	18.2	15.6	30.9	17.7		19.8	17.1	15.8		29.6	
Level of Service	C	B	B	C	B		B	B	B		C	
Approach Delay (s)		17.5			19.8			17.9			29.6	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			18.6			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			61.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			58.9%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1051	559	282	698	1	553	2	537	0	2	0
Future Volume (vph)	4	1051	559	282	698	1	553	2	537	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.92	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1106	588	297	735	1	582	2	565	0	2	0
RTOR Reduction (vph)	0	0	251	0	0	0	0	49	260	0	0	0
Lane Group Flow (vph)	4	1106	337	297	736	0	402	336	102	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	431	425		55	
v/s Ratio Prot	0.00	c0.31		c0.09	c0.21		c0.24	0.22			c0.00	
v/s Ratio Perm			0.21						0.07			
v/c Ratio	0.17	0.91	0.62	1.11	0.51		0.85	0.78	0.24		0.04	
Uniform Delay, d1	31.2	20.1	17.6	29.5	14.2		21.6	21.1	17.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	10.5	2.2	87.1	0.3		16.8	13.1	1.3		0.3	
Delay (s)	34.5	30.7	19.8	116.6	14.6		38.4	34.2	19.0		31.3	
Level of Service	C	C	B	F	B		D	C	B		C	
Approach Delay (s)		26.9			43.9			30.9			31.3	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			75.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	54.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Future Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	78	5	34	4	776	99	54	850	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1812	1842	851	1837	1794	826	852	0	0	875	0	0
Stage 1	959	959	-	834	834	-	-	-	-	-	-	-
Stage 2	853	883	-	1003	960	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	75	360	~ 58	80	372	787	-	-	771	-	-
Stage 1	309	335	-	362	383	-	-	-	-	-	-	-
Stage 2	354	364	-	292	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	49	69	360	~ 33	74	372	787	-	-	771	-	-
Mov Cap-2 Maneuver	49	69	-	~ 33	74	-	-	-	-	-	-	-
Stage 1	307	312	-	360	381	-	-	-	-	-	-	-
Stage 2	316	362	-	206	312	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	46		\$ 892.7		0		0.6					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	787	-	-	172	46	771	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.512	2.552	0.07	-	-				
HCM Control Delay (s)	9.6	-	-	46	\$ 892.7	10	-	-				
HCM Lane LOS	A	-	-	E	F	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	2.5	12.5	0.2	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	68											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	7	5	76	12	115	7	737	70	91	653	1
Future Vol, veh/h	4	7	5	76	12	115	7	737	70	91	653	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	83	13	125	8	801	76	99	710	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1833	1802	711	1770	1764	839	711	0	0	877	0	0
Stage 1	909	909	-	855	855	-	-	-	-	-	-	-
Stage 2	924	893	-	915	909	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	80	433	~ 65	84	366	888	-	-	770	-	-
Stage 1	329	354	-	353	375	-	-	-	-	-	-	-
Stage 2	323	360	-	327	354	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	30	69	433	~ 53	72	366	888	-	-	770	-	-
Mov Cap-2 Maneuver	30	69	-	~ 53	72	-	-	-	-	-	-	-
Stage 1	326	308	-	350	372	-	-	-	-	-	-	-
Stage 2	203	357	-	274	308	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	79.5		\$ 584.1		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	888	-	-	65 106	770	-	-					
HCM Lane V/C Ratio	0.009	-	-	0.268 2.082	0.128	-	-					
HCM Control Delay (s)	9.1	-	-	79.5\$ 584.1	10.4	-	-					
HCM Lane LOS	A	-	-	F F	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.9 18.7	0.4	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Future Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	230	33	50	143	20	73	236	87	22	173	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.3	14.3	21.4	14.4
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	20%	23%	9%
Vol Thru, %	60%	70%	67%	74%
Vol Right, %	22%	10%	9%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	301	196	215
LT Vol	67	59	46	20
Through Vol	217	212	132	159
RT Vol	80	30	18	36
Lane Flow Rate	396	327	213	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.679	0.586	0.399	0.425
Departure Headway (Hd)	6.174	6.444	6.744	6.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	582	556	530	547
Service Time	4.239	4.513	4.823	4.629
HCM Lane V/C Ratio	0.68	0.588	0.402	0.428
HCM Control Delay	21.4	18.3	14.3	14.4
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	5.2	3.8	1.9	2.1

Intersection	
Intersection Delay, s/veh	40.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	207	57	99	267	23	72	155	74	21	222	59
Future Vol, veh/h	40	207	57	99	267	23	72	155	74	21	222	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	225	62	108	290	25	78	168	80	23	241	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	33	57.1	32.7	32.9
HCM LOS	D	F	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	13%	25%	7%
Vol Thru, %	51%	68%	69%	74%
Vol Right, %	25%	19%	6%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	304	389	302
LT Vol	72	40	99	21
Through Vol	155	207	267	222
RT Vol	74	57	23	59
Lane Flow Rate	327	330	423	328
Geometry Grp	1	1	1	1
Degree of Util (X)	0.753	0.757	0.938	0.755
Departure Headway (Hd)	8.288	8.243	7.986	8.28
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	435	436	452	437
Service Time	6.364	6.318	6.055	6.356
HCM Lane V/C Ratio	0.752	0.757	0.936	0.751
HCM Control Delay	32.7	33	57.1	32.9
HCM Lane LOS	D	D	F	D
HCM 95th-tile Q	6.2	6.3	10.9	6.3

Intersection	
Intersection Delay, s/veh	100.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	345	64	103	336	23	72	145	74	21	211	66
Future Vol, veh/h	50	345	64	103	336	23	72	145	74	21	211	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	375	70	112	365	25	78	158	80	23	229	72
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	133.4	140.6	41.7	43.2
HCM LOS	F	F	E	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	11%	22%	7%
Vol Thru, %	50%	75%	73%	71%
Vol Right, %	25%	14%	5%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	291	459	462	298
LT Vol	72	50	103	21
Through Vol	145	345	336	211
RT Vol	74	64	23	66
Lane Flow Rate	316	499	502	324
Geometry Grp	1	1	1	1
Degree of Util (X)	0.786	1.181	1.2	0.801
Departure Headway (Hd)	10.1	9.1	9.139	10.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	361	404	402	363
Service Time	8.1	7.1	7.139	8.036
HCM Lane V/C Ratio	0.875	1.235	1.249	0.893
HCM Control Delay	41.7	133.4	140.6	43.2
HCM Lane LOS	E	F	F	E
HCM 95th-tile Q	6.5	18.4	19.1	6.8

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Future Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	259	13	14	278	0	14	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.5	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	1%	5%	33%
Vol Thru, %	0%	94%	95%	33%
Vol Right, %	38%	5%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	252	269	3
LT Vol	13	2	13	1
Through Vol	0	238	256	1
RT Vol	8	12	0	1
Lane Flow Rate	23	274	292	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.317	0.341	0.005
Departure Headway (Hd)	5.048	4.171	4.194	5.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	846	845	712
Service Time	3.05	2.269	2.285	3.054
HCM Lane V/C Ratio	0.032	0.324	0.346	0.004
HCM Control Delay	8.2	9.2	9.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.4	1.5	0

HCM 6th AWSC
15: Mills Ave & 6st St

04/03/2024

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	371	29	22	352	7	16	2	13	4	2	3
Future Vol, veh/h	2	371	29	22	352	7	16	2	13	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	403	32	24	383	8	17	2	14	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.6	12.3	9	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	6%	44%
Vol Thru, %	6%	92%	92%	22%
Vol Right, %	42%	7%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	402	381	9
LT Vol	16	2	22	4
Through Vol	2	371	352	2
RT Vol	13	29	7	3
Lane Flow Rate	34	437	414	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.539	0.518	0.016
Departure Headway (Hd)	5.623	4.442	4.503	5.713
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	633	813	799	623
Service Time	3.688	2.474	2.535	3.783
HCM Lane V/C Ratio	0.054	0.538	0.518	0.016
HCM Control Delay	9	12.6	12.3	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	3.3	3	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Future Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	325	21	284	233	131	39	649	146	48	445	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	383	25	361	379	321	316	769	173	221	885	91
Arrive On Green	0.22	0.22	0.22	0.20	0.20	0.20	0.04	0.27	0.27	0.04	0.27	0.27
Sat Flow, veh/h	1781	1738	112	1781	1870	1585	1781	2883	648	1781	3252	335
Grp Volume(v), veh/h	85	0	346	284	233	131	39	400	395	48	242	249
Grp Sat Flow(s),veh/h/ln	1781	0	1850	1781	1870	1585	1781	1777	1754	1781	1777	1810
Q Serve(g_s), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Cycle Q Clear(g_c), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	393	0	408	361	379	321	316	474	468	221	484	493
V/C Ratio(X)	0.22	0.00	0.85	0.79	0.62	0.41	0.12	0.84	0.85	0.22	0.50	0.50
Avail Cap(c_a), veh/h	475	0	493	475	499	423	380	474	468	275	484	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	25.2	25.5	24.5	23.4	17.1	23.4	23.4	18.1	20.7	20.7
Incr Delay (d2), s/veh	0.3	0.0	11.3	6.4	1.6	0.8	0.2	16.6	16.9	0.5	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.0	4.7	3.4	1.8	0.4	7.6	7.5	0.5	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	36.5	32.0	26.2	24.2	17.3	40.0	40.4	18.6	24.4	24.4
LnGrp LOS	C	A	D	C	C	C	B	D	D	B	C	C
Approach Vol, veh/h		431			648			834			539	
Approach Delay, s/veh		33.6			28.3			39.1			23.9	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	22.5		19.4	7.1	22.9		18.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	16.4		14.1	3.1	9.8		12.2				
Green Ext Time (p_c), s	0.0	0.8		0.8	0.0	1.7		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	317	28	317	385	49	32	386	306	116	438	74
Future Volume (veh/h)	57	317	28	317	385	49	32	386	306	116	438	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	334	29	334	405	52	34	406	322	122	461	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	376	33	423	444	376	275	449	353	232	821	138
Arrive On Green	0.22	0.22	0.22	0.24	0.24	0.24	0.03	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1781	1697	147	1781	1870	1585	1781	1892	1488	1781	3043	512
Grp Volume(v), veh/h	60	0	363	334	405	52	34	381	347	122	268	271
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1603	1781	1777	1778
Q Serve(g_s), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	3.9	9.8	9.9
Cycle Q Clear(g_c), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	3.9	9.8	9.9
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.93	1.00		0.29
Lane Grp Cap(c), veh/h	395	0	409	423	444	376	275	422	381	232	479	480
V/C Ratio(X)	0.15	0.00	0.89	0.79	0.91	0.14	0.12	0.90	0.91	0.53	0.56	0.56
Avail Cap(c_a), veh/h	423	0	438	423	444	376	332	422	381	232	479	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	28.6	27.1	28.1	22.8	20.9	28.1	28.1	21.7	23.8	23.8
Incr Delay (d2), s/veh	0.2	0.0	18.6	9.7	23.0	0.2	0.2	25.2	28.4	2.2	4.7	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	7.9	6.6	9.7	0.7	0.4	9.1	8.6	1.6	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	0.0	47.2	36.9	51.1	23.0	21.1	53.3	56.5	23.9	28.5	28.6
LnGrp LOS	C	A	D	D	D	C	C	D	E	C	C	C
Approach Vol, veh/h	423			791			762			661		
Approach Delay, s/veh	43.9			43.3			53.3			27.7		
Approach LOS	D			D			D			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	22.5		21.3	7.1	24.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	5.9	18.0		16.5	3.1	11.9		18.0				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	1.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	42.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 17: Monte Vista Ave & Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Future Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	336	53	207	431	124	53	735	76	35	864	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	821	128	149	499	423	169	1470	151	66	1436	126
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.27	0.05	0.31	0.31	0.04	0.30	0.30
Sat Flow, veh/h	1781	3080	481	1781	1870	1585	3456	4704	483	1781	4780	419
Grp Volume(v), veh/h	127	192	197	207	431	124	53	530	281	35	614	326
Grp Sat Flow(s),veh/h/ln	1781	1777	1784	1781	1870	1585	1728	1702	1783	1781	1702	1795
Q Serve(g_s), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Cycle Q Clear(g_c), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.27	1.00		0.23
Lane Grp Cap(c), veh/h	149	474	476	149	499	423	169	1064	557	66	1023	539
V/C Ratio(X)	0.85	0.41	0.41	1.39	0.86	0.29	0.31	0.50	0.50	0.53	0.60	0.60
Avail Cap(c_a), veh/h	149	534	536	149	562	476	288	1064	557	149	1023	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	18.1	18.1	27.5	20.9	17.5	27.5	16.8	16.8	28.3	17.9	17.9
Incr Delay (d2), s/veh	35.5	0.6	0.6	212.2	12.2	0.4	1.0	1.7	3.2	6.6	2.6	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.9	2.0	10.7	6.5	1.2	0.4	2.7	3.1	0.6	3.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	18.6	18.7	239.7	33.1	17.9	28.6	18.4	20.0	34.9	20.5	22.8
LnGrp LOS	E	B	B	F	C	B	C	B	C	C	C	C
Approach Vol, veh/h	516			762			864			975		
Approach Delay, s/veh	29.5			86.7			19.6			21.8		
Approach LOS	C			F			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	23.2	9.5	20.5	7.4	22.5	9.5	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.2	9.7	7.0	7.4	2.9	11.3	6.2	15.2				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.5	0.0	3.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	38.3											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	566	41	119	448	69	84	639	210	103	711	170
Future Volume (veh/h)	96	566	41	119	448	69	84	639	210	103	711	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	596	43	125	472	73	88	673	221	108	748	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	914	66	141	521	442	215	1091	352	138	1240	294
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.06	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	3361	242	1781	1870	1585	3456	3818	1234	1781	4122	976
Grp Volume(v), veh/h	101	315	324	125	472	73	88	599	295	108	616	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1827	1781	1870	1585	1728	1702	1648	1781	1702	1695
Q Serve(g_s), s	3.5	9.9	9.9	4.4	15.3	2.2	1.5	9.6	9.8	3.8	9.7	9.9
Cycle Q Clear(g_c), s	3.5	9.9	9.9	4.4	15.3	2.2	1.5	9.6	9.8	3.8	9.7	9.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.75	1.00		0.58
Lane Grp Cap(c), veh/h	129	483	497	141	521	442	215	972	471	138	1024	510
V/C Ratio(X)	0.78	0.65	0.65	0.88	0.91	0.17	0.41	0.62	0.63	0.78	0.60	0.61
Avail Cap(c_a), veh/h	141	508	522	141	534	453	274	972	471	141	1024	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	20.3	20.3	28.7	21.9	17.2	28.4	19.5	19.6	28.5	18.8	18.9
Incr Delay (d2), s/veh	22.4	2.8	2.7	43.5	18.8	0.2	1.2	2.9	6.2	23.8	2.6	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.9	4.0	3.4	8.4	0.7	0.6	3.6	4.0	2.4	3.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	23.1	23.0	72.2	40.7	17.4	29.7	22.4	25.8	52.3	21.4	24.2
LnGrp LOS	D	C	C	E	D	B	C	C	C	D	C	C
Approach Vol, veh/h	740			670			982			1035		
Approach Delay, s/veh	26.9			44.0			24.1			25.5		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	22.5	9.5	21.6	8.4	23.5	9.1	22.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	11.8	6.4	11.9	3.5	11.9	5.5	17.3				
Green Ext Time (p_c), s	0.0	2.8	0.0	1.8	0.0	2.8	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	29.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Future Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	59	51	22	59	29	49	884	74	39	738	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	43	357	57	118	357	74	1066	904	65	1019	32
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.57	0.57	0.04	0.56	0.56
Sat Flow, veh/h	0	191	1585	0	525	1585	1781	1870	1585	1781	1804	56
Grp Volume(v), veh/h	123	0	51	81	0	29	49	884	74	39	0	761
Grp Sat Flow(s),veh/h/ln	191	0	1585	525	0	1585	1781	1870	1585	1781	0	1860
Q Serve(g_s), s	0.0	0.0	2.1	0.0	0.0	1.2	2.2	30.8	1.7	1.7	0.0	24.1
Cycle Q Clear(g_c), s	18.0	0.0	2.1	18.0	0.0	1.2	2.2	30.8	1.7	1.7	0.0	24.1
Prop In Lane	0.52		1.00	0.27		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	111	0	357	175	0	357	74	1066	904	65	0	1051
V/C Ratio(X)	1.10	0.00	0.14	0.46	0.00	0.08	0.66	0.83	0.08	0.60	0.00	0.72
Avail Cap(c_a), veh/h	111	0	357	175	0	357	114	1066	904	111	0	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	24.8	26.2	0.0	24.5	37.8	14.0	7.8	38.0	0.0	12.8
Incr Delay (d2), s/veh	115.8	0.0	0.2	1.9	0.0	0.1	9.8	7.5	0.2	8.8	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	0.8	1.3	0.0	0.4	1.1	13.8	0.6	0.9	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.2	0.0	25.0	28.0	0.0	24.6	47.5	21.5	7.9	46.8	0.0	17.2
LnGrp LOS	F	A	C	C	A	C	D	C	A	D	A	B
Approach Vol, veh/h		174			110			1007			800	
Approach Delay, s/veh		112.8			27.1			21.8			18.6	
Approach LOS		F			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	49.7		22.5	7.4	50.1		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	43.4		18.0	5.0	43.5		18.0				
Max Q Clear Time (g_c+I1), s	4.2	26.1		20.0	3.7	32.8		20.0				
Green Ext Time (p_c), s	0.0	5.5		0.0	0.0	5.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	47	40	49	46	37	91	26	666	35	19	712	21
Future Volume (veh/h)	47	40	49	46	37	91	26	666	35	19	712	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	43	53	50	40	99	28	724	38	21	774	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	53	478	93	50	478	55	839	711	44	799	24
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.03	0.45	0.45	0.02	0.44	0.44
Sat Flow, veh/h	0	174	1585	0	165	1585	1781	1870	1585	1781	1807	54
Grp Volume(v), veh/h	94	0	53	90	0	99	28	724	38	21	0	797
Grp Sat Flow(s),veh/h/ln	174	0	1585	165	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	2.8	0.9	20.9	0.8	0.7	0.0	25.1
Cycle Q Clear(g_c), s	18.1	0.0	1.4	18.1	0.0	2.8	0.9	20.9	0.8	0.7	0.0	25.1
Prop In Lane	0.54		1.00	0.56		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	145	0	478	143	0	478	55	839	711	44	0	823
V/C Ratio(X)	0.65	0.00	0.11	0.63	0.00	0.21	0.51	0.86	0.05	0.48	0.00	0.97
Avail Cap(c_a), veh/h	145	0	478	143	0	478	148	839	711	148	0	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	15.1	20.4	0.0	15.6	28.6	14.9	9.3	28.9	0.0	16.3
Incr Delay (d2), s/veh	9.6	0.0	0.1	8.5	0.0	0.2	7.0	11.4	0.1	7.9	0.0	24.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.5	1.6	0.0	1.0	0.5	10.4	0.3	0.4	0.0	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	15.2	28.9	0.0	15.8	35.6	26.3	9.5	36.8	0.0	40.9
LnGrp LOS	C	A	B	C	A	B	D	C	A	D	A	D
Approach Vol, veh/h		147			189			790			818	
Approach Delay, s/veh		24.7			22.0			25.8			40.8	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	31.0		22.6	6.0	31.4		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.4		18.1	5.0	23.4		18.1				
Max Q Clear Time (g_c+I1), s	2.9	27.1		20.1	2.7	22.9		20.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: 1st St & Indian Hill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Future Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	29	40	139	65	180	63	828	232	100	707	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	363	307	361	85	235	373	960	814	308	940	39
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.51	0.51	0.07	0.53	0.53
Sat Flow, veh/h	1135	1870	1585	1332	438	1214	1781	1870	1585	1781	1784	73
Grp Volume(v), veh/h	10	29	40	139	0	245	63	828	232	100	0	736
Grp Sat Flow(s),veh/h/ln	1135	1870	1585	1332	0	1652	1781	1870	1585	1781	0	1857
Q Serve(g_s), s	0.5	0.8	1.3	5.7	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Cycle Q Clear(g_c), s	8.9	0.8	1.3	6.5	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	181	363	307	361	0	320	373	960	814	308	0	978
V/C Ratio(X)	0.06	0.08	0.13	0.38	0.00	0.76	0.17	0.86	0.29	0.32	0.00	0.75
Avail Cap(c_a), veh/h	301	561	476	503	0	496	427	960	814	336	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.66	0.66	0.66	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	19.8	20.0	22.5	0.0	22.9	8.7	12.7	8.3	11.1	0.0	11.1
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.7	0.0	3.8	0.1	7.0	0.6	0.6	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.5	1.8	0.0	3.4	0.3	9.6	1.5	0.5	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	19.9	20.2	23.1	0.0	26.7	8.9	19.7	8.9	11.7	0.0	16.5
LnGrp LOS	C	B	C	C	A	C	A	B	A	B	A	B
Approach Vol, veh/h	79				384				1123			
Approach Delay, s/veh	21.0				25.4				16.9			
Approach LOS	C				C				B			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.6	35.3	16.1		7.8	36.1	16.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.1	23.4	18.0					
Max Q Clear Time (g_c+I1), s	3.5	25.2	10.9		3.0	20.6	10.4					
Green Ext Time (p_c), s	0.0	0.0	0.1		0.0	1.4	1.2					
Intersection Summary												
HCM 6th Ctrl Delay	18.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: 1st St & Indian Hill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	84	88	133	71	171	103	599	210	140	663	86
Future Volume (veh/h)	29	84	88	133	71	171	103	599	210	140	663	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	91	96	145	77	186	112	651	228	152	721	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	403	341	330	105	253	300	903	766	368	794	102
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.32	0.32	0.08	0.49	0.49
Sat Flow, veh/h	1116	1870	1585	1196	486	1173	1781	1870	1585	1781	1623	209
Grp Volume(v), veh/h	32	91	96	145	0	263	112	651	228	152	0	814
Grp Sat Flow(s),veh/h/ln	1116	1870	1585	1196	0	1659	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	1.7	2.4	3.0	6.8	0.0	8.9	1.8	18.4	6.5	2.5	0.0	24.5
Cycle Q Clear(g_c), s	10.5	2.4	3.0	9.2	0.0	8.9	1.8	18.4	6.5	2.5	0.0	24.5
Prop In Lane	1.00		1.00	1.00		0.71	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	195	403	341	330	0	357	300	903	766	368	0	897
V/C Ratio(X)	0.16	0.23	0.28	0.44	0.00	0.74	0.37	0.72	0.30	0.41	0.00	0.91
Avail Cap(c_a), veh/h	290	561	476	431	0	498	326	903	766	379	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.62	0.62	0.62	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	19.4	19.7	23.2	0.0	22.0	12.5	16.7	12.7	10.1	0.0	14.1
Incr Delay (d2), s/veh	0.4	0.3	0.4	0.9	0.0	3.6	0.5	3.1	0.6	0.7	0.0	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.1	1.9	0.0	3.6	0.6	8.7	2.2	0.8	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	19.7	20.1	24.1	0.0	25.5	13.0	19.8	13.3	10.8	0.0	28.7
LnGrp LOS	C	B	C	C	A	C	B	B	B	B	A	C
Approach Vol, veh/h		219			408			991			966	
Approach Delay, s/veh		21.0			25.0			17.6			25.9	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	33.5		17.4	8.7	33.9		17.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	4.5	20.4		12.5	3.8	26.5		11.2				
Green Ext Time (p_c), s	0.0	1.5		0.4	0.0	0.0		1.3				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

Intersection												
Intersection Delay, s/veh	20.4											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Future Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	200	52	49	324	149	33	255	30	46	183	20
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	15.2	20.3	25.7	20.2
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	74%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	293	55	184	48	45	298	137	228
LT Vol	30	55	0	0	45	0	0	42
Through Vol	235	0	184	0	0	298	0	168
RT Vol	28	0	0	48	0	0	137	18
Lane Flow Rate	318	60	200	52	49	324	149	248
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.683	0.142	0.442	0.105	0.11	0.681	0.283	0.549
Departure Headway (Hd)	7.721	8.578	7.956	7.225	8.089	7.57	6.842	7.977
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	421	450	493	441	476	521	449
Service Time	5.51	6.278	5.755	5.024	5.881	5.361	4.633	5.774
HCM Lane V/C Ratio	0.684	0.143	0.444	0.105	0.111	0.681	0.286	0.552
HCM Control Delay	25.7	12.7	17	10.9	11.9	25.2	12.3	20.2
HCM Lane LOS	D	B	C	B	B	D	B	C
HCM 95th-tile Q	5.1	0.5	2.2	0.3	0.4	5	1.2	3.2

Intersection												
Intersection Delay, s/veh	79.5											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	335	76	71	262	91	45	139	88	116	313	57
Future Vol, veh/h	49	335	76	71	262	91	45	139	88	116	313	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	364	83	77	285	99	49	151	96	126	340	62
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	44.6	27	36	182.7
HCM LOS	E	D	E	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	17%	100%	0%	0%	100%	0%	0%	24%
Vol Thru, %	51%	0%	100%	0%	0%	100%	0%	64%
Vol Right, %	32%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	49	335	76	71	262	91	486
LT Vol	45	49	0	0	71	0	0	116
Through Vol	139	0	335	0	0	262	0	313
RT Vol	88	0	0	76	0	0	91	57
Lane Flow Rate	296	53	364	83	77	285	99	528
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.739	0.138	0.894	0.187	0.204	0.713	0.228	1.311
Departure Headway (Hd)	9.891	10.377	9.842	9.093	10.609	10.072	9.322	8.931
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	370	348	371	397	340	362	388	407
Service Time	7.591	8.077	7.542	6.793	8.309	7.772	7.022	6.705
HCM Lane V/C Ratio	0.8	0.152	0.981	0.209	0.226	0.787	0.255	1.297
HCM Control Delay	36	14.7	56	13.9	16	34.2	14.8	182.7
HCM Lane LOS	E	B	F	B	C	D	B	F
HCM 95th-tile Q	5.7	0.5	8.9	0.7	0.8	5.3	0.9	23.8

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Future Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	0	137	9	0	1	434	773	8	1	491	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	201	171	22	0	19	634	2685	28	539	2648	1181
Arrive On Green	0.11	0.00	0.11	0.01	0.00	0.01	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	798	3603	37	692	3554	1585
Grp Volume(v), veh/h	71	0	137	9	0	1	434	381	400	1	491	137
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	798	1777	1864	692	1777	1585
Q Serve(g_s), s	3.7	0.0	8.4	0.5	0.0	0.1	35.3	7.0	7.0	0.0	4.1	2.4
Cycle Q Clear(g_c), s	3.7	0.0	8.4	0.5	0.0	0.1	39.4	7.0	7.0	7.0	4.1	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	192	201	171	22	0	19	634	1324	1389	539	2648	1181
V/C Ratio(X)	0.37	0.00	0.80	0.42	0.00	0.05	0.68	0.29	0.29	0.00	0.19	0.12
Avail Cap(c_a), veh/h	321	337	285	321	0	285	634	1324	1389	539	2648	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	41.5	0.0	43.6	49.0	0.0	48.8	9.6	4.1	4.1	5.3	3.8	3.6
Incr Delay (d2), s/veh	1.2	0.0	8.5	12.3	0.0	1.1	5.9	0.5	0.5	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	3.7	0.3	0.0	0.0	5.7	2.0	2.1	0.0	1.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	0.0	52.0	61.3	0.0	49.9	15.5	4.7	4.7	5.3	3.9	3.7
LnGrp LOS	D	A	D	E	A	D	B	A	A	A	A	A
Approach Vol, veh/h	208			10			1215			629		
Approach Delay, s/veh	48.8			60.2			8.5			3.8		
Approach LOS	D			E			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	79.0			15.3			79.0			5.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	50.5			18.0			50.5			18.0		
Max Q Clear Time (g_c+I1), s	41.4			10.4			9.0			2.5		
Green Ext Time (p_c), s	4.9			0.4			3.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	11.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	5	314	4	0	1	147	419	7	2	554	213
Future Volume (veh/h)	250	5	314	4	0	1	147	419	7	2	554	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	5	341	4	0	1	160	455	8	2	602	232
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	443	376	12	0	10	419	2059	36	574	2048	914
Arrive On Green	0.24	0.24	0.24	0.01	0.00	0.01	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	658	3573	63	929	3554	1585
Grp Volume(v), veh/h	272	5	341	4	0	1	160	226	237	2	602	232
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	658	1777	1859	929	1777	1585
Q Serve(g_s), s	10.3	0.2	15.7	0.2	0.0	0.0	12.3	4.6	4.6	0.1	6.5	5.4
Cycle Q Clear(g_c), s	10.3	0.2	15.7	0.2	0.0	0.0	18.8	4.6	4.6	4.7	6.5	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	422	443	376	12	0	10	419	1024	1072	574	2048	914
V/C Ratio(X)	0.64	0.01	0.91	0.34	0.00	0.10	0.38	0.22	0.22	0.00	0.29	0.25
Avail Cap(c_a), veh/h	428	449	380	428	0	380	419	1024	1072	574	2048	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	25.8	21.9	27.8	37.1	0.0	37.0	12.9	7.7	7.7	8.9	8.1	7.9
Incr Delay (d2), s/veh	3.3	0.0	24.7	16.2	0.0	3.9	2.6	0.5	0.5	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.1	8.2	0.1	0.0	0.0	1.8	1.6	1.6	0.0	2.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	21.9	52.5	53.3	0.0	40.9	15.5	8.2	8.2	8.9	8.4	8.4
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h		618			5			623			836	
Approach Delay, s/veh		41.9			50.8			10.1			8.4	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.7		22.3		47.7		5.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		18.0		25.5		18.0				
Max Q Clear Time (g_c+I1), s		20.8		17.7		8.5		2.2				
Green Ext Time (p_c), s		1.7		0.1		4.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				19.0								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Future Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	616	249	173	1009	152	242	779	176	180	788	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1090	486	211	1159	517	251	981	437	176	681	145
Arrive On Green	0.10	0.31	0.31	0.12	0.33	0.33	0.14	0.28	0.28	0.10	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2914	621
Grp Volume(v), veh/h	202	616	249	173	1009	152	242	779	176	180	480	476
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1759
Q Serve(g_s), s	8.9	13.1	11.6	8.5	24.0	6.4	12.2	18.3	8.1	8.9	21.0	21.0
Cycle Q Clear(g_c), s	8.9	13.1	11.6	8.5	24.0	6.4	12.2	18.3	8.1	8.9	21.0	21.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	176	1090	486	211	1159	517	251	981	437	176	415	411
V/C Ratio(X)	1.15	0.57	0.51	0.82	0.87	0.29	0.96	0.79	0.40	1.02	1.16	1.16
Avail Cap(c_a), veh/h	176	1090	486	362	1244	555	251	981	437	176	415	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	40.5	26.2	25.7	38.7	28.5	22.6	38.4	30.2	26.5	40.5	34.5	34.5
Incr Delay (d2), s/veh	112.8	0.7	0.9	5.4	4.6	0.2	46.3	6.6	2.7	62.1	88.1	88.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	5.5	4.4	4.0	10.6	2.4	8.4	8.5	3.3	6.8	18.9	18.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.3	26.8	26.6	44.1	33.2	22.8	84.7	36.8	29.3	102.6	122.6	122.8
LnGrp LOS	F	C	C	D	C	C	F	D	C	F	F	F
Approach Vol, veh/h	1067			1334			1197			1136		
Approach Delay, s/veh	50.7			33.4			45.4			119.5		
Approach LOS	D			C			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	29.3	15.2	32.1	17.2	25.5	13.4	33.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.9	22.7	18.3	22.1	12.7	18.9	8.9	31.5				
Max Q Clear Time (g_c+I1), s	10.9	20.3	10.5	15.1	14.2	23.0	10.9	26.0				
Green Ext Time (p_c), s	0.0	1.4	0.3	2.9	0.0	0.0	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay	61.0											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	1056	184	189	632	160	196	755	166	178	692	135
Future Volume (veh/h)	218	1056	184	189	632	160	196	755	166	178	692	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	1148	200	205	687	174	213	821	180	193	752	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	1277	570	229	1210	540	215	842	376	222	715	140
Arrive On Green	0.15	0.36	0.36	0.26	0.68	0.68	0.12	0.24	0.24	0.04	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2964	579
Grp Volume(v), veh/h	237	1148	200	205	687	174	213	821	180	193	451	448
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1766
Q Serve(g_s), s	15.7	36.7	11.1	13.3	12.1	5.4	14.3	27.5	11.7	12.9	28.9	28.9
Cycle Q Clear(g_c), s	15.7	36.7	11.1	13.3	12.1	5.4	14.3	27.5	11.7	12.9	28.9	28.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	263	1277	570	229	1210	540	215	842	376	222	428	426
V/C Ratio(X)	0.90	0.90	0.35	0.89	0.57	0.32	0.99	0.97	0.48	0.87	1.05	1.05
Avail Cap(c_a), veh/h	266	1347	601	260	1336	596	215	842	376	245	428	426
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	0.54	0.54	0.54
Uniform Delay (d), s/veh	50.3	36.4	28.2	43.8	14.6	13.5	52.7	45.4	39.4	56.5	55.2	55.2
Incr Delay (d2), s/veh	30.8	8.1	0.4	25.8	0.4	0.3	58.2	25.4	4.3	15.2	46.5	46.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	17.1	4.3	6.7	3.6	1.7	9.9	15.0	5.0	7.1	19.4	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.1	44.5	28.5	69.6	15.0	13.8	110.9	70.8	43.7	71.8	101.8	102.0
LnGrp LOS	F	D	C	E	B	B	F	E	D	E	F	F
Approach Vol, veh/h	1585			1066			1214			1092		
Approach Delay, s/veh	48.0			25.3			73.8			96.5		
Approach LOS	D			C			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	32.9	19.9	47.6	19.0	33.4	22.2	45.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	22.5	17.5	45.5	14.5	24.5	17.9	45.1				
Max Q Clear Time (g_c+I1), s	14.9	29.5	15.3	38.7	16.3	30.9	17.7	14.1				
Green Ext Time (p_c), s	0.1	0.0	0.1	4.5	0.0	0.0	0.0	6.0				
Intersection Summary												
HCM 6th Ctrl Delay	60.1											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Future Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	859	54	61	1182	86	67	136	47	129	101	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1648	104	310	1630	118	194	368	112	558	682	578
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	437	3395	213	611	3359	244	323	1009	308	1201	1870	1585
Grp Volume(v), veh/h	59	450	463	61	625	643	250	0	0	129	101	71
Grp Sat Flow(s),veh/h/ln	437	1777	1832	611	1777	1826	1640	0	0	1201	1870	1585
Q Serve(g_s), s	7.4	10.5	10.5	4.6	16.7	16.8	1.0	0.0	0.0	0.0	2.2	1.8
Cycle Q Clear(g_c), s	24.2	10.5	10.5	15.0	16.7	16.8	6.2	0.0	0.0	4.6	2.2	1.8
Prop In Lane	1.00		0.12	1.00		0.13	0.27		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	210	862	889	310	862	886	674	0	0	558	682	578
V/C Ratio(X)	0.28	0.52	0.52	0.20	0.72	0.73	0.37	0.00	0.00	0.23	0.15	0.12
Avail Cap(c_a), veh/h	227	933	962	334	933	959	674	0	0	558	682	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.43	0.43	0.43	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	10.6	10.6	15.8	12.3	12.3	14.1	0.0	0.0	13.6	12.8	12.7
Incr Delay (d2), s/veh	0.5	0.4	0.4	0.1	1.1	1.1	1.6	0.0	0.0	1.0	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.6	0.6	5.8	5.9	2.6	0.0	0.0	1.3	0.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	11.0	11.0	16.0	13.4	13.4	15.6	0.0	0.0	14.5	13.3	13.1
LnGrp LOS	C	B	B	B	B	B	B	A	A	B	B	B
Approach Vol, veh/h	972			1329			250			301		
Approach Delay, s/veh	11.7			13.5			15.6			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.4			33.6			26.4			33.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	8.2			26.2			6.6			18.8		
Green Ext Time (p_c), s	1.1			2.9			1.0			7.3		
Intersection Summary												
HCM 6th Ctrl Delay	13.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1211	44	37	823	79	49	50	56	129	122	111
Future Volume (veh/h)	66	1211	44	37	823	79	49	50	56	129	122	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	1316	48	40	895	86	53	54	61	140	133	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1644	60	195	1540	148	228	232	217	636	711	602
Arrive On Green	0.63	0.63	0.63	0.47	0.47	0.47	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	574	3497	127	399	3276	315	393	610	572	1277	1870	1585
Grp Volume(v), veh/h	72	668	696	40	485	496	168	0	0	140	133	121
Grp Sat Flow(s),veh/h/ln	574	1777	1847	399	1777	1814	1575	0	0	1277	1870	1585
Q Serve(g_s), s	5.8	16.9	17.0	5.4	12.0	12.0	0.0	0.0	0.0	0.0	2.8	3.1
Cycle Q Clear(g_c), s	17.7	16.9	17.0	22.4	12.0	12.0	3.9	0.0	0.0	3.3	2.8	3.1
Prop In Lane	1.00		0.07	1.00		0.17	0.32		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	275	835	868	195	835	852	678	0	0	636	711	602
V/C Ratio(X)	0.26	0.80	0.80	0.21	0.58	0.58	0.25	0.00	0.00	0.22	0.19	0.20
Avail Cap(c_a), veh/h	307	933	970	216	933	952	678	0	0	636	711	602
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	9.1	9.1	22.0	11.6	11.6	12.8	0.0	0.0	12.5	12.4	12.5
Incr Delay (d2), s/veh	0.2	2.2	2.1	0.4	0.5	0.5	0.9	0.0	0.0	0.8	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.3	4.5	0.5	4.1	4.2	1.6	0.0	0.0	1.3	1.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	11.3	11.3	22.4	12.1	12.1	13.6	0.0	0.0	13.3	13.0	13.2
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	B	B
Approach Vol, veh/h	1436			1021			168			394		
Approach Delay, s/veh	11.4			12.5			13.6			13.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	27.3			32.7			27.3			32.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	5.9			19.7			5.3			24.4		
Green Ext Time (p_c), s	0.7			7.4			1.4			3.8		
Intersection Summary												
HCM 6th Ctrl Delay	12.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Future Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	343	595	25	53	1048	345	120	473	39	127	270	277
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1869	78	68	999	325	139	595	49	144	340	288
Arrive On Green	0.20	0.54	0.54	0.04	0.38	0.38	0.08	0.18	0.18	0.08	0.18	0.18
Sat Flow, veh/h	1781	3475	146	1781	2634	858	1781	3325	273	1781	1870	1585
Grp Volume(v), veh/h	343	304	316	53	703	690	120	252	260	127	270	277
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1716	1781	1777	1821	1781	1870	1585
Q Serve(g_s), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Cycle Q Clear(g_c), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Prop In Lane	1.00		0.08	1.00		0.50	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	351	956	992	68	674	650	139	318	326	144	340	288
V/C Ratio(X)	0.98	0.32	0.32	0.78	1.04	1.06	0.86	0.79	0.80	0.88	0.79	0.96
Avail Cap(c_a), veh/h	351	956	992	143	674	650	139	318	326	144	340	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	14.2	14.2	52.4	34.1	34.2	50.1	43.2	43.2	50.0	43.0	44.6
Incr Delay (d2), s/veh	37.9	0.2	0.2	16.8	46.7	52.4	38.8	18.1	18.1	42.1	17.2	44.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	3.9	4.1	1.7	25.7	25.8	4.7	8.0	8.3	5.2	8.7	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	14.3	14.3	69.2	80.9	86.5	88.9	61.3	61.3	92.2	60.2	88.6
LnGrp LOS	F	B	B	E	F	F	F	E	E	F	E	F
Approach Vol, veh/h	963			1446			632			674		
Approach Delay, s/veh	38.3			83.1			66.5			77.9		
Approach LOS	D			F			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	24.2	8.7	63.7	13.1	24.5	26.2	46.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.9	19.7	8.8	54.6	8.6	20.0	21.7	41.7				
Max Q Clear Time (g_c+I1), s	9.8	17.0	5.2	12.5	9.3	21.1	23.1	43.7				
Green Ext Time (p_c), s	0.0	0.8	0.0	3.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	67.8											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	1193	60	71	636	127	80	251	66	247	406	275
Future Volume (veh/h)	202	1193	60	71	636	127	80	251	66	247	406	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	1297	65	77	691	138	87	273	72	268	441	299
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1282	64	99	839	167	109	603	156	279	582	493
Arrive On Green	0.14	0.37	0.37	0.06	0.28	0.28	0.06	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	1781	3444	172	1781	2952	589	1781	2794	723	1781	1870	1585
Grp Volume(v), veh/h	220	668	694	77	416	413	87	172	173	268	441	299
Grp Sat Flow(s),veh/h/ln	1781	1777	1839	1781	1777	1764	1781	1777	1740	1781	1870	1585
Q Serve(g_s), s	10.9	33.5	33.5	3.8	19.7	19.7	4.3	7.6	7.8	13.4	19.1	14.4
Cycle Q Clear(g_c), s	10.9	33.5	33.5	3.8	19.7	19.7	4.3	7.6	7.8	13.4	19.1	14.4
Prop In Lane	1.00		0.09	1.00		0.33	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	256	661	685	99	505	501	109	383	375	279	582	493
V/C Ratio(X)	0.86	1.01	1.01	0.78	0.82	0.82	0.80	0.45	0.46	0.96	0.76	0.61
Avail Cap(c_a), veh/h	291	661	685	115	505	501	109	383	375	279	582	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	28.2	28.3	42.0	30.1	30.1	41.7	30.6	30.7	37.7	27.9	26.3
Incr Delay (d2), s/veh	13.5	29.9	30.2	25.0	10.6	10.8	33.0	3.8	4.0	43.0	8.9	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	18.3	19.0	2.3	9.4	9.4	2.9	3.5	3.6	9.1	9.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	58.2	58.4	66.9	40.7	40.9	74.7	34.4	34.8	80.6	36.9	31.8
LnGrp LOS	D	F	F	E	D	D	E	C	C	F	D	C
Approach Vol, veh/h	1582			906			432			1008		
Approach Delay, s/veh	57.3			43.0			42.7			47.0		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	23.9	9.5	38.0	10.0	32.5	17.4	30.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.1	18.6	5.8	33.5	5.5	27.2	14.7	24.6				
Max Q Clear Time (g_c+I1), s	15.4	9.8	5.8	35.5	6.3	21.1	12.9	21.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.0	0.0	2.1	0.1	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	49.8											
HCM 6th LOS	D											

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	122	49	432	404	22
Future Vol, veh/h	30	122	49	432	404	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	133	53	470	439	24

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	780	220	463
Stage 1	439	-	-
Stage 2	341	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	332	784	1095
Stage 1	617	-	-
Stage 2	692	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	316	784	1095
Mov Cap-2 Maneuver	316	-	-
Stage 1	587	-	-
Stage 2	692	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1095	-	607	-	-
HCM Lane V/C Ratio	0.049	-	0.272	-	-
HCM Control Delay (s)	8.5	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	122	59	481	445	30
Future Vol, veh/h	44	122	59	481	445	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	133	64	523	484	33

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	874	242	517
Stage 1	484	-	-
Stage 2	390	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	289	759	1045
Stage 1	585	-	-
Stage 2	653	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	271	759	1045
Mov Cap-2 Maneuver	271	-	-
Stage 1	549	-	-
Stage 2	653	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1045	-	514	-	-
HCM Lane V/C Ratio	0.061	-	0.351	-	-
HCM Control Delay (s)	8.7	-	15.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	50	0	0	30	0	0
Future Vol, veh/h	50	0	0	30	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	0	0	33	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	27
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1042
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	38	0	0	57	0	0
Future Vol, veh/h	38	0	0	57	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	0	62	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	21
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1051
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	30	0	0	16
Future Vol, veh/h	0	0	30	0	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	33	0	0	17
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	17	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1058	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1058	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	-		-		
HCM Lane V/C Ratio	-	-		-		
HCM Control Delay (s)	-	0		-		
HCM Lane LOS	-	A		-		
HCM 95th %tile Q(veh)	-	-		-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	0	0	18	0	0	32
Future Vol, veh/h	0	0	18	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	20	0	0	35
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	10	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1069	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1069	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	-		-		
HCM Lane V/C Ratio	-	-		-		
HCM Control Delay (s)	-	0		-		
HCM Lane LOS	-	A		-		
HCM 95th %tile Q(veh)	-	-		-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	87	50	0
Future Vol, veh/h	0	0	0	87	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	92	53	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	27	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	883	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	883	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	68	100	0
Future Vol, veh/h	0	0	0	68	100	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	72	105	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	53	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	851	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	851	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	124	0	318	0	522	52	93	1065	1
Future Volume (veh/h)	0	0	0	124	0	318	0	522	52	93	1065	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	131	0	335	0	549	55	98	1121	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	137	0	167	489	414	4	1241	124	263	2900	3
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.26	0.00	0.38	0.38	0.08	0.55	0.55
Sat Flow, veh/h	0	1870	0	1781	1870	1585	1781	3262	326	3456	5269	5
Grp Volume(v), veh/h	0	0	0	131	0	335	0	298	306	98	724	398
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1812	1728	1702	1870
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	9.5	0.0	6.0	6.0	1.3	5.8	5.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	0.0	9.5	0.0	6.0	6.0	1.3	5.8	5.8
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	0	137	0	167	489	414	4	676	689	263	1874	1029
V/C Ratio(X)	0.00	0.00	0.00	0.78	0.00	0.81	0.00	0.44	0.44	0.37	0.39	0.39
Avail Cap(c_a), veh/h	0	704	0	216	1106	937	186	676	689	361	1874	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	21.2	0.0	16.5	0.0	11.0	11.1	21.0	6.1	6.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	13.1	0.0	3.8	0.0	2.1	2.1	0.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.9	0.0	3.4	0.0	2.1	2.1	0.5	1.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	34.3	0.0	20.3	0.0	13.1	13.1	21.9	6.7	7.2
LnGrp LOS	A	A	A	C	A	C	A	B	B	C	A	A
Approach Vol, veh/h	0			466			604			1220		
Approach Delay, s/veh	0.0			24.3			13.1			8.1		
Approach LOS				C			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	8.1	22.7	9.0	8.0	0.0	30.8	17.0					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.2	5.8	18.0	5.0	18.2	28.3					
Max Q Clear Time (g_c+I1), s	3.3	8.0	5.4	0.0	0.0	7.8	11.5					
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	5.3	1.1					
Intersection Summary												
HCM 6th Ctrl Delay				12.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	106	0	127	1	924	72	34	848	0
Future Volume (veh/h)	0	0	0	106	0	127	1	924	72	34	848	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	112	0	134	1	973	76	36	893	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	3	0	143	214	182	3	2193	171	124	3529	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.66	0.66	0.04	0.69	0.00
Sat Flow, veh/h	0	-38923	0	1781	1870	1585	1781	3339	261	3456	5274	0
Grp Volume(v), veh/h	0	0	0	112	0	134	1	518	531	36	893	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1823	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	4.3	0.0	5.7	0.0	9.9	9.9	0.7	4.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.3	0.0	5.7	0.0	9.9	9.9	0.7	4.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.14	1.00		0.00
Lane Grp Cap(c), veh/h	0	3	0	143	214	182	3	1167	1197	124	3529	0
V/C Ratio(X)	0.00	0.00	0.00	0.79	0.00	0.74	0.39	0.44	0.44	0.29	0.25	0.00
Avail Cap(c_a), veh/h	0	481	0	145	753	639	127	1167	1197	247	3529	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	31.6	0.0	30.0	34.9	5.8	5.8	32.9	4.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	23.8	0.0	5.7	77.1	1.2	1.2	1.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.7	0.0	2.4	0.1	3.2	3.2	0.3	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	55.4	0.0	35.7	112.1	7.1	7.0	33.8	4.2	0.0
LnGrp LOS	A	A	A	E	A	D	F	A	A	C	A	A
Approach Vol, veh/h	0			246			1050			929		
Approach Delay, s/veh	0.0			44.7			7.1			5.3		
Approach LOS				D			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	7.0	50.5	10.1	2.4	4.6	52.9	12.5					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.3	5.7	18.0	5.0	23.3	28.2					
Max Q Clear Time (g_c+I1), s	2.7	11.9	6.3	0.0	2.0	6.6	7.7					
Green Ext Time (p_c), s	0.0	5.2	0.0	0.0	0.0	5.8	0.4					
Intersection Summary												
HCM 6th Ctrl Delay	10.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	510	111	288	842	63	155	92	256	69	115	79
Future Volume (veh/h)	43	510	111	288	842	63	155	92	256	69	115	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	554	121	313	915	68	168	100	278	75	125	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	775	346	312	1236	551	517	678	605	372	793	509
Arrive On Green	0.05	0.22	0.22	0.17	0.35	0.35	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1171	1777	1585	1005	2076	1332
Grp Volume(v), veh/h	47	554	121	313	915	68	168	100	278	75	106	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1171	1777	1585	1005	1777	1631
Q Serve(g_s), s	1.6	8.7	3.9	10.5	13.6	1.8	6.6	2.2	7.9	3.6	2.3	2.6
Cycle Q Clear(g_c), s	1.6	8.7	3.9	10.5	13.6	1.8	9.2	2.2	7.9	11.5	2.3	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	81	775	346	312	1236	551	517	678	605	372	678	623
V/C Ratio(X)	0.58	0.71	0.35	1.00	0.74	0.12	0.32	0.15	0.46	0.20	0.16	0.17
Avail Cap(c_a), veh/h	148	1066	476	312	1392	621	517	678	605	372	678	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	21.7	19.9	24.8	17.2	13.3	15.3	12.1	13.9	18.2	12.2	12.3
Incr Delay (d2), s/veh	6.5	1.4	0.6	43.0	1.3	0.1	1.3	0.4	1.9	1.2	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.5	1.4	7.8	5.1	0.6	1.8	0.8	2.8	0.9	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.1	20.5	67.8	18.5	13.4	16.6	12.5	15.8	19.4	12.7	12.8
LnGrp LOS	C	C	C	F	B	B	B	B	B	B	B	B
Approach Vol, veh/h	722			1296			546			286		
Approach Delay, s/veh	23.4			30.1			15.5			14.5		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	27.4			15.0			17.6			27.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			10.5			18.0			18.0		
Max Q Clear Time (g_c+I1), s	11.2			12.5			10.7			13.5		
Green Ext Time (p_c), s	1.7			0.0			2.4			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	24.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	702	147	303	884	56	157	95	246	64	137	70
Future Volume (veh/h)	42	702	147	303	884	56	157	95	246	64	137	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	763	160	329	961	61	171	103	267	70	149	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	914	408	378	1513	675	427	574	512	299	749	363
Arrive On Green	0.04	0.26	0.26	0.21	0.43	0.43	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1156	1777	1585	1012	2320	1125
Grp Volume(v), veh/h	46	763	160	329	961	61	171	103	267	70	112	113
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1156	1777	1585	1012	1777	1668
Q Serve(g_s), s	1.6	13.2	5.4	11.6	13.8	1.5	8.2	2.7	8.9	3.9	3.0	3.2
Cycle Q Clear(g_c), s	1.6	13.2	5.4	11.6	13.8	1.5	11.4	2.7	8.9	12.8	3.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	77	914	408	378	1513	675	427	574	512	299	574	539
V/C Ratio(X)	0.60	0.83	0.39	0.87	0.64	0.09	0.40	0.18	0.52	0.23	0.20	0.21
Avail Cap(c_a), veh/h	164	984	439	425	1513	675	427	574	512	299	574	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	22.8	19.9	24.8	14.7	11.1	20.1	15.8	17.9	23.1	15.9	16.0
Incr Delay (d2), s/veh	7.1	6.0	0.6	13.4	0.7	0.0	2.3	0.6	3.2	1.8	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.9	1.9	6.0	5.1	0.5	2.3	1.1	3.5	1.0	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	28.8	20.6	38.1	15.4	11.2	22.4	16.4	21.1	25.0	16.7	16.9
LnGrp LOS	D	C	C	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h	969			1351			541			295		
Approach Delay, s/veh	27.9			20.7			20.6			18.7		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	25.5			18.3			21.2			25.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			15.5			18.0			18.0		
Max Q Clear Time (g_c+I1), s	13.4			13.6			15.2			14.8		
Green Ext Time (p_c), s	1.3			0.2			1.5			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	22.7											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	738	77	134	979	153	117	88	97	148	81	167
Future Volume (veh/h)	92	738	77	134	979	153	117	88	97	148	81	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	802	84	146	1064	166	127	96	105	161	88	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	1114	497	185	1227	547	547	669	567	540	669	567
Arrive On Green	0.07	0.31	0.31	0.10	0.35	0.35	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1309	1870	1585	1300	1870	1585
Grp Volume(v), veh/h	100	802	84	146	1064	166	127	96	105	161	88	182
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1309	1870	1585	1300	1870	1585
Q Serve(g_s), s	3.3	12.0	2.3	4.8	16.8	4.6	4.3	2.1	2.7	5.7	1.9	5.0
Cycle Q Clear(g_c), s	3.3	12.0	2.3	4.8	16.8	4.6	6.2	2.1	2.7	7.8	1.9	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	1114	497	185	1227	547	547	669	567	540	669	567
V/C Ratio(X)	0.78	0.72	0.17	0.79	0.87	0.30	0.23	0.14	0.19	0.30	0.13	0.32
Avail Cap(c_a), veh/h	181	1190	531	226	1279	571	547	669	567	540	669	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.66	0.66	0.66	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	18.3	14.9	26.2	18.3	14.4	15.1	13.1	13.3	15.7	13.0	14.0
Incr Delay (d2), s/veh	10.8	1.6	0.1	9.8	4.3	0.2	0.8	0.4	0.6	1.4	0.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.7	0.8	2.4	6.8	1.5	1.3	0.9	1.0	1.8	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	19.9	15.1	36.0	22.7	14.6	15.9	13.4	13.8	17.1	13.4	15.5
LnGrp LOS	D	B	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h	986				1376				328			
Approach Delay, s/veh	21.3				23.1				14.5			
Approach LOS	C				C				B			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	26.0		10.7	23.3		26.0		8.8	25.2			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.8		7.6	20.1		18.8		6.1	21.6			
Max Q Clear Time (g_c+I1), s	8.2		6.8	14.0		9.8		5.3	18.8			
Green Ext Time (p_c), s	0.9		0.0	2.9		1.1		0.0	1.9			
Intersection Summary												
HCM 6th Ctrl Delay	20.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	923	149	182	950	96	139	83	68	87	138	168
Future Volume (veh/h)	114	923	149	182	950	96	139	83	68	87	138	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1003	162	198	1033	104	151	90	74	95	150	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1093	488	243	1262	563	458	620	525	509	620	525
Arrive On Green	0.09	0.31	0.31	0.14	0.36	0.36	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1237	1870	1585	1307	1870	1585
Grp Volume(v), veh/h	124	1003	162	198	1033	104	151	90	74	95	150	183
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1237	1870	1585	1307	1870	1585
Q Serve(g_s), s	4.1	16.3	4.7	6.5	15.9	2.7	6.1	2.0	2.0	3.3	3.5	5.2
Cycle Q Clear(g_c), s	4.1	16.3	4.7	6.5	15.9	2.7	9.6	2.0	2.0	5.3	3.5	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	1093	488	243	1262	563	458	620	525	509	620	525
V/C Ratio(X)	0.79	0.92	0.33	0.82	0.82	0.18	0.33	0.15	0.14	0.19	0.24	0.35
Avail Cap(c_a), veh/h	163	1096	489	252	1273	568	458	620	525	509	620	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.73	0.73	0.73	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	20.0	16.0	25.2	17.6	13.4	18.1	14.1	14.1	16.0	14.6	15.2
Incr Delay (d2), s/veh	13.0	7.5	0.2	13.7	3.2	0.1	1.6	0.4	0.5	0.8	0.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.2	1.6	3.5	6.3	0.9	1.8	0.9	0.7	1.0	1.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	27.6	16.2	38.9	20.8	13.5	19.7	14.5	14.6	16.8	15.5	17.0
LnGrp LOS	D	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h	1289			1335			315			428		
Approach Delay, s/veh	27.3			22.9			17.0			16.4		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	24.4		12.7	23.0		24.4		9.8	25.8			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	19.5		8.5	18.5		19.5		5.5	21.5			
Max Q Clear Time (g_c+I1), s	11.6		8.5	18.3		7.3		6.1	17.9			
Green Ext Time (p_c), s	0.8		0.0	0.1		1.4		0.0	2.3			
Intersection Summary												
HCM 6th Ctrl Delay	23.2											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	762	254	496	889	132	358	138	529	142	108	99
Future Volume (veh/h)	56	762	254	496	889	132	358	138	529	142	108	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	828	276	539	966	143	389	150	575	154	117	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	910	406	610	1382	616	524	581	492	347	417	352
Arrive On Green	0.04	0.26	0.26	0.18	0.39	0.39	0.14	0.31	0.31	0.06	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1827	1543
Grp Volume(v), veh/h	61	828	276	539	966	143	389	150	575	154	113	112
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1593
Q Serve(g_s), s	3.1	20.3	14.1	13.7	20.5	5.5	12.5	5.4	27.9	5.1	4.7	5.2
Cycle Q Clear(g_c), s	3.1	20.3	14.1	13.7	20.5	5.5	12.5	5.4	27.9	5.1	4.7	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	78	910	406	610	1382	616	524	581	492	347	406	364
V/C Ratio(X)	0.78	0.91	0.68	0.88	0.70	0.23	0.74	0.26	1.17	0.44	0.28	0.31
Avail Cap(c_a), veh/h	115	928	414	634	1382	616	524	581	492	347	406	364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.5	30.1	36.1	23.1	18.5	23.3	23.3	31.0	25.3	28.6	28.8
Incr Delay (d2), s/veh	14.8	10.4	3.5	13.6	1.6	0.2	5.3	1.0	94.8	0.9	1.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	9.4	5.4	6.6	8.1	1.9	6.7	2.4	22.7	2.5	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	42.8	33.6	49.7	24.7	18.7	28.6	24.3	125.8	26.2	30.3	31.0
LnGrp LOS	E	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1165			1648			1114			379	
Approach Delay, s/veh		41.4			32.3			78.2			28.8	
Approach LOS		D			C			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.4	20.4	27.6	17.0	25.0	8.5	39.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	26.9	16.5	23.5	12.5	19.5	5.8	34.2				
Max Q Clear Time (g_c+I1), s	7.1	29.9	15.7	22.3	14.5	7.2	5.1	22.5				
Green Ext Time (p_c), s	0.0	0.0	0.2	0.7	0.0	0.9	0.0	5.1				
Intersection Summary												
HCM 6th Ctrl Delay			46.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	856	197	407	987	117	229	124	517	133	91	57
Future Volume (veh/h)	56	856	197	407	987	117	229	124	517	133	91	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	930	214	442	1073	127	249	135	562	145	99	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1021	455	511	1390	620	537	577	489	371	570	332
Arrive On Green	0.04	0.29	0.29	0.15	0.39	0.39	0.10	0.31	0.31	0.06	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2161	1259
Grp Volume(v), veh/h	61	930	214	442	1073	127	249	135	562	145	80	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1644
Q Serve(g_s), s	3.1	22.7	10.0	11.2	23.7	4.8	9.0	4.8	27.7	5.1	3.1	3.4
Cycle Q Clear(g_c), s	3.1	22.7	10.0	11.2	23.7	4.8	9.0	4.8	27.7	5.1	3.1	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	78	1021	455	511	1390	620	537	577	489	371	469	434
V/C Ratio(X)	0.78	0.91	0.47	0.87	0.77	0.20	0.46	0.23	1.15	0.39	0.17	0.19
Avail Cap(c_a), veh/h	115	1046	467	518	1390	620	537	577	489	371	469	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	31.0	26.4	37.5	23.9	18.1	20.2	23.2	31.1	22.7	25.5	25.6
Incr Delay (d2), s/veh	9.4	6.2	0.4	14.1	2.7	0.2	0.6	0.9	88.1	0.7	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.9	3.6	5.5	9.5	1.6	3.6	2.2	21.7	2.2	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	37.2	26.8	51.6	26.6	18.3	20.8	24.1	119.2	23.3	26.3	26.6
LnGrp LOS	D	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1205			1642			946			306	
Approach Delay, s/veh		36.1			32.7			79.7			25.0	
Approach LOS		D			C			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.2	17.8	30.4	13.6	28.2	8.5	39.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	26.9	13.5	26.5	9.1	22.9	5.8	34.2				
Max Q Clear Time (g_c+I1), s	7.1	29.7	13.2	24.7	11.0	5.4	5.1	25.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	0.7	0.0	4.5				
Intersection Summary												
HCM 6th Ctrl Delay			44.0									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	777	489	77	717	505	161	0	626	107	0	525
Future Volume (veh/h)	145	777	489	77	717	505	161	0	626	107	0	525
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	158	845	532	84	779	549	175	0	680	116	0	571
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	176	1049	468	108	914	408	804	0	0	804	0	0
Arrive On Green	0.10	0.30	0.30	0.06	0.26	0.26	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	175		1781	116	
Grp Volume(v), veh/h	158	845	532	84	779	549	175	11.8		116	11.3	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	6.1	15.4	20.7	3.3	14.6	18.0	4.2			2.7		
Cycle Q Clear(g_c), s	6.1	15.4	20.7	3.3	14.6	18.0	4.2			2.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	176	1049	468	108	914	408	804			804		
V/C Ratio(X)	0.90	0.81	1.14	0.78	0.85	1.35	0.22			0.14		
Avail Cap(c_a), veh/h	176	1049	468	127	914	408	804			804		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	31.2	22.8	24.7	32.4	24.7	26.0	11.7			11.3		
Incr Delay (d2), s/veh	40.8	4.7	84.7	22.6	7.8	171.7	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.4	6.3	17.7	2.0	6.4	25.4	1.4			0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	27.5	109.4	55.0	32.6	197.7	11.8			11.3		
LnGrp LOS	E	C	F	E	C	F	B			B		
Approach Vol, veh/h	1535			1412								
Approach Delay, s/veh	60.4			98.1								
Approach LOS	E			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	36.1		8.7	25.2	36.1		11.4	22.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	7.3		5.0	19.9	7.7		6.9	18.0				
Max Q Clear Time (g_c+I1), s	4.7		5.3	22.7	6.2		8.1	20.0				
Green Ext Time (p_c), s	0.1		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	72.5											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	160	889	523	46	810	375	122	0	663	73	0	523
Future Volume (veh/h)	160	889	523	46	810	375	122	0	663	73	0	523
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	174	966	568	50	880	408	133	0	721	79	0	568
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	201	1182	527	79	939	419	766	0	0	766	0	0
Arrive On Green	0.11	0.33	0.33	0.04	0.26	0.26	0.43	0.00	0.00	0.43	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	133		1781	79	
Grp Volume(v), veh/h	174	966	568	50	880	408	133	12.4		79	12.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	6.7	17.4	23.3	1.9	17.0	17.9	3.2			1.9		
Cycle Q Clear(g_c), s	6.7	17.4	23.3	1.9	17.0	17.9	3.2			1.9		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	201	1182	527	79	939	419	766			766		
V/C Ratio(X)	0.87	0.82	1.08	0.63	0.94	0.97	0.17			0.10		
Avail Cap(c_a), veh/h	201	1182	527	127	939	419	766			766		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	30.5	21.4	23.4	32.9	25.2	25.5	12.3			11.9		
Incr Delay (d2), s/veh	30.3	4.6	61.5	8.1	16.3	37.0	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.3	7.0	16.5	0.9	8.4	10.2	1.1			0.6		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	26.0	84.9	40.9	41.5	62.6	12.4			12.0		
LnGrp LOS	E	C	F	D	D	E	B			B		
Approach Vol, veh/h		1708			1338							
Approach Delay, s/veh		49.1			47.9							
Approach LOS		D			D							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	34.6		7.6	27.8	34.6		12.4	23.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	5.8		5.0	21.4	6.3		7.9	18.5				
Max Q Clear Time (g_c+I1), s	3.9		3.9	25.3	5.2		8.7	19.9				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.0		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.2									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	0	19	1	0	0	18	727	1	1	553	231
Future Volume (vph)	270	0	19	1	0	0	18	727	1	1	553	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3539		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.35	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3539		657	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	293	0	21	1	0	0	20	790	1	1	601	251
RTOR Reduction (vph)	0	121	16	0	0	0	0	0	0	0	0	109
Lane Group Flow (vph)	146	28	3	0	1	0	20	791	0	1	601	142
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Effective Green, g (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Actuated g/C Ratio	0.16	0.16	0.16		0.01		0.04	0.66		0.57	0.57	0.57
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	260	249	233		27		66	2340		372	2008	898
v/s Ratio Prot	c0.09	0.02					0.01	c0.22			0.17	
v/s Ratio Perm			0.00		c0.00					0.00		0.09
v/c Ratio	0.56	0.11	0.01		0.04		0.30	0.34		0.00	0.30	0.16
Uniform Delay, d1	31.3	29.1	28.6		38.8		37.5	5.9		7.5	9.0	8.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2	0.0		0.6		2.6	0.4		0.0	0.4	0.4
Delay (s)	34.0	29.3	28.6		39.4		40.1	6.3		7.5	9.4	8.6
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.5			39.4			7.1			9.2	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			34.9%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	0	235	4	7	1	222	571	4	2	471	218
Future Volume (vph)	261	0	235	4	7	1	222	571	4	2	471	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1536	1504		1815		1770	3536		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.41	1.00	1.00
Satd. Flow (perm)	1681	1536	1504		1843		1770	3536		773	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	0	255	4	8	1	241	621	4	2	512	237
RTOR Reduction (vph)	0	118	141	0	1	0	0	0	0	0	0	166
Lane Group Flow (vph)	187	63	30	0	12	0	241	625	0	2	512	71
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	14.1	14.1	14.1		1.5		22.3	50.9		24.1	24.1	24.1
Effective Green, g (s)	14.1	14.1	14.1		1.5		22.3	50.9		24.1	24.1	24.1
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.28	0.64		0.30	0.30	0.30
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	296	270	265		34		493	2249		232	1066	476
v/s Ratio Prot	c0.11	0.04					c0.14	0.18			c0.14	
v/s Ratio Perm			0.02		c0.01					0.00		0.05
v/c Ratio	0.63	0.23	0.11		0.35		0.49	0.28		0.01	0.48	0.15
Uniform Delay, d1	30.5	28.3	27.7		38.8		24.1	6.4		19.6	22.8	20.5
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.4	0.2		6.2		0.8	0.3		0.1	1.6	0.7
Delay (s)	34.9	28.8	27.9		45.0		24.9	6.7		19.6	24.4	21.1
Level of Service	C	C	C		D		C	A		B	C	C
Approach Delay (s)		30.6			45.0			11.8			23.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			52.9%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Indian Hill Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	709	252	166	704	144	284	380	162	202	356	110
Future Volume (veh/h)	103	709	252	166	704	144	284	380	162	202	356	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	771	274	180	765	157	309	413	176	220	387	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	757	269	188	1137	507	267	626	264	255	468	396
Arrive On Green	0.08	0.29	0.29	0.11	0.32	0.32	0.15	0.26	0.26	0.14	0.25	0.25
Sat Flow, veh/h	1781	2570	913	1781	3554	1585	1781	2436	1026	1781	1870	1585
Grp Volume(v), veh/h	112	533	512	180	765	157	309	300	289	220	387	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1706	1781	1777	1585	1781	1777	1686	1781	1870	1585
Q Serve(g_s), s	5.6	26.5	26.5	9.0	16.8	6.7	13.5	13.6	13.8	10.9	17.6	5.5
Cycle Q Clear(g_c), s	5.6	26.5	26.5	9.0	16.8	6.7	13.5	13.6	13.8	10.9	17.6	5.5
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	143	523	502	188	1137	507	267	457	433	255	468	396
V/C Ratio(X)	0.79	1.02	1.02	0.96	0.67	0.31	1.16	0.66	0.67	0.86	0.83	0.30
Avail Cap(c_a), veh/h	267	523	502	188	1137	507	267	457	433	267	468	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	40.6	31.7	31.8	40.0	26.5	23.1	38.3	29.9	30.0	37.7	31.9	27.4
Incr Delay (d2), s/veh	9.1	44.2	45.1	53.2	1.6	0.3	104.1	7.2	7.9	19.5	12.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	17.0	16.5	6.6	6.9	2.4	13.4	6.5	6.3	6.0	9.4	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	75.9	76.9	93.2	28.1	23.4	142.3	37.1	37.9	57.2	44.5	28.9
LnGrp LOS	D	F	F	F	C	C	F	D	D	E	D	C
Approach Vol, veh/h	1157		1102				898		727			
Approach Delay, s/veh	73.8		38.1				73.6		45.8			
Approach LOS	E		D				E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	27.6	14.0	31.0	18.0	27.0	11.7	33.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	22.5	9.5	26.5	13.5	22.5	13.5	22.5				
Max Q Clear Time (g_c+I1), s	12.9	15.8	11.0	28.5	15.5	19.6	7.6	18.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	0.8	0.1	1.9				
Intersection Summary												
HCM 6th Ctrl Delay	58.4											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

6: Indian Hill Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	779	234	147	752	135	339	374	154	173	372	144
Future Volume (veh/h)	95	779	234	147	752	135	339	374	154	173	372	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	847	254	160	817	147	368	407	167	188	404	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	813	244	172	1159	517	371	776	315	220	430	365
Arrive On Green	0.07	0.30	0.30	0.10	0.33	0.33	0.21	0.31	0.31	0.12	0.23	0.23
Sat Flow, veh/h	1781	2695	807	1781	3554	1585	1781	2467	1000	1781	1870	1585
Grp Volume(v), veh/h	103	558	543	160	817	147	368	292	282	188	404	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1725	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	6.3	33.2	33.2	9.8	22.1	7.6	22.7	14.8	15.1	11.4	23.3	9.3
Cycle Q Clear(g_c), s	6.3	33.2	33.2	9.8	22.1	7.6	22.7	14.8	15.1	11.4	23.3	9.3
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	128	536	521	172	1159	517	371	559	532	220	430	365
V/C Ratio(X)	0.80	1.04	1.04	0.93	0.71	0.28	0.99	0.52	0.53	0.85	0.94	0.43
Avail Cap(c_a), veh/h	154	536	521	172	1159	517	371	559	532	332	430	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	50.3	38.4	38.4	49.3	32.4	27.5	43.5	30.9	31.0	47.2	41.6	36.2
Incr Delay (d2), s/veh	21.9	49.9	50.9	49.3	2.0	0.3	44.6	3.5	3.8	11.0	27.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	21.2	20.8	6.6	9.5	2.8	14.4	6.8	6.6	5.7	13.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	88.3	89.3	98.6	34.4	27.8	88.1	34.4	34.8	58.3	69.0	39.3
LnGrp LOS	E	F	F	F	C	C	F	C	C	E	E	D
Approach Vol, veh/h		1204			1124			942			749	
Approach Delay, s/veh		87.4			42.7			55.5			60.1	
Approach LOS		F			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	39.1	15.1	37.7	27.4	29.8	12.4	40.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	27.7	10.6	33.2	22.9	25.3	9.5	34.3				
Max Q Clear Time (g_c+I1), s	13.4	17.1	11.8	35.2	24.7	25.3	8.3	24.1				
Green Ext Time (p_c), s	0.3	2.5	0.0	0.0	0.0	0.0	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			62.3									
HCM 6th LOS			E									

HCM 6th TWSC
7: College Ave & Foothill Blvd

04/03/2024

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	993	54	71	910	11	0	0	102	0	0	45
Future Vol, veh/h	44	993	54	71	910	11	0	0	102	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1079	59	77	989	12	0	0	111	0	0	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1001	0	0	1138	0	0	1824	2330	540	1779	2377	495
Stage 1	-	-	-	-	-	-	1175	1175	-	1143	1143	-
Stage 2	-	-	-	-	-	-	649	1155	-	636	1234	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	687	-	-	610	-	-	48	37	486	52	34	520
Stage 1	-	-	-	-	-	-	204	264	-	213	273	-
Stage 2	-	-	-	-	-	-	425	269	-	433	247	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	687	-	-	610	-	-	37	30	486	34	28	520
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	30	-	34	28	-
Stage 1	-	-	-	-	-	-	190	246	-	198	239	-
Stage 2	-	-	-	-	-	-	336	235	-	311	230	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.8			14.6			12.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	486	687	-	-	610	-	-	520
HCM Lane V/C Ratio	0.228	0.07	-	-	0.127	-	-	0.094
HCM Control Delay (s)	14.6	10.6	-	-	11.8	-	-	12.6
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0.4	-	-	0.3

HCM 6th TWSC
7: College Ave & Foothill Blvd

04/04/2024

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	1176	62	90	1091	23	2	0	130	0	0	44
Future Vol, veh/h	42	1176	62	90	1091	23	2	0	130	0	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1278	67	98	1186	25	2	0	141	0	0	48
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1211	0	0	1345	0	0	2159	2777	639	2113	2819	593
Stage 1	-	-	-	-	-	-	1370	1370	-	1382	1382	-
Stage 2	-	-	-	-	-	-	789	1407	-	731	1437	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	572	-	-	508	-	-	27	19	419	29	18	449
Stage 1	-	-	-	-	-	-	154	212	-	151	210	-
Stage 2	-	-	-	-	-	-	350	204	-	379	197	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	572	-	-	508	-	-	19	14	419	15	13	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	14	-	15	13	-
Stage 1	-	-	-	-	-	-	142	195	-	139	169	-
Stage 2	-	-	-	-	-	-	252	165	-	231	181	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1			25.3			14		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	318	572	-	-	508	-	-	449				
HCM Lane V/C Ratio	0.451	0.08	-	-	0.193	-	-	0.107				
HCM Control Delay (s)	25.3	11.8	-	-	13.8	-	-	14				
HCM Lane LOS	D	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	2.2	0.3	-	-	0.7	-	-	0.4				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1062	34	35	1002	10	40	5	24	27	8	0
Future Volume (veh/h)	9	1062	34	35	1002	10	40	5	24	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1154	37	38	1089	11	43	5	26	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1487	663	209	1508	15	437	70	213	567	160	0
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.00
Sat Flow, veh/h	513	3554	1585	470	3604	36	804	175	530	1096	398	0
Grp Volume(v), veh/h	10	1154	37	38	537	563	74	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	513	1777	1585	470	1777	1864	1509	0	0	1494	0	0
Q Serve(g_s), s	0.8	14.0	0.7	3.8	12.6	12.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	14.0	0.7	17.8	12.6	12.6	1.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.58		0.35	0.76		0.00
Lane Grp Cap(c), veh/h	229	1487	663	209	743	780	720	0	0	727	0	0
V/C Ratio(X)	0.04	0.78	0.06	0.18	0.72	0.72	0.10	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	235	1528	682	215	764	801	720	0	0	727	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.7	12.5	8.7	20.2	12.1	12.1	9.3	0.0	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.5	0.0	0.2	1.9	1.8	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.6	0.2	0.4	4.0	4.2	0.5	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	15.1	8.7	20.4	14.0	14.0	9.6	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1201			1138			74			38		
Approach Delay, s/veh	14.9			14.2			9.6			9.3		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.6			25.4			24.6			25.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			21.5			19.5			21.5		
Max Q Clear Time (g_c+I1), s	3.3			16.0			2.6			19.8		
Green Ext Time (p_c), s	0.3			3.4			0.1			1.1		
Intersection Summary												
HCM 6th Ctrl Delay	14.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 8: Dartmouth Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1102	37	31	1185	10	20	2	22	10	4	0
Future Volume (veh/h)	13	1102	37	31	1185	10	20	2	22	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1198	40	34	1288	11	22	2	24	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1629	727	216	1656	14	327	58	290	512	170	0
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	424	3554	1585	467	3611	31	614	153	767	1056	449	0
Grp Volume(v), veh/h	14	1198	40	34	634	665	48	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	424	1777	1585	467	1777	1865	1533	0	0	1505	0	0
Q Serve(g_s), s	1.6	15.1	0.8	3.5	16.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	15.1	0.8	18.7	16.5	16.5	1.0	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.46		0.50	0.73		0.00
Lane Grp Cap(c), veh/h	198	1629	727	216	815	855	675	0	0	682	0	0
V/C Ratio(X)	0.07	0.74	0.06	0.16	0.78	0.78	0.07	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	216	1777	793	236	888	932	675	0	0	682	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.48	0.48	0.48	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.2	12.2	8.3	19.8	12.5	12.5	11.0	0.0	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.5	0.0	0.2	2.0	1.9	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	0.2	0.4	5.8	6.0	0.4	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	13.6	8.3	19.9	14.5	14.4	11.2	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	C	B	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1252			1333			48			15		
Approach Delay, s/veh	13.5			14.6			11.2			10.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			29.7			25.3			29.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			27.5			18.5			27.5		
Max Q Clear Time (g_c+I1), s	3.0			20.1			2.3			20.7		
Green Ext Time (p_c), s	0.1			4.7			0.0			4.5		
Intersection Summary												
HCM 6th Ctrl Delay	14.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	980	31	21	782	118	11	10	32	105	7	208
Future Volume (veh/h)	203	980	31	21	782	118	11	10	32	105	7	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1065	34	23	850	128	12	11	35	114	8	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1372	44	45	959	428	256	215	442	144	778	659
Arrive On Green	0.15	0.39	0.39	0.03	0.27	0.27	0.28	0.28	0.28	0.08	0.42	0.42
Sat Flow, veh/h	1781	3515	112	1781	3554	1585	674	771	1585	1781	1870	1585
Grp Volume(v), veh/h	221	538	561	23	850	128	23	0	35	114	8	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1585	1445	0	1585	1781	1870	1585
Q Serve(g_s), s	9.7	21.2	21.2	1.0	18.4	5.1	0.0	0.0	1.3	5.0	0.2	7.8
Cycle Q Clear(g_c), s	9.7	21.2	21.2	1.0	18.4	5.1	0.7	0.0	1.3	5.0	0.2	7.8
Prop In Lane	1.00		0.06	1.00		1.00	0.52		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	694	722	45	959	428	471	0	442	144	778	659
V/C Ratio(X)	0.85	0.78	0.78	0.52	0.89	0.30	0.05	0.00	0.08	0.79	0.01	0.34
Avail Cap(c_a), veh/h	278	694	722	114	999	446	471	0	442	167	778	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.79	0.79	0.79	1.00	0.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	33.3	21.3	21.3	38.5	28.0	23.2	21.1	0.0	21.3	36.1	13.7	15.9
Incr Delay (d2), s/veh	11.9	2.9	2.8	7.1	7.7	0.3	0.2	0.0	0.4	18.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	8.4	8.8	0.5	8.2	1.8	0.3	0.0	0.5	2.8	0.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	24.3	24.2	45.6	35.7	23.5	21.3	0.0	21.6	54.8	13.7	17.3
LnGrp LOS	D	C	C	D	D	C	C	A	C	D	B	B
Approach Vol, veh/h	1320			1001			58			348		
Approach Delay, s/veh	27.7			34.4			21.5			29.5		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	26.8	6.5	35.7		37.8	16.1	26.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	19.5	5.1	29.9		31.5	12.5	22.5				
Max Q Clear Time (g_c+I1), s	7.0	3.3	3.0	23.2		9.8	11.7	20.4				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.5		0.7	0.1	1.2				
Intersection Summary												
HCM 6th Ctrl Delay	30.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	994	16	24	1001	111	13	4	21	86	1	177
Future Volume (veh/h)	153	994	16	24	1001	111	13	4	21	86	1	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	1080	17	26	1088	121	14	4	23	93	1	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1509	24	49	1193	532	334	86	411	119	715	606
Arrive On Green	0.11	0.42	0.42	0.03	0.34	0.34	0.26	0.26	0.26	0.07	0.38	0.38
Sat Flow, veh/h	1781	3581	56	1781	3554	1585	979	331	1585	1781	1870	1585
Grp Volume(v), veh/h	166	536	561	26	1088	121	18	0	23	93	1	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1860	1781	1777	1585	1310	0	1585	1781	1870	1585
Q Serve(g_s), s	7.3	20.0	20.0	1.2	23.5	4.4	0.0	0.0	0.9	4.1	0.0	6.8
Cycle Q Clear(g_c), s	7.3	20.0	20.0	1.2	23.5	4.4	0.6	0.0	0.9	4.1	0.0	6.8
Prop In Lane	1.00		0.03	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	749	784	49	1193	532	420	0	411	119	715	606
V/C Ratio(X)	0.82	0.72	0.72	0.53	0.91	0.23	0.04	0.00	0.06	0.78	0.00	0.32
Avail Cap(c_a), veh/h	212	749	784	114	1222	545	420	0	411	122	715	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.62	0.62	0.62	1.00	0.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	34.7	19.2	19.2	38.4	25.4	19.1	22.2	0.0	22.3	36.8	15.3	17.4
Incr Delay (d2), s/veh	14.8	2.1	2.0	5.5	6.9	0.1	0.2	0.0	0.3	24.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.7	8.1	0.6	10.1	1.5	0.3	0.0	0.3	2.5	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	21.3	21.2	43.9	32.3	19.2	22.4	0.0	22.5	60.9	15.3	18.6
LnGrp LOS	D	C	C	D	C	B	C	A	C	E	B	B
Approach Vol, veh/h		1263			1235			41			286	
Approach Delay, s/veh		24.9			31.3			22.4			32.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.8	25.2	6.7	38.2		35.1	13.6	31.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.1	31.9		29.5	9.5	27.5				
Max Q Clear Time (g_c+I1), s	6.1	2.9	3.2	22.0		8.8	9.3	25.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.7		0.6	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				28.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	836	122	182	735	53	111	269	177	62	197	84
Future Volume (veh/h)	141	836	122	182	735	53	111	269	177	62	197	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	909	133	198	799	58	121	292	192	67	214	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1050	468	244	1150	513	818	712	455	331	841	346
Arrive On Green	0.11	0.30	0.30	0.14	0.32	0.32	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2084	2079	1329	911	2456	1010
Grp Volume(v), veh/h	153	909	133	198	799	58	121	248	236	67	153	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1042	1777	1631	911	1777	1689
Q Serve(g_s), s	5.0	14.5	3.9	6.5	11.8	1.5	2.7	6.4	6.7	3.7	3.7	3.9
Cycle Q Clear(g_c), s	5.0	14.5	3.9	6.5	11.8	1.5	6.6	6.4	6.7	10.3	3.7	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		0.60
Lane Grp Cap(c), veh/h	194	1050	468	244	1150	513	818	609	559	331	609	579
V/C Ratio(X)	0.79	0.87	0.28	0.81	0.69	0.11	0.15	0.41	0.42	0.20	0.25	0.26
Avail Cap(c_a), veh/h	246	1096	489	282	1167	520	818	609	559	331	609	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	20.0	16.3	25.1	17.7	14.2	16.6	15.1	15.2	19.1	14.2	14.2
Incr Delay (d2), s/veh	8.5	4.9	0.2	14.5	1.8	0.1	0.4	2.0	2.3	1.4	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.8	1.2	3.4	4.4	0.5	0.6	2.5	2.5	0.8	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	24.9	16.5	39.6	19.5	14.3	17.0	17.1	17.5	20.5	15.2	15.4
LnGrp LOS	C	C	B	D	B	B	B	B	B	C	B	B
Approach Vol, veh/h		1195			1055			605			372	
Approach Delay, s/veh		25.2			23.0			17.2			16.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.1	12.7	22.2		25.1	11.0	23.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	9.5	18.5		18.5	8.3	19.7				
Max Q Clear Time (g_c+I1), s		8.7	8.5	16.5		12.3	7.0	13.8				
Green Ext Time (p_c), s		2.4	0.1	1.2		1.0	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	120	912	115	100	811	47	82	205	78	72	220	108
Future Volume (veh/h)	120	912	115	100	811	47	82	205	78	72	220	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	991	125	109	882	51	89	223	85	78	239	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1151	514	140	1099	490	834	946	350	452	872	413
Arrive On Green	0.09	0.32	0.32	0.08	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1989	2539	939	1071	2340	1108
Grp Volume(v), veh/h	130	991	125	109	882	51	89	154	154	78	180	176
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	995	1777	1701	1071	1777	1671
Q Serve(g_s), s	4.3	15.7	3.5	3.6	13.7	1.4	2.0	3.6	3.7	3.3	4.2	4.4
Cycle Q Clear(g_c), s	4.3	15.7	3.5	3.6	13.7	1.4	6.4	3.6	3.7	7.0	4.2	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		0.66
Lane Grp Cap(c), veh/h	166	1151	514	140	1099	490	834	662	634	452	662	622
V/C Ratio(X)	0.78	0.86	0.24	0.78	0.80	0.10	0.11	0.23	0.24	0.17	0.27	0.28
Avail Cap(c_a), veh/h	223	1214	542	193	1155	515	834	662	634	452	662	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	19.0	14.9	27.1	19.0	14.8	15.5	12.9	13.0	15.4	13.1	13.2
Incr Delay (d2), s/veh	8.7	4.5	0.2	12.8	4.0	0.1	0.3	0.8	0.9	0.8	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.2	1.1	1.9	5.4	0.4	0.4	1.3	1.4	0.8	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	23.5	15.1	40.0	23.1	14.9	15.7	13.7	13.9	16.2	14.1	14.3
LnGrp LOS	D	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1246			1042			397			434	
Approach Delay, s/veh		23.9			24.4			14.2			14.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	9.2	23.9		26.9	10.1	23.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		8.4	5.6	17.7		9.0	6.3	15.7				
Green Ext Time (p_c), s		1.6	0.0	1.8		1.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	751	279	259	664	169	276	519	192	139	439	47
Future Volume (veh/h)	39	751	279	259	664	169	276	519	192	139	439	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	791	294	273	699	178	291	546	202	146	462	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	951	424	275	1089	486	275	1041	464	254	1346	141
Arrive On Green	0.04	0.27	0.27	0.08	0.31	0.31	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4695	491
Grp Volume(v), veh/h	41	791	294	273	699	178	291	546	202	146	333	178
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1782
Q Serve(g_s), s	1.4	13.2	10.5	5.0	10.7	5.5	5.0	8.1	6.5	2.6	4.9	5.0
Cycle Q Clear(g_c), s	1.4	13.2	10.5	5.0	10.7	5.5	5.0	8.1	6.5	2.6	4.9	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	72	951	424	275	1089	486	275	1041	464	254	976	511
V/C Ratio(X)	0.57	0.83	0.69	0.99	0.64	0.37	1.06	0.52	0.44	0.58	0.34	0.35
Avail Cap(c_a), veh/h	142	1019	454	275	1089	486	275	1041	464	275	976	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	21.7	20.7	28.9	18.8	17.0	28.9	18.6	18.0	28.2	17.7	17.8
Incr Delay (d2), s/veh	6.8	5.7	4.2	52.0	1.3	0.5	70.3	1.9	3.0	2.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.5	3.9	3.9	4.0	1.8	4.6	3.1	2.5	1.0	1.8	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	27.3	24.8	80.9	20.1	17.5	99.2	20.4	21.0	30.7	18.7	19.6
LnGrp LOS	D	C	C	F	C	B	F	C	C	C	B	B
Approach Vol, veh/h		1126			1150			1039			657	
Approach Delay, s/veh		27.0			34.1			42.6			21.6	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.9	9.5	21.3	9.5	22.5	7.1	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	10.1	7.0	15.2	7.0	7.0	3.4	12.7				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.6	0.0	2.2	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			32.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	779	153	144	734	232	135	435	148	137	455	60
Future Volume (veh/h)	116	779	153	144	734	232	135	435	148	137	455	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	820	161	152	773	244	142	458	156	144	479	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	968	432	258	947	422	254	1029	459	255	1326	172
Arrive On Green	0.08	0.27	0.27	0.07	0.27	0.27	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4576	592
Grp Volume(v), veh/h	122	820	161	152	773	244	142	458	156	144	354	188
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1764
Q Serve(g_s), s	4.2	13.6	5.1	2.6	12.7	8.3	2.5	6.5	4.8	2.5	5.1	5.3
Cycle Q Clear(g_c), s	4.2	13.6	5.1	2.6	12.7	8.3	2.5	6.5	4.8	2.5	5.1	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	143	968	432	258	947	422	254	1029	459	255	987	511
V/C Ratio(X)	0.85	0.85	0.37	0.59	0.82	0.58	0.56	0.44	0.34	0.56	0.36	0.37
Avail Cap(c_a), veh/h	143	1029	459	278	1029	459	278	1029	459	278	987	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	21.4	18.3	27.8	21.4	19.8	27.8	18.0	17.4	27.8	17.5	17.5
Incr Delay (d2), s/veh	35.9	6.4	0.5	2.9	4.9	1.5	2.1	1.4	2.0	2.2	1.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	5.8	1.7	1.1	5.2	2.9	1.0	2.5	1.8	1.0	1.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	27.8	18.8	30.7	26.2	21.3	29.9	19.4	19.4	30.0	18.5	19.6
LnGrp LOS	E	C	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	1103			1169			756			686		
Approach Delay, s/veh	30.5			25.8			21.4			21.2		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.1	21.4	9.1	22.5	9.5	21.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	8.5	4.6	15.6	4.5	7.3	6.2	14.7				
Green Ext Time (p_c), s	0.0	2.3	0.0	1.4	0.0	2.3	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	25.4											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	851	447	253	827	0	474	0	295	1	0	0
Future Volume (vph)	14	851	447	253	827	0	474	0	295	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1581	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1581	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	896	471	266	871	0	499	0	311	1	0	0
RTOR Reduction (vph)	0	0	249	0	0	0	0	107	183	0	0	0
Lane Group Flow (vph)	15	896	222	266	871	0	279	169	72	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	447	425		55	
v/s Ratio Prot	0.01	c0.25		c0.08	c0.25		c0.17	0.11				
v/s Ratio Perm			0.14						0.05		c0.00	
v/c Ratio	0.62	0.74	0.41	0.99	0.61		0.59	0.38	0.17		0.02	
Uniform Delay, d1	31.4	18.5	16.1	29.5	15.0		19.7	18.4	17.3		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	2.4	0.5	52.7	0.7		5.2	2.4	0.9		0.1	
Delay (s)	72.7	21.0	16.6	82.2	15.7		25.0	20.9	18.2		31.1	
Level of Service	E	C	B	F	B		C	C	B		C	
Approach Delay (s)		20.0			31.2			21.4			31.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			64.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	893	300	243	838	0	365	0	283	0	0	2
Future Volume (vph)	13	893	300	243	838	0	365	0	283	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.95	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	940	316	256	882	0	384	0	298	0	0	2
RTOR Reduction (vph)	0	0	159	0	0	0	0	107	154	0	2	0
Lane Group Flow (vph)	14	940	157	256	882	0	234	126	61	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	439	425		47	
v/s Ratio Prot	0.01	c0.27		c0.07	c0.25		c0.14	0.08			c0.00	
v/s Ratio Perm			0.10						0.04			
v/c Ratio	0.58	0.78	0.29	0.96	0.61		0.49	0.29	0.14		0.00	
Uniform Delay, d1	31.4	18.9	15.4	29.4	15.0		19.1	17.9	17.2		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	31.3	3.2	0.3	42.4	0.8		3.6	1.6	0.7		0.0	
Delay (s)	62.7	22.0	15.7	71.8	15.8		22.7	19.6	17.9		31.0	
Level of Service	E	C	B	E	B		C	B	B		C	
Approach Delay (s)		20.9			28.4			20.1			31.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			62.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	71.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	70	4	136	86	38	7	396	131	36	402	8
Future Vol, veh/h	9	70	4	136	86	38	7	396	131	36	402	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	76	4	148	93	41	8	430	142	39	437	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1104	1108	442	1077	1041	501	446	0	0	572	0	0
Stage 1	520	520	-	517	517	-	-	-	-	-	-	-
Stage 2	584	588	-	560	524	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	188	210	615	197	230	570	1114	-	-	1001	-	-
Stage 1	539	532	-	541	534	-	-	-	-	-	-	-
Stage 2	498	496	-	513	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	112	200	615	~ 133	219	570	1114	-	-	1001	-	-
Mov Cap-2 Maneuver	112	200	-	~ 133	219	-	-	-	-	-	-	-
Stage 1	535	511	-	537	530	-	-	-	-	-	-	-
Stage 2	378	493	-	417	509	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	40		\$ 348.6		0.1		0.7					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1114	-	-	190	175	1001	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.475	1.615	0.039	-	-				
HCM Control Delay (s)	8.3	-	-	40\$	348.6	8.7	-	-				
HCM Lane LOS	A	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	2.3	19	0.1	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	99.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↘		↙	↘	
Traffic Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Future Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	89	11	124	7	900	117	105	791	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2041	2032	791	1976	1974	959	791	0	0	1017	0	0
Stage 1	1001	1001	-	973	973	-	-	-	-	-	-	-
Stage 2	1040	1031	-	1003	1001	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	57	390	~ 46	62	312	829	-	-	682	-	-
Stage 1	293	321	-	303	330	-	-	-	-	-	-	-
Stage 2	278	310	-	292	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	48	390	~ 40	52	312	829	-	-	682	-	-
Mov Cap-2 Maneuver	19	48	-	~ 40	52	-	-	-	-	-	-	-
Stage 1	291	272	-	301	327	-	-	-	-	-	-	-
Stage 2	161	308	-	245	272	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	191.3		\$ 941.3		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	829	-	-	28 79	682	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.349 2.834	0.155	-	-					
HCM Control Delay (s)	9.4	-	-	191.3\$ 941.3	11.2	-	-					
HCM Lane LOS	A	-	-	F F	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.1 21.9	0.5	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th AWSC
14: College Ave & 6th St/6st St

04/03/2024

Intersection												
Intersection Delay, s/veh	22.5											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	58	263	6	68	268	14	8	173	71	17	172	58
Future Vol, veh/h	58	263	6	68	268	14	8	173	71	17	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	286	7	74	291	15	9	188	77	18	187	63
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	24.1			26.5			18.6			18.5		
HCM LOS	C			D			C			C		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	18%	19%	7%
Vol Thru, %	69%	80%	77%	70%
Vol Right, %	28%	2%	4%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	327	350	247
LT Vol	8	58	68	17
Through Vol	173	263	268	172
RT Vol	71	6	14	58
Lane Flow Rate	274	355	380	268
Geometry Grp	1	1	1	1
Degree of Util (X)	0.545	0.688	0.729	0.538
Departure Headway (Hd)	7.167	6.971	6.898	7.217
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	501	515	521	497
Service Time	5.237	5.037	4.962	5.288
HCM Lane V/C Ratio	0.547	0.689	0.729	0.539
HCM Control Delay	18.6	24.1	26.5	18.5
HCM Lane LOS	C	C	D	C
HCM 95th-tile Q	3.2	5.2	6	3.1

Intersection

Intersection Delay, s/veh 37.2
Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	282	65	89	234	15	83	177	57	12	150	56
Future Vol, veh/h	61	282	65	89	234	15	83	177	57	12	150	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	307	71	97	254	16	90	192	62	13	163	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	51.7	35.2	31.8	21
HCM LOS	F	E	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	15%	26%	6%
Vol Thru, %	56%	69%	69%	69%
Vol Right, %	18%	16%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	408	338	218
LT Vol	83	61	89	12
Through Vol	177	282	234	150
RT Vol	57	65	15	56
Lane Flow Rate	345	443	367	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.756	0.922	0.796	0.545
Departure Headway (Hd)	7.899	7.483	7.797	8.276
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	455	483	463	434
Service Time	5.983	5.562	5.883	6.374
HCM Lane V/C Ratio	0.758	0.917	0.793	0.546
HCM Control Delay	31.8	51.7	35.2	21
HCM Lane LOS	D	F	E	C
HCM 95th-tile Q	6.4	10.7	7.2	3.2

HCM 6th AWSC
15: Mills Ave & 6st St

04/03/2024

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	285	16	26	330	5	18	0	9	2	5	0
Future Vol, veh/h	3	285	16	26	330	5	18	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	310	17	28	359	5	20	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	11.3	8.7	8.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	1%	7%	29%
Vol Thru, %	0%	94%	91%	71%
Vol Right, %	33%	5%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	304	361	7
LT Vol	18	3	26	2
Through Vol	0	285	330	5
RT Vol	9	16	5	0
Lane Flow Rate	29	330	392	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.404	0.477	0.012
Departure Headway (Hd)	5.433	4.403	4.376	5.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	658	819	824	638
Service Time	3.477	2.423	2.396	3.648
HCM Lane V/C Ratio	0.044	0.403	0.476	0.013
HCM Control Delay	8.7	10.4	11.3	8.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	2	2.6	0

HCM 6th AWSC
15: Mills Ave & 6st St

04/04/2024

Intersection

Intersection Delay, s/veh 11.6
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	358	17	15	338	4	14	0	11	2	4	3
Future Vol, veh/h	6	358	17	15	338	4	14	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	389	18	16	367	4	15	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.9	11.6	8.8	8.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	56%	2%	4%	22%
Vol Thru, %	0%	94%	95%	44%
Vol Right, %	44%	4%	1%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	381	357	9
LT Vol	14	6	15	2
Through Vol	0	358	338	4
RT Vol	11	17	4	3
Lane Flow Rate	27	414	388	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.508	0.481	0.015
Departure Headway (Hd)	5.517	4.412	4.46	5.55
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	646	820	807	642
Service Time	3.572	2.434	2.483	3.609
HCM Lane V/C Ratio	0.042	0.505	0.481	0.016
HCM Control Delay	8.8	11.9	11.6	8.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	2.9	2.6	0

HCM 6th Signalized Intersection Summary

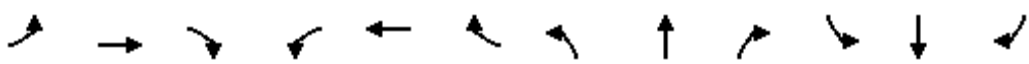
16: Claremont Blvd & 6st St/W Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	323	56	181	375	86	66	374	167	65	318	119
Future Volume (veh/h)	94	323	56	181	375	86	66	374	167	65	318	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	340	59	191	395	91	69	394	176	68	335	125
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	370	64	417	438	371	298	573	253	258	607	222
Arrive On Green	0.24	0.24	0.24	0.23	0.23	0.23	0.05	0.24	0.24	0.05	0.24	0.24
Sat Flow, veh/h	1781	1552	269	1781	1870	1585	1781	2399	1058	1781	2546	933
Grp Volume(v), veh/h	99	0	399	191	395	91	69	290	280	68	232	228
Grp Sat Flow(s),veh/h/ln	1781	0	1822	1781	1870	1585	1781	1777	1680	1781	1777	1702
Q Serve(g_s), s	3.4	0.0	16.1	6.9	15.5	3.5	2.2	11.2	11.5	2.1	8.6	8.9
Cycle Q Clear(g_c), s	3.4	0.0	16.1	6.9	15.5	3.5	2.2	11.2	11.5	2.1	8.6	8.9
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.63	1.00		0.55
Lane Grp Cap(c), veh/h	425	0	434	417	438	371	298	424	401	258	424	406
V/C Ratio(X)	0.23	0.00	0.92	0.46	0.90	0.25	0.23	0.68	0.70	0.26	0.55	0.56
Avail Cap(c_a), veh/h	425	0	434	425	446	378	326	424	401	286	424	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	28.0	24.8	28.1	23.5	20.4	26.2	26.2	20.8	25.2	25.3
Incr Delay (d2), s/veh	0.3	0.0	24.5	0.8	21.0	0.3	0.4	8.7	9.6	0.5	5.0	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	9.3	2.9	9.2	1.3	0.9	5.4	5.3	0.9	4.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	52.5	25.6	49.1	23.8	20.8	34.8	35.9	21.3	30.2	30.8
LnGrp LOS	C	A	D	C	D	C	C	C	D	C	C	C
Approach Vol, veh/h	498			677			639			528		
Approach Delay, s/veh	46.8			39.0			33.8			29.3		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	22.5		22.5	8.3	22.5		22.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.1	13.5		18.1	4.2	10.9		17.5				
Green Ext Time (p_c), s	0.0	1.4		0.0	0.0	1.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	37.1											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	356	50	227	334	47	40	270	165	58	334	82
Future Volume (veh/h)	87	356	50	227	334	47	40	270	165	58	334	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	375	53	239	352	49	42	284	174	61	352	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	391	55	391	411	348	306	523	311	300	719	173
Arrive On Green	0.24	0.24	0.24	0.22	0.22	0.22	0.04	0.24	0.24	0.05	0.25	0.25
Sat Flow, veh/h	1781	1603	227	1781	1870	1585	1781	2142	1275	1781	2839	685
Grp Volume(v), veh/h	92	0	428	239	352	49	42	234	224	61	219	219
Grp Sat Flow(s),veh/h/ln	1781	0	1830	1781	1870	1585	1781	1777	1641	1781	1777	1747
Q Serve(g_s), s	3.0	0.0	17.0	8.9	13.3	1.8	1.3	8.5	8.8	1.9	7.7	7.9
Cycle Q Clear(g_c), s	3.0	0.0	17.0	8.9	13.3	1.8	1.3	8.5	8.8	1.9	7.7	7.9
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.78	1.00		0.39
Lane Grp Cap(c), veh/h	435	0	446	391	411	348	306	434	400	300	450	442
V/C Ratio(X)	0.21	0.00	0.96	0.61	0.86	0.14	0.14	0.54	0.56	0.20	0.49	0.50
Avail Cap(c_a), veh/h	435	0	446	435	456	387	357	434	400	335	450	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	27.5	25.9	27.7	23.2	19.8	24.3	24.4	19.7	23.5	23.5
Incr Delay (d2), s/veh	0.2	0.0	32.1	2.1	13.8	0.2	0.2	4.8	5.5	0.3	3.7	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	10.6	3.8	7.3	0.7	0.5	3.8	3.8	0.7	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	0.0	59.6	28.0	41.5	23.4	20.0	29.0	30.0	20.0	27.2	27.5
LnGrp LOS	C	A	E	C	D	C	B	C	C	C	C	C
Approach Vol, veh/h	520			640			500			499		
Approach Delay, s/veh	53.1			35.1			28.7			26.4		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	22.5		22.5	7.4	23.2		20.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.9	10.8		19.0	3.3	9.9		15.3				
Green Ext Time (p_c), s	0.0	1.5		0.0	0.0	1.5		0.9				
Intersection Summary												
HCM 6th Ctrl Delay	35.9											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	272	70	47	312	50	120	697	34	29	791	184
Future Volume (veh/h)	213	272	70	47	312	50	120	697	34	29	791	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	286	74	49	328	53	126	734	36	31	833	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	722	183	84	408	346	259	1752	86	60	1286	298
Arrive On Green	0.09	0.26	0.26	0.05	0.22	0.22	0.07	0.35	0.35	0.03	0.31	0.31
Sat Flow, veh/h	1781	2805	713	1781	1870	1585	3456	4987	244	1781	4143	959
Grp Volume(v), veh/h	224	179	181	49	328	53	126	500	270	31	683	344
Grp Sat Flow(s),veh/h/ln	1781	1777	1742	1781	1870	1585	1728	1702	1826	1781	1702	1698
Q Serve(g_s), s	5.0	4.8	5.0	1.6	9.6	1.6	2.0	6.5	6.5	1.0	10.0	10.1
Cycle Q Clear(g_c), s	5.0	4.8	5.0	1.6	9.6	1.6	2.0	6.5	6.5	1.0	10.0	10.1
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.13	1.00		0.56
Lane Grp Cap(c), veh/h	154	457	448	84	408	346	259	1196	642	60	1057	527
V/C Ratio(X)	1.46	0.39	0.40	0.58	0.80	0.15	0.49	0.42	0.42	0.51	0.65	0.65
Avail Cap(c_a), veh/h	154	552	541	154	581	492	298	1196	642	154	1057	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.8	17.8	27.1	21.5	18.3	25.8	14.3	14.3	27.5	17.3	17.3
Incr Delay (d2), s/veh	238.5	0.5	0.6	6.3	5.4	0.2	1.4	1.1	2.0	6.6	3.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	1.7	1.8	0.7	4.2	0.5	0.8	2.2	2.5	0.5	3.7	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	265.0	18.3	18.4	33.4	26.9	18.5	27.2	15.4	16.3	34.1	20.3	23.4
LnGrp LOS	F	B	B	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h		584			430			896			1058	
Approach Delay, s/veh		113.0			26.6			17.3			21.7	
Approach LOS		F			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	24.9	7.2	19.4	8.8	22.5	9.5	17.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	8.5	3.6	7.0	4.0	12.1	7.0	11.6				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.4	0.0	3.0	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay				39.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	438	40	79	393	58	85	517	123	75	604	112
Future Volume (veh/h)	134	438	40	79	393	58	85	517	123	75	604	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	461	42	83	414	61	89	544	129	79	636	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	915	83	111	481	408	222	1248	289	108	1292	236
Arrive On Green	0.08	0.28	0.28	0.06	0.26	0.26	0.06	0.30	0.30	0.06	0.30	0.30
Sat Flow, veh/h	1781	3294	299	1781	1870	1585	3456	4141	960	1781	4338	794
Grp Volume(v), veh/h	141	248	255	83	414	61	89	445	228	79	497	257
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1870	1585	1728	1702	1697	1781	1702	1728
Q Serve(g_s), s	4.8	7.1	7.1	2.8	12.8	1.8	1.5	6.3	6.6	2.6	7.3	7.4
Cycle Q Clear(g_c), s	4.8	7.1	7.1	2.8	12.8	1.8	1.5	6.3	6.6	2.6	7.3	7.4
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.57	1.00		0.46
Lane Grp Cap(c), veh/h	147	494	505	111	481	408	222	1026	511	108	1014	515
V/C Ratio(X)	0.96	0.50	0.51	0.75	0.86	0.15	0.40	0.43	0.45	0.73	0.49	0.50
Avail Cap(c_a), veh/h	147	529	541	147	557	472	286	1026	511	147	1014	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	18.3	18.3	27.9	21.4	17.3	27.2	17.0	17.0	27.9	17.4	17.5
Incr Delay (d2), s/veh	60.9	0.8	0.8	13.6	11.6	0.2	1.2	1.3	2.8	11.2	1.7	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.6	2.6	1.5	6.3	0.6	0.6	2.3	2.5	1.3	2.6	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.5	19.1	19.1	41.5	33.0	17.5	28.3	18.3	19.8	39.1	19.1	20.9
LnGrp LOS	F	B	B	D	C	B	C	B	B	D	B	C
Approach Vol, veh/h		644			558			762			833	
Approach Delay, s/veh		34.3			32.6			19.9			21.6	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	22.7	8.3	21.3	8.4	22.5	9.5	20.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	8.6	4.8	9.1	3.5	9.4	6.8	14.8				
Green Ext Time (p_c), s	0.0	2.7	0.0	1.8	0.0	2.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				26.3								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	19	23	44	28	23	57	35	793	14	20	781	10
Future Volume (veh/h)	19	23	44	28	23	57	35	793	14	20	781	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	25	48	30	25	62	38	862	15	22	849	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	95	216	119	72	216	70	1146	972	46	1104	14
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.61	0.61	0.03	0.60	0.60
Sat Flow, veh/h	166	697	1585	196	529	1585	1781	1870	1585	1781	1842	24
Grp Volume(v), veh/h	46	0	48	55	0	62	38	862	15	22	0	860
Grp Sat Flow(s),veh/h/ln	862	0	1585	725	0	1585	1781	1870	1585	1781	0	1866
Q Serve(g_s), s	0.1	0.0	1.6	0.2	0.0	2.1	1.3	19.9	0.2	0.7	0.0	20.5
Cycle Q Clear(g_c), s	6.4	0.0	1.6	6.4	0.0	2.1	1.3	19.9	0.2	0.7	0.0	20.5
Prop In Lane	0.46		1.00	0.55		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	205	0	216	192	0	216	70	1146	972	46	0	1119
V/C Ratio(X)	0.22	0.00	0.22	0.29	0.00	0.29	0.55	0.75	0.02	0.48	0.00	0.77
Avail Cap(c_a), veh/h	464	0	478	444	0	478	151	1146	972	148	0	1119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	23.1	23.2	0.0	23.3	28.3	8.3	4.5	28.8	0.0	8.9
Incr Delay (d2), s/veh	0.5	0.0	0.5	0.8	0.0	0.7	6.5	4.6	0.0	7.7	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	0.7	0.0	0.8	0.6	7.5	0.1	0.4	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	0.0	23.6	24.1	0.0	24.0	34.8	12.9	4.6	36.6	0.0	14.0
LnGrp LOS	C	A	C	C	A	C	C	B	A	D	A	B
Approach Vol, veh/h		94			117			915			882	
Approach Delay, s/veh		23.6			24.0			13.7			14.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	40.3		12.8	6.0	41.1		12.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.0	23.4		18.1				
Max Q Clear Time (g_c+I1), s	3.3	22.5		8.4	2.7	21.9		8.4				
Green Ext Time (p_c), s	0.0	0.5		0.2	0.0	1.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.1									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	45	19	42	17	27	49	48	728	25	20	832	9
Future Volume (veh/h)	45	19	42	17	27	49	48	728	25	20	832	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	21	46	18	29	53	52	791	27	22	904	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	20	357	62	74	357	76	1089	923	43	1040	12
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.58	0.58	0.02	0.56	0.56
Sat Flow, veh/h	0	89	1585	0	330	1585	1781	1870	1585	1781	1846	20
Grp Volume(v), veh/h	70	0	46	47	0	53	52	791	27	22	0	914
Grp Sat Flow(s),veh/h/ln	89	0	1585	330	0	1585	1781	1870	1585	1781	0	1867
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	2.1	2.3	24.5	0.6	1.0	0.0	33.5
Cycle Q Clear(g_c), s	18.0	0.0	1.9	18.0	0.0	2.1	2.3	24.5	0.6	1.0	0.0	33.5
Prop In Lane	0.70		1.00	0.38		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	97	0	357	137	0	357	76	1089	923	43	0	1052
V/C Ratio(X)	0.73	0.00	0.13	0.34	0.00	0.15	0.68	0.73	0.03	0.51	0.00	0.87
Avail Cap(c_a), veh/h	97	0	357	137	0	357	114	1089	923	111	0	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	24.7	26.0	0.0	24.9	37.7	12.1	7.1	38.6	0.0	14.9
Incr Delay (d2), s/veh	23.5	0.0	0.2	1.5	0.0	0.2	10.2	4.2	0.1	9.1	0.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.7	0.8	0.0	0.8	1.2	10.4	0.2	0.5	0.0	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	0.0	24.9	27.5	0.0	25.0	47.9	16.4	7.2	47.6	0.0	24.7
LnGrp LOS	E	A	C	C	A	C	D	B	A	D	A	C
Approach Vol, veh/h		116			100			870			936	
Approach Delay, s/veh		45.2			26.2			18.0			25.2	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	49.6		22.5	6.4	51.1		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	43.4		18.0	5.0	43.5		18.0				
Max Q Clear Time (g_c+I1), s	4.3	35.5		20.0	3.0	26.5		20.0				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	5.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: 1st St & Indian Hill Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	39	82	142	49	108	112	899	187	44	807	86
Future Volume (veh/h)	32	39	82	142	49	108	112	899	187	44	807	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	42	89	154	53	117	122	977	203	48	877	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	332	281	302	92	203	264	1097	929	244	939	100
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.59	0.59	0.04	0.56	0.56
Sat Flow, veh/h	1215	1870	1585	1259	519	1145	1781	1870	1585	1781	1662	176
Grp Volume(v), veh/h	35	42	89	154	0	170	122	977	203	48	0	970
Grp Sat Flow(s),veh/h/ln	1215	1870	1585	1259	0	1664	1781	1870	1585	1781	0	1839
Q Serve(g_s), s	1.9	1.3	3.4	8.2	0.0	6.6	1.9	31.7	4.3	0.8	0.0	34.0
Cycle Q Clear(g_c), s	8.5	1.3	3.4	9.5	0.0	6.6	1.9	31.7	4.3	0.8	0.0	34.0
Prop In Lane	1.00		1.00	1.00		0.69	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	205	332	281	302	0	295	264	1097	929	244	0	1039
V/C Ratio(X)	0.17	0.13	0.32	0.51	0.00	0.58	0.46	0.89	0.22	0.20	0.00	0.93
Avail Cap(c_a), veh/h	310	494	419	412	0	440	278	1097	929	294	0	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	24.2	25.1	28.2	0.0	26.4	15.3	12.5	6.9	12.8	0.0	14.0
Incr Delay (d2), s/veh	0.4	0.2	0.6	1.3	0.0	1.8	0.8	7.1	0.3	0.4	0.0	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	1.3	2.5	0.0	2.7	1.0	12.7	1.3	0.3	0.0	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	24.4	25.7	29.6	0.0	28.1	16.1	19.7	7.2	13.1	0.0	30.0
LnGrp LOS	C	C	C	C	A	C	B	B	A	B	A	C
Approach Vol, veh/h	166			324			1302			1018		
Approach Delay, s/veh	26.4			28.8			17.4			29.2		
Approach LOS	C			C			B			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.5	45.5	16.9		9.0	44.0	16.9					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	33.0	18.5		5.1	32.9	18.5					
Max Q Clear Time (g_c+I1), s	2.8	33.7	10.5		3.9	36.0	11.5					
Green Ext Time (p_c), s	0.0	0.0	0.3		0.0	0.0	0.9					
Intersection Summary												
HCM 6th Ctrl Delay				23.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

19: 1st St & Indian Hill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	83	115	135	90	143	141	678	214	125	683	88
Future Volume (veh/h)	55	83	115	135	90	143	141	678	214	125	683	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	90	125	147	98	155	153	737	233	136	742	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	410	347	305	143	226	306	1007	853	346	871	113
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.54	0.54	0.06	0.54	0.54
Sat Flow, veh/h	1127	1870	1585	1166	653	1032	1781	1870	1585	1781	1623	210
Grp Volume(v), veh/h	60	90	125	147	0	253	153	737	233	136	0	838
Grp Sat Flow(s),veh/h/ln	1127	1870	1585	1166	0	1685	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	3.9	3.0	5.0	8.9	0.0	10.4	2.8	22.5	6.0	2.5	0.0	29.3
Cycle Q Clear(g_c), s	14.2	3.0	5.0	11.8	0.0	10.4	2.8	22.5	6.0	2.5	0.0	29.3
Prop In Lane	1.00		1.00	1.00		0.61	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	187	410	347	305	0	369	306	1007	853	346	0	984
V/C Ratio(X)	0.32	0.22	0.36	0.48	0.00	0.69	0.50	0.73	0.27	0.39	0.00	0.85
Avail Cap(c_a), veh/h	211	449	380	330	0	404	323	1007	853	355	0	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.79	0.79	0.79	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	24.0	24.8	28.9	0.0	26.9	14.0	13.2	9.4	10.9	0.0	14.8
Incr Delay (d2), s/veh	1.0	0.3	0.6	1.2	0.0	4.3	1.0	3.7	0.6	0.7	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	1.9	2.5	0.0	4.5	1.1	9.3	2.0	0.9	0.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	24.3	25.5	30.1	0.0	31.2	15.0	16.9	10.0	11.6	0.0	24.0
LnGrp LOS	C	C	C	C	A	C	B	B	B	B	A	C
Approach Vol, veh/h		275			400			1123			974	
Approach Delay, s/veh		27.0			30.8			15.2			22.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	44.9		20.9	9.3	44.8		20.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	38.4		18.0	5.5	38.0		18.0				
Max Q Clear Time (g_c+I1), s	4.5	24.5		16.2	4.8	31.3		13.8				
Green Ext Time (p_c), s	0.0	5.2		0.2	0.0	3.4		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				21.1								
HCM 6th LOS				C								

Intersection												
Intersection Delay, s/veh	14.2											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	137	57	17	150	40	62	148	36	31	151	85
Future Vol, veh/h	94	137	57	17	150	40	62	148	36	31	151	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	149	62	18	163	43	67	161	39	34	164	92
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			3			3		
HCM Control Delay	11.8			12.3			16.2			16.4		
HCM LOS	B			B			C			C		
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1				
Vol Left, %	25%	100%	0%	0%	100%	0%	0%	12%				
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%				
Vol Right, %	15%	0%	0%	100%	0%	0%	100%	32%				
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop				
Traffic Vol by Lane	246	94	137	57	17	150	40	267				
LT Vol	62	94	0	0	17	0	0	31				
Through Vol	148	0	137	0	0	150	0	151				
RT Vol	36	0	0	57	0	0	40	85				
Lane Flow Rate	267	102	149	62	18	163	43	290				
Geometry Grp	7	7	7	7	7	7	7	7				
Degree of Util (X)	0.504	0.212	0.287	0.107	0.039	0.321	0.077	0.529				
Departure Headway (Hd)	6.786	7.452	6.936	6.215	7.613	7.097	6.374	6.566				
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Cap	535	481	518	576	470	505	561	551				
Service Time	4.498	5.198	4.682	3.96	5.363	4.846	4.123	4.277				
HCM Lane V/C Ratio	0.499	0.212	0.288	0.108	0.038	0.323	0.077	0.526				
HCM Control Delay	16.2	12.2	12.5	9.7	10.7	13.2	9.7	16.4				
HCM Lane LOS	C	B	B	A	B	B	A	C				
HCM 95th-tile Q	2.8	0.8	1.2	0.4	0.1	1.4	0.2	3.1				

Intersection												
Intersection Delay, s/veh	42.5											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	302	85	55	262	101	50	156	52	120	218	45
Future Vol, veh/h	55	302	85	55	262	101	50	156	52	120	218	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	328	92	60	285	110	54	170	57	130	237	49
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	31.7	24.9	31.5	81.6
HCM LOS	D	C	D	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	31%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%
Vol Right, %	20%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	258	55	302	85	55	262	101	383
LT Vol	50	55	0	0	55	0	0	120
Through Vol	156	0	302	0	0	262	0	218
RT Vol	52	0	0	85	0	0	101	45
Lane Flow Rate	280	60	328	92	60	285	110	416
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.707	0.155	0.803	0.21	0.156	0.705	0.252	1.026
Departure Headway (Hd)	9.302	9.685	9.155	8.413	9.794	9.263	8.52	8.872
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	393	372	397	430	368	393	424	412
Service Time	7.002	7.385	6.855	6.113	7.494	6.963	6.22	6.546
HCM Lane V/C Ratio	0.712	0.161	0.826	0.214	0.163	0.725	0.259	1.01
HCM Control Delay	31.5	14.2	40.1	13.3	14.3	31.3	14.1	81.6
HCM Lane LOS	D	B	E	B	B	D	B	F
HCM 95th-tile Q	5.3	0.5	7.1	0.8	0.5	5.2	1	13.2

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	2	89	4	1	5	79	523	4	2	447	108
Future Volume (veh/h)	95	2	89	4	1	5	79	523	4	2	447	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	2	97	4	1	5	86	568	4	2	486	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	173	146	18	5	20	638	2540	18	646	2495	1113
Arrive On Green	0.09	0.09	0.09	0.01	0.01	0.01	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	1781	1870	1585	1439	360	1585	816	3617	25	840	3554	1585
Grp Volume(v), veh/h	103	2	97	5	0	5	86	279	293	2	486	117
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1798	0	1585	816	1777	1866	840	1777	1585
Q Serve(g_s), s	3.9	0.1	4.1	0.2	0.0	0.2	2.8	3.9	3.9	0.1	3.3	1.7
Cycle Q Clear(g_c), s	3.9	0.1	4.1	0.2	0.0	0.2	6.1	3.9	3.9	3.9	3.3	1.7
Prop In Lane	1.00		1.00	0.80		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	165	173	146	23	0	20	638	1248	1310	646	2495	1113
V/C Ratio(X)	0.63	0.01	0.66	0.22	0.00	0.25	0.13	0.22	0.22	0.00	0.19	0.11
Avail Cap(c_a), veh/h	471	494	419	462	0	408	638	1248	1310	646	2495	1113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	30.6	28.9	30.7	34.2	0.0	34.2	4.7	3.7	3.7	4.4	3.6	3.4
Incr Delay (d2), s/veh	3.9	0.0	5.0	4.8	0.0	6.4	0.4	0.4	0.4	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.7	0.1	0.0	0.1	0.4	0.9	1.0	0.0	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	28.9	35.8	39.0	0.0	40.6	5.1	4.1	4.1	4.4	3.7	3.5
LnGrp LOS	C	C	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	202			10			658			605		
Approach Delay, s/veh	35.0			39.8			4.2			3.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	53.7			11.0			53.7			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.0			18.5			20.0			18.0		
Max Q Clear Time (g_c+I1), s	8.1			6.1			5.9			2.2		
Green Ext Time (p_c), s	3.0			0.5			2.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.5											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

21: E 1st St/Huntington Dr & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	4	249	4	0	5	112	295	1	5	450	172
Future Volume (veh/h)	168	4	249	4	0	5	112	295	1	5	450	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	4	271	4	0	5	122	321	1	5	489	187
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	379	322	20	0	18	506	2154	7	688	2107	940
Arrive On Green	0.20	0.20	0.20	0.01	0.00	0.01	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	763	3634	11	1058	3554	1585
Grp Volume(v), veh/h	183	4	271	4	0	5	122	157	165	5	489	187
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	763	1777	1868	1058	1777	1585
Q Serve(g_s), s	6.4	0.1	11.5	0.2	0.0	0.2	6.3	2.8	2.8	0.1	4.5	3.8
Cycle Q Clear(g_c), s	6.4	0.1	11.5	0.2	0.0	0.2	10.8	2.8	2.8	2.9	4.5	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	361	379	322	20	0	18	506	1053	1108	688	2107	940
V/C Ratio(X)	0.51	0.01	0.84	0.20	0.00	0.28	0.24	0.15	0.15	0.01	0.23	0.20
Avail Cap(c_a), veh/h	458	481	408	458	0	408	506	1053	1108	688	2107	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	24.8	22.3	26.8	34.3	0.0	34.3	9.3	6.4	6.4	7.0	6.7	6.6
Incr Delay (d2), s/veh	1.1	0.0	12.2	4.6	0.0	7.9	1.1	0.3	0.3	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.1	5.2	0.1	0.0	0.1	1.0	0.9	0.9	0.0	1.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	22.3	39.0	38.9	0.0	42.2	10.4	6.7	6.7	7.0	7.0	7.0
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h	458			9			444			681		
Approach Delay, s/veh	33.6			40.7			7.7			7.0		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	46.0			18.7			46.0			5.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	12.8			13.5			6.5			2.2		
Green Ext Time (p_c), s	1.5			0.7			3.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	15.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 22: Indian Hill Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	628	222	140	486	197	187	869	346	257	746	189
Future Volume (veh/h)	224	628	222	140	486	197	187	869	346	257	746	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	683	241	152	528	214	203	945	376	279	811	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	836	373	187	792	353	224	1131	505	251	938	237
Arrive On Green	0.12	0.24	0.24	0.11	0.22	0.22	0.13	0.32	0.32	0.14	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2809	710
Grp Volume(v), veh/h	243	683	241	152	528	214	203	945	376	279	513	503
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1743
Q Serve(g_s), s	10.6	16.4	12.3	7.5	12.2	10.9	10.1	22.2	19.1	12.7	24.3	24.3
Cycle Q Clear(g_c), s	10.6	16.4	12.3	7.5	12.2	10.9	10.1	22.2	19.1	12.7	24.3	24.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	210	836	373	187	792	353	224	1131	505	251	593	582
V/C Ratio(X)	1.16	0.82	0.65	0.81	0.67	0.61	0.91	0.84	0.75	1.11	0.86	0.86
Avail Cap(c_a), veh/h	210	967	431	299	1145	511	224	1131	505	251	593	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	0.41	0.41	0.41
Uniform Delay (d), s/veh	39.7	32.6	31.0	39.4	31.9	31.4	38.8	28.5	27.4	38.7	28.1	28.1
Incr Delay (d2), s/veh	111.4	4.9	2.7	7.7	0.9	1.5	36.2	7.4	9.6	70.3	7.1	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	7.4	4.9	3.6	5.2	4.2	6.6	10.3	8.3	10.3	11.1	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.1	37.4	33.7	47.1	32.8	32.9	75.0	35.8	37.0	109.0	35.2	35.3
LnGrp LOS	F	D	C	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1167			894			1524			1295	
Approach Delay, s/veh		60.3			35.3			41.4			51.1	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.2	33.1	14.0	25.7	15.8	34.5	15.1	24.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.7	19.7	15.1	24.5	11.3	21.1	10.6	29.0				
Max Q Clear Time (g_c+I1), s	14.7	24.2	9.5	18.4	12.1	26.3	12.6	14.2				
Green Ext Time (p_c), s	0.0	0.0	0.2	2.8	0.0	0.0	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			47.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	1101	171	126	568	193	192	698	410	256	757	216
Future Volume (veh/h)	203	1101	171	126	568	193	192	698	410	256	757	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1197	186	137	617	210	209	759	446	278	823	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1179	526	147	972	433	219	908	405	296	816	233
Arrive On Green	0.14	0.33	0.33	0.08	0.27	0.27	0.12	0.26	0.26	0.17	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	2728	779
Grp Volume(v), veh/h	221	1197	186	137	617	210	209	759	446	278	536	522
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1730
Q Serve(g_s), s	13.4	36.5	9.8	8.4	16.8	12.2	12.8	22.2	28.1	17.0	32.9	32.9
Cycle Q Clear(g_c), s	13.4	36.5	9.8	8.4	16.8	12.2	12.8	22.2	28.1	17.0	32.9	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	251	1179	526	147	972	433	219	908	405	296	531	517
V/C Ratio(X)	0.88	1.02	0.35	0.93	0.63	0.48	0.96	0.84	1.10	0.94	1.01	1.01
Avail Cap(c_a), veh/h	290	1179	526	147	972	433	219	908	405	296	531	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	46.3	36.8	27.8	50.1	35.1	33.5	48.0	38.8	40.9	45.3	38.5	38.6
Incr Delay (d2), s/veh	23.0	30.0	0.4	51.8	1.3	0.8	48.4	9.0	75.0	25.6	32.1	32.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	20.4	3.7	5.8	7.4	4.8	8.6	10.7	19.2	9.5	18.8	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.3	66.8	28.2	101.9	36.4	34.3	96.3	47.8	116.0	70.9	70.6	71.2
LnGrp LOS	E	F	C	F	D	C	F	D	F	E	F	F
Approach Vol, veh/h	1604			964			1414			1336		
Approach Delay, s/veh	62.7			45.3			76.5			70.9		
Approach LOS	E			D			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.8	32.6	13.6	41.0	18.0	37.4	20.0	34.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.3	28.1	9.1	36.5	13.5	32.9	17.9	27.7				
Max Q Clear Time (g_c+I1), s	19.0	30.1	10.4	38.5	14.8	34.9	15.4	18.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.3				
Intersection Summary												
HCM 6th Ctrl Delay	65.2											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1094	51	27	732	98	48	51	42	95	57	79
Future Volume (veh/h)	71	1094	51	27	732	98	48	51	42	95	57	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	1189	55	29	796	107	52	55	46	103	62	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	1483	69	202	1349	181	265	273	190	678	732	620
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	617	3459	160	447	3148	423	430	697	485	1294	1870	1585
Grp Volume(v), veh/h	77	611	633	29	449	454	153	0	0	103	62	86
Grp Sat Flow(s),veh/h/ln	617	1777	1842	447	1777	1794	1613	0	0	1294	1870	1585
Q Serve(g_s), s	5.5	15.0	15.0	3.0	9.7	9.7	0.0	0.0	0.0	0.0	1.0	1.7
Cycle Q Clear(g_c), s	15.1	15.0	15.0	18.0	9.7	9.7	2.9	0.0	0.0	1.9	1.0	1.7
Prop In Lane	1.00		0.09	1.00		0.24	0.34		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	289	762	789	202	762	769	728	0	0	678	732	620
V/C Ratio(X)	0.27	0.80	0.80	0.14	0.59	0.59	0.21	0.00	0.00	0.15	0.08	0.14
Avail Cap(c_a), veh/h	302	800	829	211	800	807	728	0	0	678	732	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	12.4	12.4	20.3	10.9	10.9	10.1	0.0	0.0	9.8	9.6	9.8
Incr Delay (d2), s/veh	0.3	3.1	3.0	0.2	0.8	0.8	0.7	0.0	0.0	0.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.3	5.5	0.3	3.2	3.2	1.1	0.0	0.0	0.7	0.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	15.5	15.4	20.5	11.7	11.7	10.8	0.0	0.0	10.3	9.8	10.3
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h	1321			932			153			251		
Approach Delay, s/veh	15.6			12.0			10.8			10.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.1			25.9			24.1			25.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.9			17.1			3.9			20.0		
Green Ext Time (p_c), s	0.6			3.7			0.8			1.4		
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1612	56	43	751	82	43	50	44	119	75	69
Future Volume (veh/h)	57	1612	56	43	751	82	43	50	44	119	75	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1752	61	47	816	89	47	54	48	129	82	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	1898	66	140	1750	191	197	220	160	550	577	489
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	616	3504	121	258	3231	352	383	712	520	1293	1870	1585
Grp Volume(v), veh/h	62	885	928	47	449	456	149	0	0	129	82	75
Grp Sat Flow(s),veh/h/ln	616	1777	1848	258	1777	1807	1616	0	0	1293	1870	1585
Q Serve(g_s), s	4.1	27.3	27.7	4.8	9.3	9.3	0.0	0.0	0.0	0.0	1.9	2.1
Cycle Q Clear(g_c), s	13.4	27.3	27.7	32.5	9.3	9.3	3.8	0.0	0.0	3.2	1.9	2.1
Prop In Lane	1.00		0.07	1.00		0.20	0.32		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	358	962	1001	140	962	979	577	0	0	550	577	489
V/C Ratio(X)	0.17	0.92	0.93	0.33	0.47	0.47	0.26	0.00	0.00	0.23	0.14	0.15
Avail Cap(c_a), veh/h	358	962	1001	140	962	979	577	0	0	550	577	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.19	0.77	0.77	0.77	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	12.6	12.7	29.0	8.4	8.4	15.7	0.0	0.0	15.5	15.0	15.1
Incr Delay (d2), s/veh	0.0	3.2	3.5	1.1	0.3	0.3	1.1	0.0	0.0	1.0	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	9.2	9.8	0.7	2.9	3.0	1.6	0.0	0.0	1.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	15.8	16.1	30.0	8.7	8.7	16.8	0.0	0.0	16.5	15.5	15.7
LnGrp LOS	B	B	B	C	A	A	B	A	A	B	B	B
Approach Vol, veh/h	1875			952			149			286		
Approach Delay, s/veh	15.9			9.8			16.8			16.0		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			37.0			23.0			37.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	5.8			29.7			5.2			34.5		
Green Ext Time (p_c), s	0.6			2.5			0.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	632	49	59	585	94	80	278	45	88	201	239
Future Volume (veh/h)	265	632	49	59	585	94	80	278	45	88	201	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	288	687	53	64	636	102	87	302	49	96	218	260
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	1232	95	87	716	115	111	838	134	123	523	443
Arrive On Green	0.18	0.37	0.37	0.05	0.23	0.23	0.06	0.27	0.27	0.07	0.28	0.28
Sat Flow, veh/h	1781	3343	258	1781	3068	491	1781	3067	492	1781	1870	1585
Grp Volume(v), veh/h	288	365	375	64	368	370	87	174	177	96	218	260
Grp Sat Flow(s),veh/h/ln	1781	1777	1824	1781	1777	1782	1781	1777	1782	1781	1870	1585
Q Serve(g_s), s	11.8	12.2	12.3	2.7	15.0	15.1	3.6	5.9	6.0	4.0	7.1	10.6
Cycle Q Clear(g_c), s	11.8	12.2	12.3	2.7	15.0	15.1	3.6	5.9	6.0	4.0	7.1	10.6
Prop In Lane	1.00		0.14	1.00		0.28	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	328	655	672	87	415	416	111	486	487	123	523	443
V/C Ratio(X)	0.88	0.56	0.56	0.73	0.89	0.89	0.78	0.36	0.36	0.78	0.42	0.59
Avail Cap(c_a), veh/h	344	655	672	216	426	428	131	486	487	131	523	443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	18.8	18.8	35.2	27.8	27.8	34.6	21.9	22.0	34.4	22.0	23.3
Incr Delay (d2), s/veh	13.3	0.6	0.6	11.1	19.4	19.7	22.3	2.0	2.1	24.6	2.4	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	4.5	4.6	1.4	8.1	8.2	2.2	2.6	2.7	2.5	3.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	19.4	19.4	46.3	47.2	47.6	56.9	24.0	24.1	58.9	24.5	28.9
LnGrp LOS	D	B	B	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1028			802			438			574	
Approach Delay, s/veh		26.0			47.3			30.6			32.2	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	25.0	8.2	32.1	9.2	25.5	18.3	22.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.0	9.1	23.4	5.5	19.0	14.5	18.0				
Max Q Clear Time (g_c+I1), s	6.0	8.0	4.7	14.3	5.6	12.6	13.8	17.1				
Green Ext Time (p_c), s	0.0	1.4	0.0	2.8	0.0	1.2	0.1	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				34.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	244	188
Future Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	244	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	942	33	50	625	123	66	202	51	208	265	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1075	38	75	700	137	86	812	200	247	707	599
Arrive On Green	0.11	0.31	0.31	0.04	0.24	0.24	0.05	0.29	0.29	0.14	0.38	0.38
Sat Flow, veh/h	1781	3502	123	1781	2961	582	1781	2825	697	1781	1870	1585
Grp Volume(v), veh/h	164	478	497	50	375	373	66	125	128	208	265	204
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1766	1781	1777	1745	1781	1870	1585
Q Serve(g_s), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	8.2	7.4
Cycle Q Clear(g_c), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	8.2	7.4
Prop In Lane	1.00		0.07	1.00		0.33	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	201	545	567	75	420	417	86	511	502	247	707	599
V/C Ratio(X)	0.82	0.88	0.88	0.67	0.89	0.89	0.77	0.25	0.25	0.84	0.37	0.34
Avail Cap(c_a), veh/h	234	553	575	114	433	430	160	511	502	278	707	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	26.3	26.3	37.8	29.6	29.6	37.6	21.8	21.9	33.6	18.0	17.8
Incr Delay (d2), s/veh	6.0	5.1	4.9	9.9	19.9	20.4	13.5	1.1	1.2	18.7	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.5	8.8	1.1	8.8	8.8	1.6	1.9	1.9	5.2	3.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	31.3	31.2	47.7	49.4	49.9	51.1	23.0	23.1	52.3	19.5	19.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	B	B
Approach Vol, veh/h	1139			798			319			677		
Approach Delay, s/veh	32.6			49.5			28.9			29.5		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	27.5	7.9	29.1	8.3	34.7	13.5	23.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	19.5	5.1	24.9	7.2	24.8	10.5	19.5				
Max Q Clear Time (g_c+I1), s	11.1	6.5	4.2	22.4	4.9	10.2	9.2	18.4				
Green Ext Time (p_c), s	0.1	1.1	0.0	1.4	0.0	2.0	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	36.1											
HCM 6th LOS	D											

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	68	67	380	354	35
Future Vol, veh/h	28	68	67	380	354	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	74	73	413	385	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	738	193	423
Stage 1	385	-	-
Stage 2	353	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	353	816	1133
Stage 1	657	-	-
Stage 2	682	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	330	816	1133
Mov Cap-2 Maneuver	330	-	-
Stage 1	615	-	-
Stage 2	682	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1133	-	571	-	-
HCM Lane V/C Ratio	0.064	-	0.183	-	-
HCM Control Delay (s)	8.4	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

HCM 6th TWSC
25: Claremont Blvd & 9th St

04/17/2024

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	65	53	332	337	37
Future Vol, veh/h	30	65	53	332	337	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	71	58	361	366	40

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	663	183	406
Stage 1	366	-	-
Stage 2	297	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	394	828	1149
Stage 1	672	-	-
Stage 2	728	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	374	828	1149
Mov Cap-2 Maneuver	374	-	-
Stage 1	638	-	-
Stage 2	728	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1149	-	599	-	-
HCM Lane V/C Ratio	0.05	-	0.172	-	-
HCM Control Delay (s)	8.3	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	54	0	0	59	0	0
Future Vol, veh/h	54	0	0	59	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	0	0	64	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	30
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1038
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1038
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	66	0	0	51	0	0
Future Vol, veh/h	66	0	0	51	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	0	0	55	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	36
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1029
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	37	0	0	40
Future Vol, veh/h	0	0	37	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	40	0	0	43
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	20	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1053	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1053	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	-		-		
HCM Lane V/C Ratio	-	-		-		
HCM Control Delay (s)	-	0		-		
HCM Lane LOS	-	A		-		
HCM 95th %tile Q(veh)	-	-		-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/04/2024

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	38	0	0	32
Future Vol, veh/h	0	0	38	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	41	0	0	35

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	21	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1051	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1051	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/03/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	98	105	0
Future Vol, veh/h	0	0	0	98	105	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	111	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	56	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	847	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	847	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/04/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	130	104	0
Future Vol, veh/h	0	0	0	130	104	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	141	113	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	57	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	846	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	846	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	44	0	40	2	902	42	27	930	0
Future Volume (veh/h)	0	0	0	44	0	40	2	902	42	27	930	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	46	0	42	2	949	44	28	979	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	5	0	91	153	129	5	1748	81	117	2740	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.08	0.00	0.51	0.51	0.03	0.54	0.00
Sat Flow, veh/h	0	-63995	0	1781	1870	1585	1781	3458	160	3456	5274	0
Grp Volume(v), veh/h	0	0	0	46	0	42	2	488	505	28	979	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1842	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.9	0.0	6.7	6.7	0.3	3.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	0.9	0.0	6.7	6.7	0.3	3.9	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.09	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	91	153	129	5	898	931	117	2740	0
V/C Ratio(X)	0.00	0.00	0.00	0.50	0.00	0.32	0.40	0.54	0.54	0.24	0.36	0.00
Avail Cap(c_a), veh/h	0	945	0	250	945	801	250	898	931	485	2740	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	15.4	17.7	6.0	6.0	16.8	4.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.2	0.0	1.4	44.5	2.4	2.3	1.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	0.3	0.1	1.9	2.0	0.1	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.7	0.0	16.9	62.2	8.4	8.3	17.8	5.1	0.0
LnGrp LOS	A	A	A	C	A	B	E	A	A	B	A	A
Approach Vol, veh/h	0			88			995			1007		
Approach Delay, s/veh	0.0			18.9			8.4			5.4		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.7	22.5	6.3	1.1	4.6	23.6	7.4					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	8.7	2.9	0.0	2.0	5.9	2.9					
Green Ext Time (p_c), s	0.0	4.3	0.0	0.0	0.0	5.4	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				7.4								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	83	1	79	0	850	49	22	873	0
Future Volume (veh/h)	0	1	0	83	1	79	0	850	49	22	873	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	90	1	86	0	924	53	24	949	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	140	0	135	474	402	4	1401	80	100	2765	0
Arrive On Green	0.00	0.07	0.00	0.08	0.25	0.25	0.00	0.41	0.41	0.03	0.54	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	1781	3416	196	3456	5274	0
Grp Volume(v), veh/h	0	1	0	90	1	86	0	481	496	24	949	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	1781	1777	1835	1728	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	1.9	0.0	9.6	9.6	0.3	4.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.2	0.0	1.9	0.0	9.6	9.6	0.3	4.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	0	140	0	135	474	402	4	729	753	100	2765	0
V/C Ratio(X)	0.00	0.01	0.00	0.67	0.00	0.21	0.00	0.66	0.66	0.24	0.34	0.00
Avail Cap(c_a), veh/h	0	767	0	203	767	650	203	729	753	394	2765	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	18.8	0.0	19.7	12.2	12.9	0.0	10.5	10.5	20.8	5.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.5	0.0	0.3	0.0	4.6	4.5	1.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	0.0	0.6	0.0	3.8	3.9	0.1	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.8	0.0	25.3	12.2	13.2	0.0	15.1	15.0	22.1	6.0	0.0
LnGrp LOS	A	B	A	C	B	B	A	B	B	C	A	A
Approach Vol, veh/h	1			177			977			973		
Approach Delay, s/veh	18.8			19.3			15.0			6.4		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	5.8	22.5	7.8	7.8	0.0	28.3	15.6					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	18.0					
Max Q Clear Time (g_c+I1), s	2.3	11.6	4.2	2.0	0.0	6.6	3.9					
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	5.0	0.2					
Intersection Summary												
HCM 6th Ctrl Delay	11.4											
HCM 6th LOS	B											

APPENDIX F

HORIZON YEAR WITH PROJECT LEVEL-OF-SERVICE

WORKSHEET

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Future Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	801	301	442	1371	79	164	72	328	50	234	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	2468	1101	390	2468	1101	213	365	326	80	535	182
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	367	3554	1585	512	3554	1585	1064	1777	1585	985	2600	887
Grp Volume(v), veh/h	42	801	301	442	1371	79	164	72	328	50	158	158
Grp Sat Flow(s),veh/h/ln	367	1777	1585	512	1777	1585	1064	1777	1585	985	1777	1711
Q Serve(g_s), s	5.8	8.0	6.4	54.5	17.3	1.4	11.2	3.0	18.5	0.0	7.0	7.3
Cycle Q Clear(g_c), s	23.1	8.0	6.4	62.5	17.3	1.4	18.5	3.0	18.5	18.5	7.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	264	2468	1101	390	2468	1101	213	365	326	80	365	352
V/C Ratio(X)	0.16	0.32	0.27	1.13	0.56	0.07	0.77	0.20	1.01	0.62	0.43	0.45
Avail Cap(c_a), veh/h	264	2468	1101	390	2468	1101	213	365	326	80	365	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.55	0.55	0.55	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	5.4	5.2	23.3	6.8	4.4	40.5	29.6	35.8	45.0	31.2	31.3
Incr Delay (d2), s/veh	0.3	0.1	0.1	77.1	0.2	0.0	19.5	1.0	46.6	31.6	3.7	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.5	1.8	17.0	5.3	0.4	4.8	1.4	11.2	1.8	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	5.5	5.3	100.4	7.0	4.4	59.9	30.6	82.3	76.6	34.9	35.4
LnGrp LOS	B	A	A	F	A	A	E	C	F	E	C	D
Approach Vol, veh/h		1144			1892			564			366	
Approach Delay, s/veh		5.7			28.7			69.2			40.8	
Approach LOS		A			C			E			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.0		67.0		23.0		67.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		62.5		18.5		62.5				
Max Q Clear Time (g_c+I1), s		20.5		25.1		20.5		64.5				
Green Ext Time (p_c), s		0.0		9.3		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1043	127	241	974	74	261	126	298	55	89	48
Future Volume (veh/h)	64	1043	127	241	974	74	261	126	298	55	89	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1134	138	262	1059	80	284	137	324	60	97	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	2332	1040	336	2332	1040	331	411	367	121	529	266
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	533	3554	1585	496	3554	1585	1239	1777	1585	931	2289	1151
Grp Volume(v), veh/h	70	1134	138	262	1059	80	284	137	324	60	74	75
Grp Sat Flow(s),veh/h/ln	533	1777	1585	496	1777	1585	1239	1777	1585	931	1777	1663
Q Serve(g_s), s	5.9	12.9	2.6	39.6	11.7	1.5	15.6	5.1	15.8	2.7	2.7	2.9
Cycle Q Clear(g_c), s	17.6	12.9	2.6	52.5	11.7	1.5	18.5	5.1	15.8	18.5	2.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	362	2332	1040	336	2332	1040	331	411	367	121	411	385
V/C Ratio(X)	0.19	0.49	0.13	0.78	0.45	0.08	0.86	0.33	0.88	0.49	0.18	0.20
Avail Cap(c_a), veh/h	362	2332	1040	336	2332	1040	331	411	367	121	411	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	6.9	5.2	21.4	6.7	5.0	33.4	25.6	29.7	39.3	24.7	24.8
Incr Delay (d2), s/veh	0.3	0.2	0.1	9.9	0.1	0.0	18.1	1.5	19.4	13.7	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.0	0.7	5.5	3.6	0.4	7.1	2.3	7.8	1.6	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	7.1	5.2	31.3	6.9	5.0	51.4	27.2	49.1	53.0	25.6	25.9
LnGrp LOS	B	A	A	C	A	A	D	C	D	D	C	C
Approach Vol, veh/h	1342			1401			745			209		
Approach Delay, s/veh	7.1			11.3			45.9			33.6		
Approach LOS	A			B			D			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			57.0			23.0			57.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			52.5			18.5			52.5		
Max Q Clear Time (g_c+I1), s	20.5			19.6			20.5			54.5		
Green Ext Time (p_c), s	0.0			12.3			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	18.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Future Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	1759	785	224	1759	785	404	664	563	469	664	563
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	317	3554	1585	376	3554	1585	1005	1870	1585	1114	1870	1585
Grp Volume(v), veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Grp Sat Flow(s),veh/h/ln	317	1777	1585	376	1777	1585	1005	1870	1585	1114	1870	1585
Q Serve(g_s), s	5.7	13.1	8.7	16.6	24.0	0.6	16.9	2.5	4.1	3.2	4.4	5.2
Cycle Q Clear(g_c), s	29.7	13.1	8.7	29.7	24.0	0.6	21.3	2.5	4.1	5.7	4.4	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1759	785	224	1759	785	404	664	563	469	664	563
V/C Ratio(X)	0.60	0.61	0.45	0.73	0.89	0.04	0.97	0.17	0.27	0.17	0.28	0.34
Avail Cap(c_a), veh/h	150	1759	785	224	1759	785	404	664	563	469	664	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.53	0.53	0.53	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	11.0	9.9	24.7	13.7	7.8	23.9	13.3	13.8	15.2	13.9	14.2
Incr Delay (d2), s/veh	6.2	0.6	0.4	6.4	3.5	0.0	31.9	0.4	0.9	0.8	1.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.4	2.6	2.7	8.6	0.2	9.0	1.0	1.4	0.8	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	11.5	10.2	31.1	17.3	7.8	55.8	13.7	14.7	16.0	15.0	15.8
LnGrp LOS	D	B	B	C	B	A	E	B	B	B	B	B
Approach Vol, veh/h	1515			1765			657			458		
Approach Delay, s/veh	12.6			18.4			39.0			15.5		
Approach LOS	B			B			D			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.8			34.2			25.8			34.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	21.3			29.7			21.3			29.7		
Max Q Clear Time (g_c+I1), s	23.3			31.7			7.7			31.7		
Green Ext Time (p_c), s	0.0			0.0			1.6			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	19.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	1068	175	213	1122	75	202	95	109	64	94	126
Future Volume (veh/h)	134	1068	175	213	1122	75	202	95	109	64	94	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1161	190	232	1220	82	220	103	118	70	102	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	2401	1071	331	2401	1071	312	420	356	311	420	356
Arrive On Green	0.68	0.68	0.68	0.45	0.45	0.45	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	457	3554	1585	484	3554	1585	1293	1870	1585	1291	1870	1585
Grp Volume(v), veh/h	146	1161	190	232	1220	82	220	103	118	70	102	137
Grp Sat Flow(s),veh/h/ln	457	1777	1585	484	1777	1585	1293	1870	1585	1291	1870	1585
Q Serve(g_s), s	24.0	14.2	4.0	41.5	22.0	2.6	15.1	4.1	5.6	4.2	4.0	6.6
Cycle Q Clear(g_c), s	46.0	14.2	4.0	55.7	22.0	2.6	19.2	4.1	5.6	8.3	4.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	2401	1071	331	2401	1071	312	420	356	311	420	356
V/C Ratio(X)	0.53	0.48	0.18	0.70	0.51	0.08	0.70	0.25	0.33	0.22	0.24	0.39
Avail Cap(c_a), veh/h	281	2428	1083	334	2428	1083	312	420	356	311	420	356
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.65	0.65	0.65	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	7.0	5.4	30.0	14.0	8.7	36.5	28.6	29.2	32.1	28.6	29.6
Incr Delay (d2), s/veh	1.5	0.1	0.1	4.2	0.1	0.0	10.6	1.2	2.1	1.7	1.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.5	1.1	5.3	9.3	0.8	5.6	1.9	2.3	1.4	1.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	7.2	5.4	34.2	14.1	8.7	47.1	29.8	31.3	33.7	30.0	32.8
LnGrp LOS	C	A	A	C	B	A	D	C	C	C	C	C
Approach Vol, veh/h	1497			1534			441			309		
Approach Delay, s/veh	8.5			16.9			38.8			32.1		
Approach LOS	A			B			D			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.7			65.3			24.7			65.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			61.5			19.5			61.5		
Max Q Clear Time (g_c+l1), s	21.2			48.0			10.3			57.7		
Green Ext Time (p_c), s	0.0			8.7			0.8			3.1		
Intersection Summary												
HCM 6th Ctrl Delay	17.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Future Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
Arrive On Green	0.05	0.28	0.28	0.18	0.42	0.42	0.06	0.25	0.25	0.06	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Cycle Q Clear(g_c), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
V/C Ratio(X)	0.73	0.90	0.61	0.90	0.94	0.14	0.59	0.18	1.10	0.26	0.20	0.26
Avail Cap(c_a), veh/h	111	1031	460	626	1490	664	438	471	399	391	438	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	27.6	24.8	32.1	22.3	14.4	24.4	23.5	29.9	20.5	23.9	24.2
Incr Delay (d2), s/veh	11.5	9.2	1.8	16.3	12.2	0.1	2.0	0.8	75.1	0.4	1.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.9	4.3	6.4	13.3	1.0	1.8	1.3	15.3	1.3	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	36.8	26.6	48.4	34.5	14.5	26.3	24.3	105.1	20.8	24.9	25.8
LnGrp LOS	D	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1241			2063			782			285	
Approach Delay, s/veh		35.1			37.4			70.4			23.8	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	24.6	19.0	27.2	9.6	24.2	8.2	38.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.3	14.5	23.2	5.1	19.2	5.0	32.7				
Max Q Clear Time (g_c+I1), s	5.3	22.1	14.8	21.7	7.1	6.1	4.6	32.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.7	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1010	211	495	1045	143	340	136	583	98	85	81
Future Volume (veh/h)	69	1010	211	495	1045	143	340	136	583	98	85	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1098	229	538	1136	155	370	148	634	107	92	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1086	484	557	1466	654	481	520	440	320	434	374
Arrive On Green	0.05	0.31	0.31	0.16	0.41	0.41	0.03	0.09	0.09	0.06	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1807	1559
Grp Volume(v), veh/h	75	1098	229	538	1136	155	370	148	634	107	90	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1590
Q Serve(g_s), s	3.7	27.5	10.6	13.9	24.8	5.7	8.4	6.6	25.0	4.1	3.7	4.1
Cycle Q Clear(g_c), s	3.7	27.5	10.6	13.9	24.8	5.7	8.4	6.6	25.0	4.1	3.7	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	96	1086	484	557	1466	654	481	520	440	320	426	382
V/C Ratio(X)	0.78	1.01	0.47	0.97	0.77	0.24	0.77	0.28	1.44	0.33	0.21	0.24
Avail Cap(c_a), veh/h	129	1086	484	557	1466	654	481	520	440	320	426	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	31.3	25.4	37.5	22.8	17.2	28.9	32.5	40.9	23.8	27.4	27.5
Incr Delay (d2), s/veh	17.1	28.4	0.6	29.7	2.7	0.2	6.9	1.3	209.6	0.6	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	15.1	3.8	7.8	9.8	1.9	3.7	3.2	36.1	1.7	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	59.7	26.0	67.2	25.5	17.4	35.8	33.8	250.5	24.4	28.5	29.0
LnGrp LOS	E	F	C	E	C	B	D	C	F	C	C	C
Approach Vol, veh/h		1402			1829			1152			287	
Approach Delay, s/veh		54.1			37.1			153.7			27.1	
Approach LOS		D			D			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	29.5	19.0	32.0	12.9	26.1	9.4	41.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	25.0	14.5	27.5	8.4	21.6	6.5	35.5				
Max Q Clear Time (g_c+I1), s	6.1	27.0	15.9	29.5	10.4	6.1	5.7	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			70.3									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Future Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	100	685	621	32	1343	695	177	0	564	45	0	613
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	111	1446	645	49	1321	589	808	0	0	808	0	0
Arrive On Green	0.06	0.41	0.41	0.03	0.37	0.37	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	177		1781	45	
Grp Volume(v), veh/h	100	685	621	32	1343	695	177	20.0		45	18.4	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	C		1781	B	
Q Serve(g_s), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Cycle Q Clear(g_c), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	111	1446	645	49	1321	589	808			808		
V/C Ratio(X)	0.90	0.47	0.96	0.66	1.02	1.18	0.22			0.06		
Avail Cap(c_a), veh/h	111	1446	645	94	1321	589	808			808		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	55.9	26.2	34.7	57.8	37.7	37.7	19.9			18.4		
Incr Delay (d2), s/veh	54.7	0.2	26.4	14.0	29.0	97.5	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.6	6.9	21.3	1.1	23.6	32.3	2.9			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.5	26.4	61.2	71.9	66.7	135.2	20.0			18.4		
LnGrp LOS	F	C	E	E	F	F	C			B		
Approach Vol, veh/h		1406			2070							
Approach Delay, s/veh		47.7			89.8							
Approach LOS		D			F							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	58.9		7.8	53.3	58.9		12.0	49.1				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	8.6		6.3	45.8	12.5		7.5	44.6				
Max Q Clear Time (g_c+I1), s	3.7		4.1	47.9	9.2		8.7	46.6				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			69.6									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	149	1129	487	32	924	428	123	0	821	77	0	591
Future Volume (veh/h)	149	1129	487	32	924	428	123	0	821	77	0	591
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	162	1227	529	35	1004	465	134	0	892	84	0	642
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	178	1300	580	55	1055	471	834	0	0	834	0	0
Arrive On Green	0.10	0.37	0.37	0.03	0.30	0.30	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	134		1781	84	
Grp Volume(v), veh/h	162	1227	529	35	1004	465	134	15.4		84	14.9	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	9.0	33.4	31.8	1.9	27.7	29.2	4.3			2.6		
Cycle Q Clear(g_c), s	9.0	33.4	31.8	1.9	27.7	29.2	4.3			2.6		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	178	1300	580	55	1055	471	834			834		
V/C Ratio(X)	0.91	0.94	0.91	0.63	0.95	0.99	0.16			0.10		
Avail Cap(c_a), veh/h	178	1300	580	89	1055	471	834			834		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	44.6	30.7	30.2	47.9	34.4	35.0	15.3			14.9		
Incr Delay (d2), s/veh	42.6	13.7	18.8	11.3	17.2	38.2	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.9	15.6	14.2	1.0	13.7	15.5	1.6			1.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.1	44.4	49.0	59.2	51.7	73.1	15.4			14.9		
LnGrp LOS	F	D	D	E	D	E	B			B		
Approach Vol, veh/h	1918			1504								
Approach Delay, s/veh	49.3			58.5								
Approach LOS	D			E								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	51.3		7.6	41.1	51.3		14.5	34.2				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	7.5		5.0	34.7	8.5		10.0	29.7				
Max Q Clear Time (g_c+I1), s	4.6		3.9	35.4	6.3		11.0	31.2				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	51.0											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Future Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	0.92	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.98	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1528	1504		1770		1770	3537			3539	1583
Flt Permitted	0.95	0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1528	1504		1863		1770	3537			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	2	214	1	0	0	315	574	2	0	517	327
RTOR Reduction (vph)	0	46	118	0	0	0	0	0	0	0	0	201
Lane Group Flow (vph)	150	99	21	0	1	0	315	576	0	0	517	126
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Effective Green, g (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Actuated g/C Ratio	0.15	0.15	0.15		0.01		0.25	0.69			0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	250	227	223		24		444	2432			1368	612
v/s Ratio Prot	c0.09	0.06					c0.18	0.16			c0.15	
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio	0.60	0.44	0.09		0.04		0.71	0.24			0.38	0.21
Uniform Delay, d1	35.8	34.9	33.1		43.8		30.7	5.2			19.8	18.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.8	1.3	0.2		0.7		5.1	0.2			0.8	0.8
Delay (s)	39.6	36.2	33.2		44.5		35.9	5.5			20.6	19.2
Level of Service	D	D	C		D		D	A			C	B
Approach Delay (s)		36.4			44.5			16.2			20.1	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.8				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			50.1%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	0	260	4	9	1	292	698	2	1	490	233
Future Volume (vph)	328	0	260	4	9	1	292	698	2	1	490	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.94	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1551	1504		1822		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.36	1.00	1.00
Satd. Flow (perm)	1681	1551	1504		1846		1770	3538		676	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	0	283	4	10	1	317	759	2	1	533	253
RTOR Reduction (vph)	0	105	166	0	1	0	0	0	0	0	0	160
Lane Group Flow (vph)	221	113	35	0	14	0	317	761	0	1	533	93
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	15.8	15.8	15.8		1.6		22.8	59.1		31.8	31.8	31.8
Effective Green, g (s)	15.8	15.8	15.8		1.6		22.8	59.1		31.8	31.8	31.8
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.25	0.66		0.35	0.35	0.35
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	295	272	264		32		448	2323		238	1250	559
v/s Ratio Prot	c0.13	0.07					c0.18	0.22			c0.15	
v/s Ratio Perm			0.02		c0.01					0.00		0.06
v/c Ratio	0.75	0.42	0.13		0.44		0.71	0.33		0.00	0.43	0.17
Uniform Delay, d1	35.2	33.0	31.3		43.8		30.6	6.8		18.8	22.2	20.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		0.44	0.43	0.43
Incremental Delay, d2	10.0	1.0	0.2		9.3		5.1	0.4		0.0	0.7	0.4
Delay (s)	45.2	34.0	31.6		53.1		35.6	7.1		8.4	10.2	9.0
Level of Service	D	C	C		D		D	A		A	B	A
Approach Delay (s)		37.1			53.1			15.5			9.8	
Approach LOS		D			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			19.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			59.4%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Future Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	848	187	128	952	198	251	393	112	305	587	227
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	834	184	141	1005	448	257	767	216	336	607	514
Arrive On Green	0.08	0.29	0.29	0.08	0.28	0.28	0.14	0.28	0.28	0.19	0.32	0.32
Sat Flow, veh/h	1781	2894	638	1781	3554	1585	1781	2737	771	1781	1870	1585
Grp Volume(v), veh/h	134	521	514	128	952	198	251	254	251	305	587	227
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	1781	1777	1732	1781	1870	1585
Q Serve(g_s), s	8.2	31.7	31.7	7.8	28.9	11.3	15.4	13.2	13.4	18.4	34.0	12.4
Cycle Q Clear(g_c), s	8.2	31.7	31.7	7.8	28.9	11.3	15.4	13.2	13.4	18.4	34.0	12.4
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	151	512	506	141	1005	448	257	498	485	336	607	514
V/C Ratio(X)	0.89	1.02	1.02	0.91	0.95	0.44	0.97	0.51	0.52	0.91	0.97	0.44
Avail Cap(c_a), veh/h	151	512	506	141	1005	448	257	498	485	387	607	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	49.8	39.2	39.2	50.3	38.7	32.3	46.9	33.2	33.3	43.7	36.6	29.3
Incr Delay (d2), s/veh	42.8	44.0	44.3	49.4	17.2	0.7	48.9	3.7	3.9	18.1	24.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	19.5	19.3	5.4	14.5	4.3	10.2	6.1	6.1	9.8	19.3	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.7	83.2	83.5	99.7	55.8	33.0	95.8	36.9	37.2	61.8	60.9	31.3
LnGrp LOS	F	F	F	F	E	C	F	D	D	E	E	C
Approach Vol, veh/h		1169			1278			756			1119	
Approach Delay, s/veh		84.4			56.7			56.6			55.1	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	35.3	13.2	36.2	20.4	40.2	13.8	35.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.9	27.7	8.7	31.7	15.9	35.7	9.3	31.1				
Max Q Clear Time (g_c+I1), s	20.4	15.4	9.8	33.7	17.4	36.0	10.2	30.9				
Green Ext Time (p_c), s	0.3	2.3	0.0	0.0	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			63.8									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	972	243	127	926	182	285	453	127	170	314	121
Future Volume (veh/h)	105	972	243	127	926	182	285	453	127	170	314	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	1057	264	138	1007	198	310	492	138	185	341	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1024	254	151	1309	584	315	686	191	218	365	309
Arrive On Green	0.08	0.36	0.36	0.09	0.37	0.37	0.18	0.25	0.25	0.12	0.19	0.19
Sat Flow, veh/h	1781	2820	701	1781	3554	1585	1781	2744	765	1781	1870	1585
Grp Volume(v), veh/h	114	664	657	138	1007	198	310	318	312	185	341	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1585	1781	1777	1733	1781	1870	1585
Q Serve(g_s), s	6.3	36.3	36.3	7.7	25.0	9.0	17.3	16.3	16.5	10.2	17.9	7.3
Cycle Q Clear(g_c), s	6.3	36.3	36.3	7.7	25.0	9.0	17.3	16.3	16.5	10.2	17.9	7.3
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	142	645	633	151	1309	584	315	444	433	218	365	309
V/C Ratio(X)	0.80	1.03	1.04	0.91	0.77	0.34	0.98	0.72	0.72	0.85	0.93	0.43
Avail Cap(c_a), veh/h	169	645	633	151	1309	584	315	444	433	258	365	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	45.2	31.8	31.9	45.4	27.8	22.8	41.0	34.3	34.3	43.0	39.6	35.3
Incr Delay (d2), s/veh	20.5	43.1	46.0	47.9	2.9	0.3	46.0	9.5	10.0	16.7	28.7	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	22.2	22.3	5.3	10.5	3.3	11.4	8.0	8.0	5.4	11.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	74.9	77.8	93.2	30.7	23.1	87.0	43.7	44.3	59.7	68.3	38.8
LnGrp LOS	E	F	F	F	C	C	F	D	D	E	E	D
Approach Vol, veh/h	1435			1343			940			658		
Approach Delay, s/veh	75.5			36.0			58.2			60.0		
Approach LOS	E			D			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	29.5	13.0	40.8	22.2	24.0	12.5	41.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	22.7	8.5	36.3	17.7	19.5	9.5	35.3				
Max Q Clear Time (g_c+I1), s	12.2	18.5	9.7	38.3	19.3	19.9	8.3	27.0				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.0	0.0	0.0	0.0	4.5				
Intersection Summary												
HCM 6th Ctrl Delay	57.3											
HCM 6th LOS	E											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Future Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1239	87	134	1392	11	1	0	100	0	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1403	0	0	1326	0	0	2249	2956	620	2326	3032	696
Stage 1	-	-	-	-	-	-	1285	1285	-	1660	1660	-
Stage 2	-	-	-	-	-	-	964	1671	-	666	1372	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	483	-	-	517	-	-	23	14	431	20	13	384
Stage 1	-	-	-	-	-	-	174	233	-	101	153	-
Stage 2	-	-	-	-	-	-	274	151	-	415	212	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	483	-	-	517	-	-	17	10	431	12	9	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	10	-	12	9	-
Stage 1	-	-	-	-	-	-	166	222	-	96	113	-
Stage 2	-	-	-	-	-	-	198	112	-	304	202	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.3			19.9			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	483	-	-	517	-	-	384
HCM Lane V/C Ratio	0.296	0.047	-	-	0.259	-	-	0.023
HCM Control Delay (s)	19.9	12.8	-	-	14.4	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	1	-	-	0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1245	60	74	1247	5	0	0	122	0	0	27
Future Vol, veh/h	21	1245	60	74	1247	5	0	0	122	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1353	65	80	1355	5	0	0	133	0	0	29
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1360	0	0	1418	0	0	2237	2919	677	2238	2979	678
Stage 1	-	-	-	-	-	-	1399	1399	-	1515	1515	-
Stage 2	-	-	-	-	-	-	838	1520	-	723	1464	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	501	-	-	476	-	-	23	15	395	23	14	395
Stage 1	-	-	-	-	-	-	148	206	-	125	180	-
Stage 2	-	-	-	-	-	-	327	179	-	384	191	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	501	-	-	476	-	-	18	12	395	13	11	395
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	12	-	13	11	-
Stage 1	-	-	-	-	-	-	141	197	-	119	150	-
Stage 2	-	-	-	-	-	-	252	149	-	243	182	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			18.7			14.8		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	395	501	-	-	476	-	-	395				
HCM Lane V/C Ratio	0.336	0.046	-	-	0.169	-	-	0.074				
HCM Control Delay (s)	18.7	12.5	-	-	14.1	-	-	14.8				
HCM Lane LOS	C	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.6	-	-	0.2				

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Future Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1251	89	76	1526	12	12	3	18	13	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1854	827	236	1885	15	233	82	280	391	219	0
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	337	3554	1585	444	3614	28	460	251	854	895	667	0
Grp Volume(v), veh/h	4	1251	89	76	750	788	33	0	0	21	0	0
Grp Sat Flow(s),veh/h/ln	337	1777	1585	444	1777	1865	1565	0	0	1562	0	0
Q Serve(g_s), s	0.6	15.6	1.7	9.1	21.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.6	15.6	1.7	24.7	21.0	21.0	0.8	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.36		0.55	0.62		0.00
Lane Grp Cap(c), veh/h	178	1854	827	236	927	973	596	0	0	610	0	0
V/C Ratio(X)	0.02	0.67	0.11	0.32	0.81	0.81	0.06	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	185	1925	859	245	962	1010	596	0	0	610	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	10.6	7.3	19.7	11.9	11.9	13.8	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.9	0.1	0.3	2.2	2.1	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.1	0.5	0.9	7.2	7.5	0.3	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	11.5	7.3	20.0	14.0	14.0	14.0	0.0	0.0	13.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1344			1614			33			21		
Approach Delay, s/veh	11.3			14.3			14.0			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.2			35.8			24.2			35.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	2.8			23.6			2.5			26.7		
Green Ext Time (p_c), s	0.1			5.7			0.0			4.6		
Intersection Summary												
HCM 6th Ctrl Delay				12.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1533	21	13	1267	13	85	10	83	28	8	0
Future Volume (veh/h)	9	1533	21	13	1267	13	85	10	83	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1666	23	14	1377	14	92	11	90	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	1883	840	154	1910	19	292	58	229	450	122	0
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.32	0.32	0.32	0.32	0.32	0.00
Sat Flow, veh/h	389	3554	1585	298	3604	37	636	181	714	1074	381	0
Grp Volume(v), veh/h	10	1666	23	14	679	712	193	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	389	1777	1585	298	1777	1864	1532	0	0	1454	0	0
Q Serve(g_s), s	1.2	24.9	0.4	2.6	17.4	17.4	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.7	24.9	0.4	27.5	17.4	17.4	5.6	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.48		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	213	1883	840	154	942	988	579	0	0	572	0	0
V/C Ratio(X)	0.05	0.88	0.03	0.09	0.72	0.72	0.33	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	217	1925	859	158	962	1010	579	0	0	572	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.8	12.5	6.7	24.7	10.7	10.7	15.7	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	5.3	0.0	0.1	1.2	1.2	1.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.1	0.1	0.2	5.8	6.0	2.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	17.7	6.7	24.8	12.0	11.9	17.3	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1699			1405			193			39		
Approach Delay, s/veh	17.6			12.1			17.3			14.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.7			36.3			23.7			36.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	7.6			26.9			2.9			29.5		
Green Ext Time (p_c), s	0.8			4.6			0.1			2.3		
Intersection Summary												
HCM 6th Ctrl Delay	15.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Future Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	990	11	12	1198	129	5	2	18	160	5	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1668	19	26	1244	555	239	85	343	188	696	590
Arrive On Green	0.13	0.46	0.46	0.01	0.35	0.35	0.22	0.22	0.22	0.11	0.37	0.37
Sat Flow, veh/h	1781	3600	40	1781	3554	1585	785	391	1585	1781	1870	1585
Grp Volume(v), veh/h	207	489	512	12	1198	129	7	0	18	160	5	387
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1175	0	1585	1781	1870	1585
Q Serve(g_s), s	10.3	18.3	18.3	0.6	29.8	5.2	0.0	0.0	0.8	7.9	0.2	18.3
Cycle Q Clear(g_c), s	10.3	18.3	18.3	0.6	29.8	5.2	0.3	0.0	0.8	7.9	0.2	18.3
Prop In Lane	1.00		0.02	1.00		1.00	0.71		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	823	863	26	1244	555	323	0	343	188	696	590
V/C Ratio(X)	0.91	0.59	0.59	0.47	0.96	0.23	0.02	0.00	0.05	0.85	0.01	0.66
Avail Cap(c_a), veh/h	228	823	863	99	1244	555	323	0	343	188	696	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.46	0.46	0.46	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	38.7	17.9	17.9	44.0	28.7	20.7	27.7	0.0	27.9	39.6	17.8	23.5
Incr Delay (d2), s/veh	27.9	0.8	0.8	6.0	10.2	0.1	0.1	0.0	0.3	26.2	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	7.0	7.3	0.3	13.4	1.8	0.1	0.0	0.3	4.7	0.1	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	18.7	18.6	50.0	38.9	20.8	27.8	0.0	28.2	65.8	17.8	28.4
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		1208			1339			25			552	
Approach Delay, s/veh		26.9			37.2			28.1			39.1	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	14.0	24.0	5.8	46.2		38.0	16.0	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.5	5.0	38.0		33.5	11.5	31.5				
Max Q Clear Time (g_c+I1), s	9.9	2.8	2.6	20.3		20.3	12.3	31.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8		1.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1244	11	34	1024	148	16	8	27	122	5	187
Future Volume (veh/h)	183	1244	11	34	1024	148	16	8	27	122	5	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1352	12	37	1113	161	17	9	29	133	5	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	1562	14	60	1191	531	269	129	383	164	718	608
Arrive On Green	0.13	0.43	0.43	0.03	0.34	0.34	0.24	0.24	0.24	0.09	0.38	0.38
Sat Flow, veh/h	1781	3609	32	1781	3554	1585	838	535	1585	1781	1870	1585
Grp Volume(v), veh/h	199	665	699	37	1113	161	26	0	29	133	5	203
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1373	0	1585	1781	1870	1585
Q Serve(g_s), s	9.8	30.6	30.6	1.8	27.3	6.8	0.0	0.0	1.3	6.6	0.1	8.1
Cycle Q Clear(g_c), s	9.8	30.6	30.6	1.8	27.3	6.8	1.0	0.0	1.3	6.6	0.1	8.1
Prop In Lane	1.00		0.02	1.00		1.00	0.65		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	769	807	60	1191	531	398	0	383	164	718	608
V/C Ratio(X)	0.85	0.87	0.87	0.62	0.93	0.30	0.07	0.00	0.08	0.81	0.01	0.33
Avail Cap(c_a), veh/h	247	769	807	101	1204	537	398	0	383	168	718	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.68	0.68	0.68	1.00	0.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	38.3	23.2	23.2	42.9	29.0	22.1	26.2	0.0	26.4	40.1	17.1	19.6
Incr Delay (d2), s/veh	10.0	4.1	4.0	6.9	9.7	0.2	0.3	0.0	0.4	21.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	12.4	13.0	0.9	12.4	2.4	0.5	0.0	0.5	3.8	0.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	27.3	27.1	49.9	38.7	22.4	26.5	0.0	26.7	61.4	17.1	20.8
LnGrp LOS	D	C	C	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h	1563			1311			55			341		
Approach Delay, s/veh	29.9			37.0			26.6			36.6		
Approach LOS	C			D			C			D		
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.8	26.3	7.5	43.4		39.0	16.3	34.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	20.5	5.1	37.9		33.5	12.5	30.5				
Max Q Clear Time (g_c+I1), s	8.6	3.3	3.8	32.6		10.1	11.8	29.3				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.6		0.6	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay				33.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Future Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	862	138	147	1048	49	259	365	182	63	309	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1197	534	186	1146	511	696	771	378	297	869	295
Arrive On Green	0.12	0.34	0.34	0.10	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1882	2310	1133	860	2604	884
Grp Volume(v), veh/h	170	862	138	147	1048	49	259	279	268	63	209	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	941	1777	1666	860	1777	1711
Q Serve(g_s), s	5.6	12.7	3.8	4.8	17.0	1.3	7.3	7.5	7.6	3.8	5.3	5.5
Cycle Q Clear(g_c), s	5.6	12.7	3.8	4.8	17.0	1.3	12.8	7.5	7.6	11.4	5.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.52
Lane Grp Cap(c), veh/h	212	1197	534	186	1146	511	696	593	556	297	593	571
V/C Ratio(X)	0.80	0.72	0.26	0.79	0.91	0.10	0.37	0.47	0.48	0.21	0.35	0.36
Avail Cap(c_a), veh/h	223	1197	534	229	1155	515	696	593	556	297	593	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	17.4	14.5	26.2	19.5	14.2	20.0	15.8	15.9	20.4	15.1	15.1
Incr Delay (d2), s/veh	14.6	1.7	0.2	13.9	11.2	0.1	1.5	2.6	2.9	1.6	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.7	1.2	2.6	7.7	0.4	1.5	3.0	2.9	0.8	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	19.1	14.7	40.2	30.7	14.3	21.5	18.4	18.8	22.0	16.7	16.9
LnGrp LOS	D	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1170			1244			806			479	
Approach Delay, s/veh		21.7			31.2			19.5			17.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5	10.8	24.7		24.5	11.6	23.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	7.7	19.3		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		14.8	6.8	14.7		13.4	7.6	19.0				
Green Ext Time (p_c), s		2.0	0.0	2.4		1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 10: Claremont Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1178	183	110	837	47	161	261	114	102	258	117
Future Volume (veh/h)	150	1178	183	110	837	47	161	261	114	102	258	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	1280	199	120	910	51	175	284	124	111	280	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	1416	632	153	1315	586	627	748	318	320	738	326
Arrive On Green	0.11	0.40	0.40	0.09	0.37	0.37	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1898	2427	1034	978	2397	1059
Grp Volume(v), veh/h	163	1280	199	120	910	51	175	206	202	111	206	201
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	949	1777	1684	978	1777	1680
Q Serve(g_s), s	5.8	22.0	5.6	4.3	14.1	1.4	5.2	5.9	6.1	6.5	5.9	6.1
Cycle Q Clear(g_c), s	5.8	22.0	5.6	4.3	14.1	1.4	11.3	5.9	6.1	12.7	5.9	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		0.63
Lane Grp Cap(c), veh/h	204	1416	632	153	1315	586	627	547	519	320	547	517
V/C Ratio(X)	0.80	0.90	0.32	0.79	0.69	0.09	0.28	0.38	0.39	0.35	0.38	0.39
Avail Cap(c_a), veh/h	247	1449	646	178	1315	586	627	547	519	320	547	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	18.4	13.4	29.1	17.3	13.3	22.1	17.6	17.7	22.7	17.6	17.7
Incr Delay (d2), s/veh	7.1	4.1	0.1	17.8	1.6	0.1	1.1	1.9	2.2	3.0	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.3	1.7	2.4	5.2	0.4	1.1	2.4	2.4	1.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	22.5	13.6	46.9	18.9	13.4	23.2	19.5	19.8	25.6	19.6	19.9
LnGrp LOS	D	C	B	D	B	B	C	B	B	C	B	B
Approach Vol, veh/h	1642					1081		583		518		
Approach Delay, s/veh	22.7					21.8		20.7		21.0		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	24.5		10.1	30.4	24.5		11.9	28.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	18.5		6.5	26.5	18.5		9.0	24.0				
Max Q Clear Time (g_c+I1), s	13.3		6.3	24.0	14.7		7.8	16.1				
Green Ext Time (p_c), s	1.5		0.0	1.9	1.0		0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Future Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	658	288	114	847	174	268	637	129	113	526	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	1011	451	236	973	434	273	1048	467	235	1281	184
Arrive On Green	0.08	0.28	0.28	0.07	0.27	0.27	0.08	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4508	649
Grp Volume(v), veh/h	119	658	288	114	847	174	268	637	129	113	395	208
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1753
Q Serve(g_s), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Cycle Q Clear(g_c), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	141	1011	451	236	973	434	273	1048	467	235	967	498
V/C Ratio(X)	0.85	0.65	0.64	0.48	0.87	0.40	0.98	0.61	0.28	0.48	0.41	0.42
Avail Cap(c_a), veh/h	141	1011	451	273	1010	450	273	1048	467	273	967	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	19.9	19.8	28.4	21.9	18.8	29.1	19.2	17.1	28.4	18.4	18.4
Incr Delay (d2), s/veh	35.4	1.5	3.0	1.5	8.1	0.6	49.5	2.6	1.5	1.5	1.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.9	3.6	0.8	6.3	1.9	3.7	3.8	1.5	0.8	2.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	21.4	22.8	30.0	30.1	19.4	78.6	21.8	18.6	30.0	19.6	21.0
LnGrp LOS	E	C	C	C	C	B	E	C	B	C	B	C
Approach Vol, veh/h		1065			1135			1034			716	
Approach Delay, s/veh		26.6			28.4			36.1			21.7	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	23.2	8.8	22.5	9.5	22.5	9.5	21.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.0	11.8	4.0	12.3	6.9	8.1	6.2	16.4				
Green Ext Time (p_c), s	0.0	2.3	0.0	2.5	0.0	2.5	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1029	225	167	711	306	179	516	143	197	619	71
Future Volume (veh/h)	154	1029	225	167	711	306	179	516	143	197	619	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	1083	237	176	748	322	188	543	151	207	652	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1000	446	267	997	445	270	1000	446	270	1309	149
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4649	530
Grp Volume(v), veh/h	162	1083	237	176	748	322	188	543	151	207	476	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1775
Q Serve(g_s), s	5.0	18.0	8.1	3.2	12.3	11.7	3.4	8.3	4.8	3.8	7.5	7.6
Cycle Q Clear(g_c), s	5.0	18.0	8.1	3.2	12.3	11.7	3.4	8.3	4.8	3.8	7.5	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	139	1000	446	267	997	445	270	1000	446	270	958	500
V/C Ratio(X)	1.16	1.08	0.53	0.66	0.75	0.72	0.70	0.54	0.34	0.77	0.50	0.50
Avail Cap(c_a), veh/h	139	1000	446	270	1000	446	270	1000	446	270	958	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	23.0	19.4	28.7	21.0	20.8	28.7	19.5	18.2	28.9	19.2	19.2
Incr Delay (d2), s/veh	126.7	53.5	1.2	5.7	3.2	5.7	7.5	2.1	2.0	12.4	1.8	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	14.0	2.8	1.4	4.9	4.5	1.6	3.2	1.8	1.9	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	156.2	76.5	20.6	34.4	24.1	26.5	36.3	21.6	20.3	41.3	21.0	22.8
LnGrp LOS	F	F	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h	1482			1246			882			934		
Approach Delay, s/veh	76.3			26.2			24.5			26.0		
Approach LOS	E			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.4	22.5	9.5	22.5	9.5	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	10.3	5.2	20.0	5.4	9.6	7.0	14.3				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	2.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay	42.2											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Future Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	605	268	177	940	0	409	0	144	0	0	1
RTOR Reduction (vph)	0	0	185	0	0	0	0	105	91	0	1	0
Lane Group Flow (vph)	4	605	83	177	940	0	213	105	39	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Effective Green, g (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Actuated g/C Ratio	0.01	0.31	0.31	0.08	0.38		0.30	0.30	0.30		0.01	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1090	487	287	1340		501	478	448		44	
v/s Ratio Prot	0.00	0.17		c0.05	c0.27		c0.13	0.07			c0.00	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.17	0.56	0.17	0.62	0.70		0.43	0.22	0.09		0.00	
Uniform Delay, d1	29.8	17.6	15.4	27.0	16.0		17.2	16.1	15.4		29.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.6	0.2	3.9	1.7		2.6	1.1	0.4		0.0	
Delay (s)	33.4	18.2	15.6	30.9	17.7		19.8	17.1	15.8		29.6	
Level of Service	C	B	B	C	B		B	B	B		C	
Approach Delay (s)		17.5			19.8			17.9			29.6	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			18.6			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			61.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			58.9%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1066	559	282	699	1	553	2	537	0	2	0
Future Volume (vph)	4	1066	559	282	699	1	553	2	537	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.92	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1122	588	297	736	1	582	2	565	0	2	0
RTOR Reduction (vph)	0	0	247	0	0	0	0	49	260	0	0	0
Lane Group Flow (vph)	4	1122	341	297	737	0	402	336	102	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	431	425		55	
v/s Ratio Prot	0.00	c0.32		c0.09	c0.21		c0.24	0.22			c0.00	
v/s Ratio Perm			0.22						0.07			
v/c Ratio	0.17	0.93	0.63	1.11	0.51		0.85	0.78	0.24		0.04	
Uniform Delay, d1	31.2	20.3	17.7	29.5	14.3		21.6	21.1	17.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	12.0	2.3	87.1	0.3		16.8	13.1	1.3		0.3	
Delay (s)	34.5	32.3	19.9	116.6	14.6		38.4	34.2	19.0		31.3	
Level of Service	C	C	B	F	B		D	C	B		C	
Approach Delay (s)		28.0			43.9			30.9			31.3	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			33.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	54.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Future Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	78	5	34	4	776	99	54	850	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1812	1842	851	1837	1794	826	852	0	0	875	0	0
Stage 1	959	959	-	834	834	-	-	-	-	-	-	-
Stage 2	853	883	-	1003	960	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	75	360	~ 58	80	372	787	-	-	771	-	-
Stage 1	309	335	-	362	383	-	-	-	-	-	-	-
Stage 2	354	364	-	292	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	49	69	360	~ 33	74	372	787	-	-	771	-	-
Mov Cap-2 Maneuver	49	69	-	~ 33	74	-	-	-	-	-	-	-
Stage 1	307	312	-	360	381	-	-	-	-	-	-	-
Stage 2	316	362	-	206	312	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	46	\$ 892.7	0	0.6
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	787	-	-	172 46	771	-	-
HCM Lane V/C Ratio	0.006	-	-	0.512 2.552	0.07	-	-
HCM Control Delay (s)	9.6	-	-	46 \$ 892.7	10	-	-
HCM Lane LOS	A	-	-	E F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.5 12.5	0.2	-	-

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

Intersection												
Int Delay, s/veh	77.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	7	5	83	12	115	7	737	71	91	653	1
Future Vol, veh/h	4	7	5	83	12	115	7	737	71	91	653	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	90	13	125	8	801	77	99	710	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1834	1803	711	1771	1765	840	711	0	0	878	0	0
Stage 1	909	909	-	856	856	-	-	-	-	-	-	-
Stage 2	925	894	-	915	909	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	79	433	~ 65	84	365	888	-	-	769	-	-
Stage 1	329	354	-	352	374	-	-	-	-	-	-	-
Stage 2	323	360	-	327	354	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	30	68	433	~ 53	72	365	888	-	-	769	-	-
Mov Cap-2 Maneuver	30	68	-	~ 53	72	-	-	-	-	-	-	-
Stage 1	326	308	-	349	371	-	-	-	-	-	-	-
Stage 2	203	357	-	274	308	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	79.5		\$ 644.8		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	888	-	-	65	103	769	-	-				
HCM Lane V/C Ratio	0.009	-	-	0.268	2.216	0.129	-	-				
HCM Control Delay (s)	9.1	-	-	79.5	\$ 644.8	10.4	-	-				
HCM Lane LOS	A	-	-	F	F	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.9	19.9	0.4	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th AWSC
14: College Ave & 6th St/6st St

04/05/2024

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Future Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	230	33	50	143	20	73	236	87	22	173	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.3	14.3	21.4	14.4
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	20%	23%	9%
Vol Thru, %	60%	70%	67%	74%
Vol Right, %	22%	10%	9%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	301	196	215
LT Vol	67	59	46	20
Through Vol	217	212	132	159
RT Vol	80	30	18	36
Lane Flow Rate	396	327	213	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.679	0.586	0.399	0.425
Departure Headway (Hd)	6.174	6.444	6.744	6.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	582	556	530	547
Service Time	4.239	4.513	4.823	4.629
HCM Lane V/C Ratio	0.68	0.588	0.402	0.428
HCM Control Delay	21.4	18.3	14.3	14.4
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	5.2	3.8	1.9	2.1

Intersection												
Intersection Delay, s/veh	42.5											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	208	57	99	274	23	72	155	74	21	222	59
Future Vol, veh/h	40	208	57	99	274	23	72	155	74	21	222	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	226	62	108	298	25	78	168	80	23	241	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	34.1	62.2	33.8	33.9
HCM LOS	D	F	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	13%	25%	7%
Vol Thru, %	51%	68%	69%	74%
Vol Right, %	25%	19%	6%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	305	396	302
LT Vol	72	40	99	21
Through Vol	155	208	274	222
RT Vol	74	57	23	59
Lane Flow Rate	327	332	430	328
Geometry Grp	1	1	1	1
Degree of Util (X)	0.761	0.766	0.961	0.763
Departure Headway (Hd)	8.373	8.321	8.037	8.365
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	432	434	452	430
Service Time	6.456	6.406	6.11	6.448
HCM Lane V/C Ratio	0.757	0.765	0.951	0.763
HCM Control Delay	33.8	34.1	62.2	33.9
HCM Lane LOS	D	D	F	D
HCM 95th-tile Q	6.4	6.5	11.6	6.4

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Future Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	259	13	14	278	0	14	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.5	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	1%	5%	33%
Vol Thru, %	0%	94%	95%	33%
Vol Right, %	38%	5%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	252	269	3
LT Vol	13	2	13	1
Through Vol	0	238	256	1
RT Vol	8	12	0	1
Lane Flow Rate	23	274	292	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.317	0.341	0.005
Departure Headway (Hd)	5.048	4.171	4.194	5.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	846	845	712
Service Time	3.05	2.269	2.285	3.054
HCM Lane V/C Ratio	0.032	0.324	0.346	0.004
HCM Control Delay	8.2	9.2	9.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.4	1.5	0

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	372	29	22	359	7	16	2	13	4	2	3
Future Vol, veh/h	2	372	29	22	359	7	16	2	13	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	404	32	24	390	8	17	2	14	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	12.5	9	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	6%	44%
Vol Thru, %	6%	92%	93%	22%
Vol Right, %	42%	7%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	403	388	9
LT Vol	16	2	22	4
Through Vol	2	372	359	2
RT Vol	13	29	7	3
Lane Flow Rate	34	438	422	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.542	0.528	0.016
Departure Headway (Hd)	5.643	4.453	4.507	5.734
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	810	801	620
Service Time	3.708	2.482	2.537	3.805
HCM Lane V/C Ratio	0.054	0.541	0.527	0.016
HCM Control Delay	9	12.7	12.5	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	3.3	3.1	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Future Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	325	21	284	233	131	39	649	146	48	445	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	383	25	361	379	321	316	769	173	221	885	91
Arrive On Green	0.22	0.22	0.22	0.20	0.20	0.20	0.04	0.27	0.27	0.04	0.27	0.27
Sat Flow, veh/h	1781	1738	112	1781	1870	1585	1781	2883	648	1781	3252	335
Grp Volume(v), veh/h	85	0	346	284	233	131	39	400	395	48	242	249
Grp Sat Flow(s),veh/h/ln	1781	0	1850	1781	1870	1585	1781	1777	1754	1781	1777	1810
Q Serve(g_s), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Cycle Q Clear(g_c), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	393	0	408	361	379	321	316	474	468	221	484	493
V/C Ratio(X)	0.22	0.00	0.85	0.79	0.62	0.41	0.12	0.84	0.85	0.22	0.50	0.50
Avail Cap(c_a), veh/h	475	0	493	475	499	423	380	474	468	275	484	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	25.2	25.5	24.5	23.4	17.1	23.4	23.4	18.1	20.7	20.7
Incr Delay (d2), s/veh	0.3	0.0	11.3	6.4	1.6	0.8	0.2	16.6	16.9	0.5	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.0	4.7	3.4	1.8	0.4	7.6	7.5	0.5	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	36.5	32.0	26.2	24.2	17.3	40.0	40.4	18.6	24.4	24.4
LnGrp LOS	C	A	D	C	C	C	B	D	D	B	C	C
Approach Vol, veh/h	431			648			834			539		
Approach Delay, s/veh	33.6			28.3			39.1			23.9		
Approach LOS	C			C			D			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	22.5		19.4	7.1	22.9		18.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	16.4		14.1	3.1	9.8		12.2				
Green Ext Time (p_c), s	0.0	0.8		0.8	0.0	1.7		1.5				
Intersection Summary												
HCM 6th Ctrl Delay	32.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

16: Claremont Blvd & 6st St/W Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	317	28	317	385	50	32	388	306	131	460	81
Future Volume (veh/h)	58	317	28	317	385	50	32	388	306	131	460	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	334	29	334	405	53	34	408	322	138	484	85
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	376	33	423	444	376	264	450	352	231	816	142
Arrive On Green	0.22	0.22	0.22	0.24	0.24	0.24	0.03	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1781	1697	147	1781	1870	1585	1781	1896	1484	1781	3024	528
Grp Volume(v), veh/h	61	0	363	334	405	53	34	382	348	138	283	286
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1603	1781	1777	1775
Q Serve(g_s), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	4.4	10.5	10.6
Cycle Q Clear(g_c), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	4.4	10.5	10.6
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.93	1.00		0.30
Lane Grp Cap(c), veh/h	395	0	409	423	444	376	264	422	381	231	479	479
V/C Ratio(X)	0.15	0.00	0.89	0.79	0.91	0.14	0.13	0.91	0.91	0.60	0.59	0.60
Avail Cap(c_a), veh/h	423	0	438	423	444	376	322	422	381	231	479	479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	28.6	27.1	28.1	22.8	21.0	28.1	28.1	21.9	24.0	24.1
Incr Delay (d2), s/veh	0.2	0.0	18.6	9.7	23.0	0.2	0.2	25.5	28.8	4.1	5.3	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	7.9	6.6	9.7	0.7	0.4	9.2	8.7	2.0	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	0.0	47.2	36.9	51.1	23.0	21.2	53.6	56.9	26.0	29.3	29.5
LnGrp LOS	C	A	D	D	D	C	C	D	E	C	C	C
Approach Vol, veh/h		424			792			764			707	
Approach Delay, s/veh		43.9			43.2			53.7			28.8	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	22.5		21.3	7.1	24.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	6.4	18.0		16.5	3.1	12.6		18.0				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	1.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			42.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Future Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	336	53	207	431	124	53	735	76	35	864	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	821	128	149	499	423	169	1470	151	66	1436	126
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.27	0.05	0.31	0.31	0.04	0.30	0.30
Sat Flow, veh/h	1781	3080	481	1781	1870	1585	3456	4704	483	1781	4780	419
Grp Volume(v), veh/h	127	192	197	207	431	124	53	530	281	35	614	326
Grp Sat Flow(s),veh/h/ln	1781	1777	1784	1781	1870	1585	1728	1702	1783	1781	1702	1795
Q Serve(g_s), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Cycle Q Clear(g_c), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.27	1.00		0.23
Lane Grp Cap(c), veh/h	149	474	476	149	499	423	169	1064	557	66	1023	539
V/C Ratio(X)	0.85	0.41	0.41	1.39	0.86	0.29	0.31	0.50	0.50	0.53	0.60	0.60
Avail Cap(c_a), veh/h	149	534	536	149	562	476	288	1064	557	149	1023	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	18.1	18.1	27.5	20.9	17.5	27.5	16.8	16.8	28.3	17.9	17.9
Incr Delay (d2), s/veh	35.5	0.6	0.6	212.2	12.2	0.4	1.0	1.7	3.2	6.6	2.6	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.9	2.0	10.7	6.5	1.2	0.4	2.7	3.1	0.6	3.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	18.6	18.7	239.7	33.1	17.9	28.6	18.4	20.0	34.9	20.5	22.8
LnGrp LOS	E	B	B	F	C	B	C	B	C	C	C	C
Approach Vol, veh/h	516			762			864			975		
Approach Delay, s/veh	29.5			86.7			19.6			21.8		
Approach LOS	C			F			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	23.2	9.5	20.5	7.4	22.5	9.5	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.2	9.7	7.0	7.4	2.9	11.3	6.2	15.2				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.5	0.0	3.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	38.3											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	573	48	119	449	69	85	640	210	103	733	170
Future Volume (veh/h)	96	573	48	119	449	69	85	640	210	103	733	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	603	51	125	473	73	89	674	221	108	772	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	903	76	141	522	442	216	1091	352	138	1246	286
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.06	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	3317	280	1781	1870	1585	3456	3820	1233	1781	4149	953
Grp Volume(v), veh/h	101	323	331	125	473	73	89	599	296	108	632	319
Grp Sat Flow(s),veh/h/ln	1781	1777	1820	1781	1870	1585	1728	1702	1648	1781	1702	1699
Q Serve(g_s), s	3.5	10.2	10.2	4.4	15.4	2.2	1.6	9.6	9.8	3.8	10.1	10.2
Cycle Q Clear(g_c), s	3.5	10.2	10.2	4.4	15.4	2.2	1.6	9.6	9.8	3.8	10.1	10.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.75	1.00		0.56
Lane Grp Cap(c), veh/h	129	484	495	141	522	442	216	972	471	138	1022	510
V/C Ratio(X)	0.78	0.67	0.67	0.88	0.91	0.17	0.41	0.62	0.63	0.78	0.62	0.63
Avail Cap(c_a), veh/h	141	507	520	141	534	453	274	972	471	141	1022	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	20.4	20.4	28.7	21.9	17.2	28.4	19.5	19.6	28.6	18.9	19.0
Incr Delay (d2), s/veh	22.4	3.1	3.1	43.6	18.9	0.2	1.2	2.9	6.2	23.8	2.8	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.0	4.1	3.4	8.5	0.7	0.6	3.7	4.0	2.4	3.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	23.5	23.5	72.3	40.9	17.4	29.7	22.5	25.8	52.4	21.8	24.7
LnGrp LOS	D	C	C	E	D	B	C	C	C	D	C	C
Approach Vol, veh/h		755			671			984			1059	
Approach Delay, s/veh		27.2			44.2			24.1			25.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	22.5	9.5	21.7	8.4	23.4	9.1	22.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	11.8	6.4	12.2	3.6	12.2	5.5	17.4				
Green Ext Time (p_c), s	0.0	2.8	0.0	1.8	0.0	2.8	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Future Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	59	51	22	59	29	49	884	74	39	738	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	49	410	65	135	410	78	955	809	68	910	28
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.51	0.51	0.04	0.50	0.50
Sat Flow, veh/h	0	190	1585	0	523	1585	1781	1870	1585	1781	1804	56
Grp Volume(v), veh/h	123	0	51	81	0	29	49	884	74	39	0	761
Grp Sat Flow(s),veh/h/ln	190	0	1585	523	0	1585	1781	1870	1585	1781	0	1860
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	1.0	1.9	30.7	1.7	1.5	0.0	24.0
Cycle Q Clear(g_c), s	18.1	0.0	1.7	18.1	0.0	1.0	1.9	30.7	1.7	1.5	0.0	24.0
Prop In Lane	0.52		1.00	0.27		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	127	0	410	201	0	410	78	955	809	68	0	939
V/C Ratio(X)	0.97	0.00	0.12	0.40	0.00	0.07	0.63	0.93	0.09	0.58	0.00	0.81
Avail Cap(c_a), veh/h	127	0	410	201	0	410	130	955	809	127	0	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	0.0	19.9	21.3	0.0	19.6	32.9	15.9	8.8	33.1	0.0	14.5
Incr Delay (d2), s/veh	68.9	0.0	0.1	1.3	0.0	0.1	8.0	15.9	0.2	7.5	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.6	1.1	0.0	0.4	1.0	15.7	0.6	0.8	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.0	0.0	20.0	22.6	0.0	19.7	40.9	31.8	9.0	40.7	0.0	22.1
LnGrp LOS	F	A	C	C	A	B	D	C	A	D	A	C
Approach Vol, veh/h		174			110			1007			800	
Approach Delay, s/veh		74.4			21.9			30.6			23.0	
Approach LOS		E			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	39.8		22.6	7.2	40.2		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	33.3		18.1	5.0	33.4		18.1				
Max Q Clear Time (g_c+I1), s	3.9	26.0		20.1	3.5	32.7		20.1				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	0.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	48	40	49	46	37	91	26	666	42	19	712	21
Future Volume (veh/h)	48	40	49	46	37	91	26	666	42	19	712	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	43	53	50	40	99	28	724	46	21	774	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	44	408	80	43	408	53	984	834	43	940	28
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.03	0.53	0.53	0.02	0.52	0.52
Sat Flow, veh/h	0	172	1585	0	166	1585	1781	1870	1585	1781	1807	54
Grp Volume(v), veh/h	95	0	53	90	0	99	28	724	46	21	0	797
Grp Sat Flow(s),veh/h/ln	172	0	1585	166	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	3.5	1.1	21.0	1.0	0.8	0.0	25.2
Cycle Q Clear(g_c), s	18.0	0.0	1.8	18.0	0.0	3.5	1.1	21.0	1.0	0.8	0.0	25.2
Prop In Lane	0.55		1.00	0.56		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	408	123	0	408	53	984	834	43	0	968
V/C Ratio(X)	0.77	0.00	0.13	0.73	0.00	0.24	0.52	0.74	0.06	0.49	0.00	0.82
Avail Cap(c_a), veh/h	124	0	408	123	0	408	130	984	834	127	0	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	20.0	26.8	0.0	20.6	33.5	12.8	8.1	33.7	0.0	14.1
Incr Delay (d2), s/veh	24.7	0.0	0.1	20.1	0.0	0.3	7.7	4.9	0.1	8.5	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.7	2.2	0.0	1.3	0.6	9.1	0.3	0.4	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	0.0	20.1	46.9	0.0	20.9	41.2	17.7	8.2	42.3	0.0	22.0
LnGrp LOS	D	A	C	D	A	C	D	B	A	D	A	C
Approach Vol, veh/h		148			189			798			818	
Approach Delay, s/veh		40.4			33.3			18.0			22.5	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	40.9		22.5	6.2	41.3		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	33.4		18.0	5.0	33.5		18.0				
Max Q Clear Time (g_c+I1), s	3.1	27.2		20.0	2.8	23.0		20.0				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Future Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	29	40	139	65	180	63	828	232	100	707	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	363	307	361	85	235	373	960	814	308	940	39
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.51	0.51	0.07	0.53	0.53
Sat Flow, veh/h	1135	1870	1585	1332	438	1214	1781	1870	1585	1781	1784	73
Grp Volume(v), veh/h	10	29	40	139	0	245	63	828	232	100	0	736
Grp Sat Flow(s),veh/h/ln	1135	1870	1585	1332	0	1652	1781	1870	1585	1781	0	1857
Q Serve(g_s), s	0.5	0.8	1.3	5.7	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Cycle Q Clear(g_c), s	8.9	0.8	1.3	6.5	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	181	363	307	361	0	320	373	960	814	308	0	978
V/C Ratio(X)	0.06	0.08	0.13	0.38	0.00	0.76	0.17	0.86	0.29	0.32	0.00	0.75
Avail Cap(c_a), veh/h	301	561	476	503	0	496	427	960	814	336	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	19.8	20.0	22.5	0.0	22.9	8.7	12.7	8.3	11.1	0.0	11.1
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.7	0.0	3.8	0.2	8.4	0.7	0.6	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.5	1.8	0.0	3.4	0.3	10.0	1.6	0.5	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	19.9	20.2	23.1	0.0	26.7	8.9	21.1	9.0	11.7	0.0	16.5
LnGrp LOS	C	B	C	C	A	C	A	C	A	B	A	B
Approach Vol, veh/h	79			384			1123			836		
Approach Delay, s/veh	21.0			25.4			17.9			15.9		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.6	35.3	16.1		7.8	36.1	16.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.1	23.4	18.0					
Max Q Clear Time (g_c+I1), s	3.5	25.2	10.9		3.0	20.6	10.4					
Green Ext Time (p_c), s	0.0	0.0	0.1		0.0	1.4	1.2					
Intersection Summary												
HCM 6th Ctrl Delay	18.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	85	88	133	78	171	103	599	210	140	663	86
Future Volume (veh/h)	29	85	88	133	78	171	103	599	210	140	663	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	92	96	145	85	186	112	651	228	152	721	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	405	343	321	113	247	308	942	799	390	826	107
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.50	0.50	0.07	0.51	0.51
Sat Flow, veh/h	1108	1870	1585	1195	522	1143	1781	1870	1585	1781	1623	209
Grp Volume(v), veh/h	32	92	96	145	0	271	112	651	228	152	0	814
Grp Sat Flow(s),veh/h/ln	1108	1870	1585	1195	0	1665	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	1.8	2.6	3.3	7.4	0.0	9.9	1.9	17.2	5.4	2.6	0.0	25.5
Cycle Q Clear(g_c), s	11.7	2.6	3.3	10.0	0.0	9.9	1.9	17.2	5.4	2.6	0.0	25.5
Prop In Lane	1.00		1.00	1.00		0.69	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	182	405	343	321	0	360	308	942	799	390	0	933
V/C Ratio(X)	0.18	0.23	0.28	0.45	0.00	0.75	0.36	0.69	0.29	0.39	0.00	0.87
Avail Cap(c_a), veh/h	257	532	451	403	0	474	329	942	799	401	0	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	21.0	21.2	25.1	0.0	23.8	12.2	12.3	9.3	9.4	0.0	14.1
Incr Delay (d2), s/veh	0.5	0.3	0.4	1.0	0.0	4.8	0.7	3.8	0.8	0.6	0.0	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.1	1.2	2.1	0.0	4.2	0.6	7.0	1.8	0.9	0.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	21.3	21.7	26.1	0.0	28.6	12.9	16.1	10.2	10.0	0.0	25.2
LnGrp LOS	C	C	C	C	A	C	B	B	B	B	A	C
Approach Vol, veh/h		220			416			991			966	
Approach Delay, s/veh		22.7			27.7			14.3			22.8	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	37.2		18.6	8.8	37.6		18.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	27.9		18.5	5.1	27.9		18.5				
Max Q Clear Time (g_c+I1), s	4.6	19.2		13.7	3.9	27.5		12.0				
Green Ext Time (p_c), s	0.0	3.4		0.4	0.0	0.2		1.3				
Intersection Summary												
HCM 6th Ctrl Delay				20.3								
HCM 6th LOS				C								

Intersection	
Intersection Delay, s/veh	20.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Future Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	200	52	49	324	149	33	255	30	46	183	20
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	15.2	20.3	25.7	20.2
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	74%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	293	55	184	48	45	298	137	228
LT Vol	30	55	0	0	45	0	0	42
Through Vol	235	0	184	0	0	298	0	168
RT Vol	28	0	0	48	0	0	137	18
Lane Flow Rate	318	60	200	52	49	324	149	248
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.683	0.142	0.442	0.105	0.11	0.681	0.283	0.549
Departure Headway (Hd)	7.721	8.578	7.956	7.225	8.089	7.57	6.842	7.977
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	421	450	493	441	476	521	449
Service Time	5.51	6.278	5.755	5.024	5.881	5.361	4.633	5.774
HCM Lane V/C Ratio	0.684	0.143	0.444	0.105	0.111	0.681	0.286	0.552
HCM Control Delay	25.7	12.7	17	10.9	11.9	25.2	12.3	20.2
HCM Lane LOS	D	B	C	B	B	D	B	C
HCM 95th-tile Q	5.1	0.5	2.2	0.3	0.4	5	1.2	3.2

Intersection	
Intersection Delay, s/veh	80.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	336	76	71	269	91	45	139	88	116	313	57
Future Vol, veh/h	49	336	76	71	269	91	45	139	88	116	313	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	365	83	77	292	99	49	151	96	126	340	62
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	45.5	28.2	36.3	184.9
HCM LOS	E	D	E	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	17%	100%	0%	0%	100%	0%	0%	24%
Vol Thru, %	51%	0%	100%	0%	0%	100%	0%	64%
Vol Right, %	32%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	49	336	76	71	269	91	486
LT Vol	45	49	0	0	71	0	0	116
Through Vol	139	0	336	0	0	269	0	313
RT Vol	88	0	0	76	0	0	91	57
Lane Flow Rate	296	53	365	83	77	292	99	528
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.741	0.139	0.899	0.187	0.204	0.733	0.229	1.316
Departure Headway (Hd)	9.943	10.42	9.885	9.136	10.632	10.096	9.345	8.971
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	367	346	369	396	340	360	387	407
Service Time	7.643	8.12	7.585	6.836	8.332	7.796	7.045	6.745
HCM Lane V/C Ratio	0.807	0.153	0.989	0.21	0.226	0.811	0.256	1.297
HCM Control Delay	36.3	14.8	57.1	13.9	16	36	14.8	184.9
HCM Lane LOS	E	B	F	B	C	E	B	F
HCM 95th-tile Q	5.8	0.5	9	0.7	0.8	5.6	0.9	23.9

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Future Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	0	137	9	0	1	434	773	8	1	491	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	201	171	22	0	19	634	2685	28	539	2648	1181
Arrive On Green	0.11	0.00	0.11	0.01	0.00	0.01	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	798	3603	37	692	3554	1585
Grp Volume(v), veh/h	71	0	137	9	0	1	434	381	400	1	491	137
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	798	1777	1864	692	1777	1585
Q Serve(g_s), s	3.7	0.0	8.4	0.5	0.0	0.1	35.3	7.0	7.0	0.0	4.1	2.4
Cycle Q Clear(g_c), s	3.7	0.0	8.4	0.5	0.0	0.1	39.4	7.0	7.0	7.0	4.1	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	192	201	171	22	0	19	634	1324	1389	539	2648	1181
V/C Ratio(X)	0.37	0.00	0.80	0.42	0.00	0.05	0.68	0.29	0.29	0.00	0.19	0.12
Avail Cap(c_a), veh/h	321	337	285	321	0	285	634	1324	1389	539	2648	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	41.5	0.0	43.6	49.0	0.0	48.8	9.6	4.1	4.1	5.3	3.8	3.6
Incr Delay (d2), s/veh	1.2	0.0	8.5	12.3	0.0	1.1	5.9	0.5	0.5	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	3.7	0.3	0.0	0.0	5.7	2.0	2.1	0.0	1.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	0.0	52.0	61.3	0.0	49.9	15.5	4.7	4.7	5.3	3.9	3.7
LnGrp LOS	D	A	D	E	A	D	B	A	A	A	A	A
Approach Vol, veh/h	208			10			1215			629		
Approach Delay, s/veh	48.8			60.2			8.5			3.8		
Approach LOS	D			E			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	79.0			15.3			79.0			5.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	50.5			18.0			50.5			18.0		
Max Q Clear Time (g_c+I1), s	41.4			10.4			9.0			2.5		
Green Ext Time (p_c), s	4.9			0.4			3.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	11.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 21: E 1st St/Huntington Dr & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	5	314	4	0	1	147	420	7	2	569	220
Future Volume (veh/h)	251	5	314	4	0	1	147	420	7	2	569	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	5	341	4	0	1	160	457	8	2	618	239
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	431	453	384	12	0	10	403	1996	35	561	1985	885
Arrive On Green	0.24	0.24	0.24	0.01	0.00	0.01	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	644	3573	63	928	3554	1585
Grp Volume(v), veh/h	273	5	341	4	0	1	160	227	238	2	618	239
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	644	1777	1859	928	1777	1585
Q Serve(g_s), s	9.6	0.1	14.5	0.2	0.0	0.0	12.4	4.5	4.5	0.1	6.5	5.5
Cycle Q Clear(g_c), s	9.6	0.1	14.5	0.2	0.0	0.0	18.9	4.5	4.5	4.6	6.5	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	431	453	384	12	0	10	403	992	1038	561	1985	885
V/C Ratio(X)	0.63	0.01	0.89	0.34	0.00	0.10	0.40	0.23	0.23	0.00	0.31	0.27
Avail Cap(c_a), veh/h	458	481	408	458	0	408	403	992	1038	561	1985	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	23.8	20.2	25.6	34.6	0.0	34.6	13.3	7.8	7.8	9.0	8.3	8.0
Incr Delay (d2), s/veh	2.6	0.0	20.0	16.1	0.0	3.9	2.9	0.5	0.5	0.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.1	7.3	0.1	0.0	0.0	1.8	1.5	1.6	0.0	2.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	20.2	45.6	50.7	0.0	38.4	16.2	8.4	8.3	9.0	8.5	8.6
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h	619			5			625			859		
Approach Delay, s/veh	36.9			48.2			10.4			8.5		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.6			21.4			43.6			5.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	20.9			16.5			8.5			2.2		
Green Ext Time (p_c), s	0.0			0.4			3.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Future Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	616	249	173	1009	152	242	779	176	180	788	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1421	634	335	1421	634	264	1421	634	296	1166	249
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	484	3554	1585	640	3554	1585	587	3554	1585	588	2914	621
Grp Volume(v), veh/h	202	616	249	173	1009	152	242	779	176	180	480	476
Grp Sat Flow(s),veh/h/ln	484	1777	1585	640	1777	1585	587	1777	1585	588	1777	1759
Q Serve(g_s), s	7.3	5.7	5.0	12.1	10.7	2.9	8.0	7.6	3.4	10.4	10.0	10.0
Cycle Q Clear(g_c), s	18.0	5.7	5.0	17.8	10.7	2.9	18.0	7.6	3.4	18.0	10.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	238	1421	634	335	1421	634	264	1421	634	296	711	703
V/C Ratio(X)	0.85	0.43	0.39	0.52	0.71	0.24	0.92	0.55	0.28	0.61	0.68	0.68
Avail Cap(c_a), veh/h	238	1421	634	335	1421	634	264	1421	634	296	711	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	21.1	9.8	9.6	16.2	11.3	9.0	20.8	10.4	9.1	18.6	11.1	11.1
Incr Delay (d2), s/veh	23.7	0.2	0.4	0.9	1.1	0.1	37.3	1.5	1.1	6.3	3.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.8	1.4	1.5	3.5	0.8	5.1	2.6	1.1	2.2	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	10.0	10.0	17.1	12.4	9.1	58.1	11.9	10.2	24.8	14.7	14.7
LnGrp LOS	D	B	B	B	B	A	E	B	B	C	B	B
Approach Vol, veh/h	1067			1334			1197			1136		
Approach Delay, s/veh	16.6			12.6			21.0			16.3		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			19.8		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	16.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	1056	184	196	632	160	196	755	167	178	692	135
Future Volume (veh/h)	218	1056	184	196	632	160	196	755	167	178	692	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	1148	200	213	687	174	213	821	182	193	752	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	1421	634	216	1421	634	281	1421	634	306	1185	232
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	755	3554	1585	490	3554	1585	619	3554	1585	666	2964	579
Grp Volume(v), veh/h	237	1148	200	213	687	174	213	821	182	193	451	448
Grp Sat Flow(s),veh/h/ln	755	1777	1585	490	1777	1585	619	1777	1585	666	1777	1766
Q Serve(g_s), s	11.5	12.9	3.9	5.1	6.5	3.3	8.8	8.1	3.5	9.9	9.2	9.2
Cycle Q Clear(g_c), s	18.0	12.9	3.9	18.0	6.5	3.3	18.0	8.1	3.5	18.0	9.2	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	353	1421	634	216	1421	634	281	1421	634	306	711	706
V/C Ratio(X)	0.67	0.81	0.32	0.99	0.48	0.27	0.76	0.58	0.29	0.63	0.63	0.63
Avail Cap(c_a), veh/h	353	1421	634	216	1421	634	281	1421	634	306	711	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	17.8	12.0	9.3	21.8	10.0	9.1	20.0	10.5	9.2	18.7	10.9	10.9
Incr Delay (d2), s/veh	4.8	3.6	0.3	54.2	0.2	0.2	17.2	1.7	1.1	5.7	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.6	1.1	5.3	2.0	0.9	3.4	2.8	1.1	2.3	3.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	15.5	9.6	76.0	10.3	9.3	37.2	12.2	10.3	24.4	13.4	13.4
LnGrp LOS	C	B	A	E	B	A	D	B	B	C	B	B
Approach Vol, veh/h	1585			1074			1216			1092		
Approach Delay, s/veh	15.8			23.1			16.3			15.4		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			20.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 23: College Ave & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Future Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	859	54	61	1182	86	67	136	47	129	101	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1648	104	310	1630	118	194	368	112	558	682	578
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	437	3395	213	611	3359	244	323	1009	308	1201	1870	1585
Grp Volume(v), veh/h	59	450	463	61	625	643	250	0	0	129	101	71
Grp Sat Flow(s),veh/h/ln	437	1777	1832	611	1777	1826	1640	0	0	1201	1870	1585
Q Serve(g_s), s	7.4	10.5	10.5	4.6	16.7	16.8	1.0	0.0	0.0	0.0	2.2	1.8
Cycle Q Clear(g_c), s	24.2	10.5	10.5	15.0	16.7	16.8	6.2	0.0	0.0	4.6	2.2	1.8
Prop In Lane	1.00		0.12	1.00		0.13	0.27		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	210	862	889	310	862	886	674	0	0	558	682	578
V/C Ratio(X)	0.28	0.52	0.52	0.20	0.72	0.73	0.37	0.00	0.00	0.23	0.15	0.12
Avail Cap(c_a), veh/h	227	933	962	334	933	959	674	0	0	558	682	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.18	0.18	0.18	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	10.6	10.6	15.8	12.3	12.3	14.1	0.0	0.0	13.6	12.8	12.7
Incr Delay (d2), s/veh	0.6	0.4	0.4	0.1	0.5	0.5	1.6	0.0	0.0	1.0	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.6	0.6	5.6	5.8	2.6	0.0	0.0	1.3	0.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	11.1	11.1	15.9	12.7	12.7	15.6	0.0	0.0	14.5	13.3	13.1
LnGrp LOS	C	B	B	B	B	B	B	A	A	B	B	B
Approach Vol, veh/h	972			1329			250			301		
Approach Delay, s/veh	11.8			12.9			15.6			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.4			33.6			26.4			33.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	8.2			26.2			6.6			18.8		
Green Ext Time (p_c), s	1.1			2.9			1.0			7.3		
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1212	44	37	830	79	49	50	56	129	122	111
Future Volume (veh/h)	66	1212	44	37	830	79	49	50	56	129	122	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	1317	48	40	902	86	53	54	61	140	133	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	1702	62	190	1595	152	220	224	208	613	680	576
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	570	3497	127	398	3278	313	389	615	573	1277	1870	1585
Grp Volume(v), veh/h	72	669	696	40	489	499	168	0	0	140	133	121
Grp Sat Flow(s),veh/h/ln	570	1777	1847	398	1777	1814	1577	0	0	1277	1870	1585
Q Serve(g_s), s	6.1	18.6	18.6	5.5	11.7	11.7	0.0	0.0	0.0	0.0	2.9	3.2
Cycle Q Clear(g_c), s	17.8	18.6	18.6	24.2	11.7	11.7	4.0	0.0	0.0	3.4	2.9	3.2
Prop In Lane	1.00		0.07	1.00		0.17	0.32		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	286	865	899	190	865	883	652	0	0	613	680	576
V/C Ratio(X)	0.25	0.77	0.77	0.21	0.57	0.57	0.26	0.00	0.00	0.23	0.20	0.21
Avail Cap(c_a), veh/h	308	933	970	205	933	952	652	0	0	613	680	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	12.7	12.7	22.6	10.9	10.9	13.4	0.0	0.0	13.2	13.1	13.2
Incr Delay (d2), s/veh	0.3	2.1	2.1	0.4	0.5	0.5	1.0	0.0	0.0	0.9	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.6	6.9	0.5	4.0	4.0	1.6	0.0	0.0	1.3	1.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	14.8	14.8	23.0	11.4	11.4	14.4	0.0	0.0	14.1	13.7	14.0
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	B	B
Approach Vol, veh/h	1437			1028				168		394		
Approach Delay, s/veh	14.9			11.9				14.4		13.9		
Approach LOS	B			B				B		B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.3			33.7			26.3			33.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	6.0			20.6			5.4			26.2		
Green Ext Time (p_c), s	0.7			7.0			1.4			3.0		
Intersection Summary												
HCM 6th Ctrl Delay	13.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Future Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	343	595	25	53	1048	345	120	473	39	127	270	277
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1869	78	68	999	325	139	595	49	144	340	288
Arrive On Green	0.20	0.54	0.54	0.04	0.38	0.38	0.08	0.18	0.18	0.08	0.18	0.18
Sat Flow, veh/h	1781	3475	146	1781	2634	858	1781	3325	273	1781	1870	1585
Grp Volume(v), veh/h	343	304	316	53	703	690	120	252	260	127	270	277
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1716	1781	1777	1821	1781	1870	1585
Q Serve(g_s), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Cycle Q Clear(g_c), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Prop In Lane	1.00		0.08	1.00		0.50	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	351	956	992	68	674	650	139	318	326	144	340	288
V/C Ratio(X)	0.98	0.32	0.32	0.78	1.04	1.06	0.86	0.79	0.80	0.88	0.79	0.96
Avail Cap(c_a), veh/h	351	956	992	143	674	650	139	318	326	144	340	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	14.2	14.2	52.4	34.1	34.2	50.1	43.2	43.2	50.0	43.0	44.6
Incr Delay (d2), s/veh	37.9	0.2	0.2	16.8	46.7	52.4	38.8	18.1	18.1	42.1	17.2	44.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	3.9	4.1	1.7	25.7	25.8	4.7	8.0	8.3	5.2	8.7	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	14.3	14.3	69.2	80.9	86.5	88.9	61.3	61.3	92.2	60.2	88.6
LnGrp LOS	F	B	B	E	F	F	F	E	E	F	E	F
Approach Vol, veh/h	963			1446			632			674		
Approach Delay, s/veh	38.3			83.1			66.5			77.9		
Approach LOS	D			F			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	24.2	8.7	63.7	13.1	24.5	26.2	46.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.9	19.7	8.8	54.6	8.6	20.0	21.7	41.7				
Max Q Clear Time (g_c+I1), s	9.8	17.0	5.2	12.5	9.3	21.1	23.1	43.7				
Green Ext Time (p_c), s	0.0	0.8	0.0	3.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	67.8											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	1193	60	71	636	127	80	252	66	247	413	282
Future Volume (veh/h)	203	1193	60	71	636	127	80	252	66	247	413	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1297	65	77	691	138	87	274	72	268	449	307
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	1282	64	99	837	167	109	603	156	279	582	493
Arrive On Green	0.14	0.37	0.37	0.06	0.28	0.28	0.06	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	1781	3444	172	1781	2952	589	1781	2796	721	1781	1870	1585
Grp Volume(v), veh/h	221	668	694	77	416	413	87	172	174	268	449	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1839	1781	1777	1764	1781	1777	1741	1781	1870	1585
Q Serve(g_s), s	10.9	33.5	33.5	3.8	19.7	19.7	4.3	7.6	7.8	13.4	19.6	14.9
Cycle Q Clear(g_c), s	10.9	33.5	33.5	3.8	19.7	19.7	4.3	7.6	7.8	13.4	19.6	14.9
Prop In Lane	1.00		0.09	1.00		0.33	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	257	661	685	99	504	500	109	383	375	279	582	493
V/C Ratio(X)	0.86	1.01	1.01	0.78	0.83	0.83	0.80	0.45	0.46	0.96	0.77	0.62
Avail Cap(c_a), veh/h	293	661	685	115	504	500	109	383	375	279	582	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	28.2	28.3	42.0	30.2	30.2	41.7	30.7	30.8	37.7	28.1	26.5
Incr Delay (d2), s/veh	13.4	29.9	30.2	25.0	10.8	10.9	33.0	3.8	4.1	43.0	9.5	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	18.3	19.0	2.3	9.4	9.4	2.9	3.5	3.6	9.1	10.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	58.2	58.4	66.9	40.9	41.1	74.7	34.4	34.8	80.6	37.6	32.3
LnGrp LOS	D	F	F	E	D	D	E	C	C	F	D	C
Approach Vol, veh/h	1583			906			433			1024		
Approach Delay, s/veh	57.3			43.2			42.7			47.3		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	23.9	9.5	38.0	10.0	32.5	17.5	30.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.1	18.6	5.8	33.5	5.5	27.2	14.8	24.5				
Max Q Clear Time (g_c+I1), s	15.4	9.8	5.8	35.5	6.3	21.6	12.9	21.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.0	0.0	2.0	0.1	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	49.9											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	122	0	0	0	49	432	0	0	404	22
Future Volume (veh/h)	30	0	122	0	0	0	49	432	0	0	404	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	0	133	0	0	0	53	470	0	0	439	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	0	170	2	4	0	73	2818	1257	2	2495	1113
Arrive On Green	0.05	0.00	0.11	0.00	0.00	0.00	0.04	0.79	0.00	0.00	0.70	0.70
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	0	133	0	0	0	53	470	0	0	439	24
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	0.0	7.4	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.8	0.4
Cycle Q Clear(g_c), s	1.6	0.0	7.4	0.0	0.0	0.0	2.6	2.8	0.0	0.0	3.8	0.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	0	170	2	4	0	73	2818	1257	2	2495	1113
V/C Ratio(X)	0.34	0.00	0.78	0.00	0.00	0.00	0.73	0.17	0.00	0.00	0.18	0.02
Avail Cap(c_a), veh/h	356	0	317	99	374	0	131	2818	1257	99	2495	1113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh	41.0	0.0	39.2	0.0	0.0	0.0	42.7	2.2	0.0	0.0	4.6	4.1
Incr Delay (d2), s/veh	2.0	0.0	7.7	0.0	0.0	0.0	13.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.2	0.0	0.0	0.0	1.4	0.6	0.0	0.0	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.0	46.9	0.0	0.0	0.0	55.7	2.4	0.0	0.0	4.7	4.1
LnGrp LOS	D	A	D	A	A	A	E	A	A	A	A	A
Approach Vol, veh/h	166			0			523			463		
Approach Delay, s/veh	46.1			0.0			7.8			4.7		
Approach LOS	D						A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	75.9	0.0	14.1	8.2	67.7	9.4	4.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	30.5	5.0	18.0	6.6	19.4	18.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	4.8	0.0	9.4	4.6	5.8	3.6	0.0				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.4	0.0	2.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	12.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1	122	45	7	30	59	503	3	5	445	30
Future Volume (veh/h)	44	1	122	45	7	30	59	503	3	5	445	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1	133	49	8	33	64	547	3	5	484	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1	181	74	30	124	84	2174	970	12	2029	905
Arrive On Green	0.06	0.12	0.12	0.04	0.09	0.09	0.05	0.61	0.61	0.01	0.57	0.57
Sat Flow, veh/h	1781	12	1575	1781	319	1315	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	48	0	134	49	0	41	64	547	3	5	484	33
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1634	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.1	0.0	6.5	2.2	0.0	1.9	2.8	5.7	0.1	0.2	5.4	0.7
Cycle Q Clear(g_c), s	2.1	0.0	6.5	2.2	0.0	1.9	2.8	5.7	0.1	0.2	5.4	0.7
Prop In Lane	1.00		0.99	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	183	74	0	154	84	2174	970	12	2029	905
V/C Ratio(X)	0.43	0.00	0.73	0.66	0.00	0.27	0.76	0.25	0.00	0.43	0.24	0.04
Avail Cap(c_a), veh/h	401	0	585	145	0	368	158	2174	970	111	2029	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	36.2	0.0	34.2	37.8	0.0	33.6	37.6	7.1	6.0	39.6	8.5	7.5
Incr Delay (d2), s/veh	2.7	0.0	5.6	9.8	0.0	0.9	12.9	0.3	0.0	21.3	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.8	1.1	0.0	0.8	1.5	1.8	0.0	0.2	1.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	39.8	47.5	0.0	34.5	50.5	7.4	6.0	60.9	8.8	7.6
LnGrp LOS	D	A	D	D	A	C	D	A	A	E	A	A
Approach Vol, veh/h	182			90			614			522		
Approach Delay, s/veh	39.5			41.6			11.9			9.2		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	53.4	7.8	13.7	8.3	50.2	9.5	12.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	6.5	29.5	7.1	18.9	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.2	7.7	4.2	8.5	4.8	7.4	4.1	3.9				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.8	0.0	2.4	0.1	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	16.4											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	50	0	0	30	0	0
Future Vol, veh/h	50	0	0	30	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	0	0	33	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	27
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1042
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	45	1	0	59	0	22
Future Vol, veh/h	45	1	0	59	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	1	0	64	0	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 25
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	- 0	- 0 1045
Stage 1	-	- 0	- 0 -
Stage 2	-	- 0	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 1045
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	1045	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-
HCM Control Delay (s)	8.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	30	0	0	16
Future Vol, veh/h	0	0	30	0	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	33	0	0	17
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	17	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1058	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1058	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	21	0	0	77
Future Vol, veh/h	0	22	21	0	0	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	23	0	0	84
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	12	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1065	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 1065		-		
HCM Lane V/C Ratio	-	- 0.022		-		
HCM Control Delay (s)	-	- 8.5		-		
HCM Lane LOS	-	- A		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/04/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	87	50	0
Future Vol, veh/h	0	0	0	87	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	92	53	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	27	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	883	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	883	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/04/2024

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	22	0	68	100	2
Future Vol, veh/h	0	22	0	68	100	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	72	105	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	54	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	850	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	850	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 850		-	-		
HCM Lane V/C Ratio	- 0.027		-	-		
HCM Control Delay (s)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	124	0	318	0	522	52	93	1065	1
Future Volume (veh/h)	0	0	0	124	0	318	0	522	52	93	1065	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	131	0	335	0	549	55	98	1121	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	515	0	684	515	436	193	1576	158	985	2546	2
Arrive On Green	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	0	1870	0	1781	1870	1585	502	3262	326	1583	5269	5
Grp Volume(v), veh/h	0	0	0	131	0	335	0	298	306	98	724	398
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	502	1777	1812	791	1702	1870
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	7.2	0.0	3.9	3.9	1.5	5.2	5.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.1	0.0	7.2	0.0	3.9	3.9	5.4	5.2	5.2
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	0	515	0	684	515	436	193	859	875	985	1645	903
V/C Ratio(X)	0.00	0.00	0.00	0.19	0.00	0.77	0.00	0.35	0.35	0.10	0.44	0.44
Avail Cap(c_a), veh/h	0	904	0	1054	904	766	193	859	875	985	1645	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	10.6	0.0	12.4	0.0	6.0	6.0	7.7	6.3	6.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	2.9	0.0	1.1	1.1	0.2	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	2.3	0.0	0.9	0.9	0.2	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	10.7	0.0	15.3	0.0	7.1	7.1	7.9	7.2	7.9
LnGrp LOS	A	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h	0			466			604			1220		
Approach Delay, s/veh	0.0			14.0			7.1			7.5		
Approach LOS				B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			14.8			22.5			14.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	5.9			0.0			7.4			9.2		
Green Ext Time (p_c), s	2.6			0.0			5.8			1.1		
Intersection Summary												
HCM 6th Ctrl Delay				8.7								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	106	0	127	1	928	72	34	870	0
Future Volume (veh/h)	0	0	0	106	0	127	1	928	72	34	870	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	112	0	134	1	977	76	36	916	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	267	0	483	267	226	520	1909	149	867	2918	0
Arrive On Green	0.00	0.00	0.00	0.14	0.00	0.14	0.57	0.57	0.57	0.57	0.57	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	610	3341	260	1040	5274	0
Grp Volume(v), veh/h	0	0	0	112	0	134	1	520	533	36	916	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	610	1777	1824	520	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	2.5	0.0	5.6	5.6	0.7	3.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.8	0.0	2.5	3.0	5.6	5.6	6.3	3.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.14	1.00		0.00
Lane Grp Cap(c), veh/h	0	267	0	483	267	226	520	1015	1042	867	2918	0
V/C Ratio(X)	0.00	0.00	0.00	0.23	0.00	0.59	0.00	0.51	0.51	0.04	0.31	0.00
Avail Cap(c_a), veh/h	0	1069	0	1247	1069	906	520	1015	1042	867	2918	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.3	0.0	12.6	4.3	4.1	4.1	6.0	3.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.5	0.0	1.8	1.8	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.8	0.0	1.1	1.2	0.1	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	12.6	0.0	15.1	4.3	5.9	5.9	6.1	3.8	0.0
LnGrp LOS	A	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h	0				246				1054			
Approach Delay, s/veh	0.0				14.0				5.9			
Approach LOS					B				A			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			9.0			22.5			9.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	7.6			0.0			8.3			4.5		
Green Ext Time (p_c), s	5.0			0.0			4.6			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	5.9											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Future Volume (veh/h)	39	737	277	407	1261	73	151	66	302	46	215	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	801	301	442	1371	79	164	72	328	50	234	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	2468	1101	491	2468	1101	213	365	326	80	535	182
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	396	3554	1585	679	3554	1585	1064	1777	1585	985	2600	887
Grp Volume(v), veh/h	42	801	301	442	1371	79	164	72	328	50	158	158
Grp Sat Flow(s),veh/h/ln	396	1777	1585	679	1777	1585	1064	1777	1585	985	1777	1711
Q Serve(g_s), s	5.3	8.0	6.4	54.5	17.3	1.4	11.2	3.0	18.5	0.0	7.0	7.3
Cycle Q Clear(g_c), s	22.6	8.0	6.4	62.5	17.3	1.4	18.5	3.0	18.5	18.5	7.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	279	2468	1101	491	2468	1101	213	365	326	80	365	352
V/C Ratio(X)	0.15	0.32	0.27	0.90	0.56	0.07	0.77	0.20	1.01	0.62	0.43	0.45
Avail Cap(c_a), veh/h	279	2468	1101	491	2468	1101	213	365	326	80	365	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.55	0.55	0.55	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	5.4	5.2	19.7	6.8	4.4	40.5	29.6	35.8	45.0	31.2	31.3
Incr Delay (d2), s/veh	0.2	0.1	0.1	12.0	0.2	0.0	19.5	1.0	46.6	31.6	3.7	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.5	1.8	10.5	5.3	0.4	4.8	1.4	11.2	1.8	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	5.5	5.3	31.7	7.0	4.4	59.9	30.6	82.3	76.6	34.9	35.4
LnGrp LOS	B	A	A	C	A	A	E	C	F	E	C	D
Approach Vol, veh/h		1144			1892			564			366	
Approach Delay, s/veh		5.7			12.7			69.2			40.8	
Approach LOS		A			B			E			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.0		67.0		23.0		67.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		62.5		18.5		62.5				
Max Q Clear Time (g_c+I1), s		20.5		24.6		20.5		64.5				
Green Ext Time (p_c), s		0.0		9.2		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.3								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	64	1043	127	246	979	79	261	126	298	55	89	48
Future Volume (veh/h)	64	1043	127	246	979	79	261	126	298	55	89	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1134	138	267	1064	86	284	137	324	60	97	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	2332	1040	336	2332	1040	331	411	367	121	529	266
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	530	3554	1585	496	3554	1585	1239	1777	1585	931	2289	1151
Grp Volume(v), veh/h	70	1134	138	267	1064	86	284	137	324	60	74	75
Grp Sat Flow(s),veh/h/ln	530	1777	1585	496	1777	1585	1239	1777	1585	931	1777	1663
Q Serve(g_s), s	6.0	12.9	2.6	39.6	11.8	1.6	15.6	5.1	15.8	2.7	2.7	2.9
Cycle Q Clear(g_c), s	17.7	12.9	2.6	52.5	11.8	1.6	18.5	5.1	15.8	18.5	2.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	360	2332	1040	336	2332	1040	331	411	367	121	411	385
V/C Ratio(X)	0.19	0.49	0.13	0.80	0.46	0.08	0.86	0.33	0.88	0.49	0.18	0.20
Avail Cap(c_a), veh/h	360	2332	1040	336	2332	1040	331	411	367	121	411	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	6.9	5.2	21.8	6.7	5.0	33.4	25.6	29.7	39.3	24.7	24.8
Incr Delay (d2), s/veh	0.3	0.2	0.1	10.9	0.1	0.0	18.1	1.5	19.4	13.7	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.0	0.7	5.8	3.6	0.4	7.1	2.3	7.8	1.6	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	7.1	5.2	32.6	6.9	5.0	51.4	27.2	49.1	53.0	25.6	25.9
LnGrp LOS	B	A	A	C	A	A	D	C	D	D	C	C
Approach Vol, veh/h		1342			1417			745			209	
Approach Delay, s/veh		7.1			11.6			45.9			33.6	
Approach LOS		A			B			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.0		57.0		23.0		57.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		52.5		18.5		52.5				
Max Q Clear Time (g_c+I1), s		20.5		19.7		20.5		54.5				
Green Ext Time (p_c), s		0.0		12.3		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				18.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Future Volume (veh/h)	83	985	326	151	1446	27	361	105	139	74	174	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1759	785	266	1759	785	457	664	563	520	664	563
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	326	3554	1585	527	3554	1585	1194	1870	1585	1279	1870	1585
Grp Volume(v), veh/h	90	1071	354	164	1572	29	392	114	151	80	189	189
Grp Sat Flow(s),veh/h/ln	326	1777	1585	527	1777	1585	1194	1870	1585	1279	1870	1585
Q Serve(g_s), s	5.7	13.1	8.7	16.6	24.0	0.6	16.9	2.5	4.1	2.8	4.4	5.2
Cycle Q Clear(g_c), s	29.7	13.1	8.7	29.7	24.0	0.6	21.3	2.5	4.1	5.3	4.4	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	1759	785	266	1759	785	457	664	563	520	664	563
V/C Ratio(X)	0.60	0.61	0.45	0.62	0.89	0.04	0.86	0.17	0.27	0.15	0.28	0.34
Avail Cap(c_a), veh/h	151	1759	785	266	1759	785	457	664	563	520	664	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.53	0.53	0.53	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	11.0	9.9	22.6	13.7	7.8	22.7	13.3	13.8	15.1	13.9	14.2
Incr Delay (d2), s/veh	6.0	0.6	0.4	2.3	3.5	0.0	14.3	0.4	0.9	0.6	1.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.4	2.6	2.3	8.6	0.2	7.1	1.0	1.4	0.8	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	11.5	10.2	24.9	17.3	7.8	37.0	13.7	14.7	15.7	15.0	15.8
LnGrp LOS	D	B	B	C	B	A	D	B	B	B	B	B
Approach Vol, veh/h		1515			1765			657			458	
Approach Delay, s/veh		12.6			17.8			27.8			15.4	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.8		34.2		25.8		34.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.3		29.7		21.3		29.7				
Max Q Clear Time (g_c+I1), s		23.3		31.7		7.3		31.7				
Green Ext Time (p_c), s		0.0		0.0		1.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				17.3								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	1068	175	213	1122	75	217	95	109	64	94	126
Future Volume (veh/h)	134	1068	175	213	1122	75	217	95	109	64	94	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1161	190	232	1220	82	236	103	118	70	102	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	2401	1071	331	2401	1071	312	420	356	311	420	356
Arrive On Green	0.68	0.68	0.68	0.45	0.45	0.45	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	457	3554	1585	484	3554	1585	1293	1870	1585	1291	1870	1585
Grp Volume(v), veh/h	146	1161	190	232	1220	82	236	103	118	70	102	137
Grp Sat Flow(s),veh/h/ln	457	1777	1585	484	1777	1585	1293	1870	1585	1291	1870	1585
Q Serve(g_s), s	24.0	14.2	4.0	41.5	22.0	2.6	16.2	4.1	5.6	4.2	4.0	6.6
Cycle Q Clear(g_c), s	46.0	14.2	4.0	55.7	22.0	2.6	20.2	4.1	5.6	8.3	4.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	2401	1071	331	2401	1071	312	420	356	311	420	356
V/C Ratio(X)	0.53	0.48	0.18	0.70	0.51	0.08	0.76	0.25	0.33	0.22	0.24	0.39
Avail Cap(c_a), veh/h	281	2428	1083	334	2428	1083	312	420	356	311	420	356
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.66	0.66	0.66	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	7.0	5.4	30.0	14.0	8.7	37.0	28.6	29.2	32.1	28.6	29.6
Incr Delay (d2), s/veh	1.5	0.1	0.1	4.3	0.1	0.0	13.2	1.2	2.1	1.7	1.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.5	1.1	5.3	9.3	0.8	6.2	1.9	2.3	1.4	1.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	7.2	5.4	34.3	14.1	8.7	50.3	29.8	31.3	33.7	30.0	32.8
LnGrp LOS	C	A	A	C	B	A	D	C	C	C	C	C
Approach Vol, veh/h	1497			1534			457			309		
Approach Delay, s/veh	8.5			16.9			40.8			32.1		
Approach LOS	A			B			D			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.7			65.3			24.7			65.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			61.5			19.5			61.5		
Max Q Clear Time (g_c+I1), s	22.2			48.0			10.3			57.7		
Green Ext Time (p_c), s	0.0			8.7			0.8			3.1		
Intersection Summary												
HCM 6th Ctrl Delay	17.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Future Volume (veh/h)	54	837	250	520	1291	87	236	78	405	91	79	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
Arrive On Green	0.05	0.28	0.28	0.18	0.42	0.42	0.06	0.25	0.25	0.06	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	59	910	272	565	1403	95	257	85	440	99	86	100
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Cycle Q Clear(g_c), s	2.6	19.7	11.9	12.8	30.3	3.0	5.1	2.9	20.1	3.3	3.1	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	1008	449	626	1490	664	438	471	399	384	438	391
V/C Ratio(X)	0.73	0.90	0.61	0.90	0.94	0.14	0.59	0.18	1.10	0.26	0.20	0.26
Avail Cap(c_a), veh/h	111	1031	460	626	1490	664	438	471	399	391	438	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	27.6	24.8	32.1	22.3	14.4	24.4	23.5	29.9	20.5	23.9	24.2
Incr Delay (d2), s/veh	11.5	9.2	1.8	16.3	12.2	0.1	2.0	0.8	75.1	0.4	1.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.9	4.3	6.4	13.3	1.0	1.8	1.3	15.3	1.3	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	36.8	26.6	48.4	34.5	14.5	26.3	24.3	105.1	20.8	24.9	25.8
LnGrp LOS	D	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1241			2063			782			285	
Approach Delay, s/veh		35.1			37.4			70.4			23.8	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	24.6	19.0	27.2	9.6	24.2	8.2	38.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	19.3	14.5	23.2	5.1	19.2	5.0	32.7				
Max Q Clear Time (g_c+I1), s	5.3	22.1	14.8	21.7	7.1	6.1	4.6	32.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.7	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1010	211	495	1045	143	340	141	593	98	85	81
Future Volume (veh/h)	69	1010	211	495	1045	143	340	141	593	98	85	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	1098	229	538	1136	155	370	153	645	107	92	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1086	484	557	1466	654	481	520	440	316	434	374
Arrive On Green	0.05	0.31	0.31	0.16	0.41	0.41	0.03	0.09	0.09	0.06	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1807	1559
Grp Volume(v), veh/h	75	1098	229	538	1136	155	370	153	645	107	90	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1590
Q Serve(g_s), s	3.7	27.5	10.6	13.9	24.8	5.7	8.4	6.9	25.0	4.1	3.7	4.1
Cycle Q Clear(g_c), s	3.7	27.5	10.6	13.9	24.8	5.7	8.4	6.9	25.0	4.1	3.7	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	96	1086	484	557	1466	654	481	520	440	316	426	382
V/C Ratio(X)	0.78	1.01	0.47	0.97	0.77	0.24	0.77	0.29	1.46	0.34	0.21	0.24
Avail Cap(c_a), veh/h	129	1086	484	557	1466	654	481	520	440	316	426	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	31.3	25.4	37.5	22.8	17.2	28.9	32.6	40.9	23.8	27.4	27.5
Incr Delay (d2), s/veh	17.1	28.4	0.6	29.7	2.7	0.2	6.9	1.3	220.5	0.6	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	15.1	3.8	7.8	9.8	1.9	3.7	3.3	37.4	1.7	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	59.7	26.0	67.2	25.5	17.4	35.8	34.0	261.3	24.5	28.5	29.0
LnGrp LOS	E	F	C	E	C	B	D	C	F	C	C	C
Approach Vol, veh/h	1402		1829				1168			287		
Approach Delay, s/veh	54.1		37.1				160.1			27.2		
Approach LOS	D		D				F			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	29.5	19.0	32.0	12.9	26.1	9.4	41.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	25.0	14.5	27.5	8.4	21.6	6.5	35.5				
Max Q Clear Time (g_c+I1), s	6.1	27.0	15.9	29.5	10.4	6.1	5.7	26.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			72.2									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Future Volume (veh/h)	92	630	571	29	1236	639	163	0	519	41	0	564
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	100	685	621	32	1343	695	177	0	564	45	0	613
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	111	1446	645	49	1321	589	808	0	0	808	0	0
Arrive On Green	0.06	0.41	0.41	0.03	0.37	0.37	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	177		1781	45	
Grp Volume(v), veh/h	100	685	621	32	1343	695	177	20.0		45	18.4	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	C		1781	B	
Q Serve(g_s), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Cycle Q Clear(g_c), s	6.7	17.0	45.9	2.1	44.6	44.6	7.2			1.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	111	1446	645	49	1321	589	808			808		
V/C Ratio(X)	0.90	0.47	0.96	0.66	1.02	1.18	0.22			0.06		
Avail Cap(c_a), veh/h	111	1446	645	94	1321	589	808			808		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	55.9	26.2	34.7	57.8	37.7	37.7	19.9			18.4		
Incr Delay (d2), s/veh	54.7	0.2	26.4	14.0	29.0	97.5	0.1			0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.6	6.9	21.3	1.1	23.6	32.3	2.9			0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.5	26.4	61.2	71.9	66.7	135.2	20.0			18.4		
LnGrp LOS	F	C	E	E	F	F	C			B		
Approach Vol, veh/h	1406			2070								
Approach Delay, s/veh	47.7			89.8								
Approach LOS	D			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	58.9		7.8	53.3	58.9		12.0	49.1				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	8.6		6.3	45.8	12.5		7.5	44.6				
Max Q Clear Time (g_c+I1), s	3.7		4.1	47.9	9.2		8.7	46.6				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	69.6											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/10/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1129	492	32	924	428	123	0	821	77	0	591
Future Volume (veh/h)	154	1129	492	32	924	428	123	0	821	77	0	591
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	167	1227	535	35	1004	465	134	0	892	84	0	642
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	183	1300	580	55	1045	466	834	0	0	834	0	0
Arrive On Green	0.10	0.37	0.37	0.03	0.29	0.29	0.47	0.00	0.00	0.47	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	134		1781	84	
Grp Volume(v), veh/h	167	1227	535	35	1004	465	134	15.4		84	14.9	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	9.3	33.4	32.3	1.9	27.8	29.3	4.3			2.6		
Cycle Q Clear(g_c), s	9.3	33.4	32.3	1.9	27.8	29.3	4.3			2.6		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	183	1300	580	55	1045	466	834			834		
V/C Ratio(X)	0.91	0.94	0.92	0.63	0.96	1.00	0.16			0.10		
Avail Cap(c_a), veh/h	183	1300	580	89	1045	466	834			834		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	44.4	30.7	30.3	47.9	34.7	35.3	15.3			14.9		
Incr Delay (d2), s/veh	41.9	13.7	20.4	11.3	19.1	41.1	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	6.1	15.6	14.6	1.0	14.0	15.9	1.6			1.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.3	44.4	50.8	59.2	53.8	76.4	15.4			14.9		
LnGrp LOS	F	D	D	E	D	E	B			B		
Approach Vol, veh/h	1929			1504								
Approach Delay, s/veh	49.8			60.9								
Approach LOS	D			E								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	51.3		7.6	41.1	51.3		14.8	33.9				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	7.5		5.0	34.7	8.5		10.3	29.4				
Max Q Clear Time (g_c+I1), s	4.6		3.9	35.4	6.3		11.3	31.3				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	52.3											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Future Volume (vph)	201	2	197	1	0	0	290	528	2	0	476	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95			0.95	1.00
Frt	1.00	0.92	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.98	1.00		0.95		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1528	1504		1770		1770	3537			3539	1583
Flt Permitted	0.95	0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1528	1504		1863		1770	3537			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	2	214	1	0	0	315	574	2	0	517	327
RTOR Reduction (vph)	0	46	118	0	0	0	0	0	0	0	0	201
Lane Group Flow (vph)	150	99	21	0	1	0	315	576	0	0	517	126
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Effective Green, g (s)	13.4	13.4	13.4		1.2		22.6	61.9			34.8	34.8
Actuated g/C Ratio	0.15	0.15	0.15		0.01		0.25	0.69			0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	250	227	223		24		444	2432			1368	612
v/s Ratio Prot	c0.09	0.06					c0.18	0.16			c0.15	
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio	0.60	0.44	0.09		0.04		0.71	0.24			0.38	0.21
Uniform Delay, d1	35.8	34.9	33.1		43.8		30.7	5.2			19.8	18.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.8	1.3	0.2		0.7		5.1	0.2			0.8	0.8
Delay (s)	39.6	36.2	33.2		44.5		35.9	5.5			20.6	19.2
Level of Service	D	D	C		D		D	A			C	B
Approach Delay (s)		36.4			44.5			16.2			20.1	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.8				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			50.1%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	333	0	260	4	9	1	292	708	2	1	490	233
Future Volume (vph)	333	0	260	4	9	1	292	708	2	1	490	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1553	1504		1822		1770	3538		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.36	1.00	1.00
Satd. Flow (perm)	1681	1553	1504		1846		1770	3538		669	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	362	0	283	4	10	1	317	770	2	1	533	253
RTOR Reduction (vph)	0	105	168	0	1	0	0	0	0	0	0	161
Lane Group Flow (vph)	224	112	36	0	14	0	317	772	0	1	533	92
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	15.9	15.9	15.9		1.6		22.8	59.0		31.7	31.7	31.7
Effective Green, g (s)	15.9	15.9	15.9		1.6		22.8	59.0		31.7	31.7	31.7
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.25	0.66		0.35	0.35	0.35
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	296	274	265		32		448	2319		235	1246	557
v/s Ratio Prot	c0.13	0.07					c0.18	0.22			c0.15	
v/s Ratio Perm			0.02		c0.01					0.00		0.06
v/c Ratio	0.76	0.41	0.14		0.44		0.71	0.33		0.00	0.43	0.17
Uniform Delay, d1	35.2	32.9	31.3		43.8		30.6	6.8		18.9	22.2	20.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		0.45	0.44	0.49
Incremental Delay, d2	10.5	1.0	0.2		9.3		5.1	0.4		0.0	0.7	0.4
Delay (s)	45.7	33.9	31.5		53.1		35.6	7.2		8.5	10.4	10.2
Level of Service	D	C	C		D		D	A		A	B	B
Approach Delay (s)		37.2			53.1			15.5			10.4	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			19.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			59.5%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 6: Foothill Blvd & Indian Hill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Future Volume (veh/h)	123	780	172	118	876	182	231	362	103	281	540	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	848	187	128	952	198	251	393	112	305	587	227
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	834	184	141	1005	448	257	767	216	336	607	514
Arrive On Green	0.08	0.29	0.29	0.08	0.28	0.28	0.14	0.28	0.28	0.19	0.32	0.32
Sat Flow, veh/h	1781	2894	638	1781	3554	1585	1781	2737	771	1781	1870	1585
Grp Volume(v), veh/h	134	521	514	128	952	198	251	254	251	305	587	227
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	1781	1777	1732	1781	1870	1585
Q Serve(g_s), s	8.2	31.7	31.7	7.8	28.9	11.3	15.4	13.2	13.4	18.4	34.0	12.4
Cycle Q Clear(g_c), s	8.2	31.7	31.7	7.8	28.9	11.3	15.4	13.2	13.4	18.4	34.0	12.4
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	151	512	506	141	1005	448	257	498	485	336	607	514
V/C Ratio(X)	0.89	1.02	1.02	0.91	0.95	0.44	0.97	0.51	0.52	0.91	0.97	0.44
Avail Cap(c_a), veh/h	151	512	506	141	1005	448	257	498	485	387	607	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	49.8	39.2	39.2	50.3	38.7	32.3	46.9	33.2	33.3	43.7	36.6	29.3
Incr Delay (d2), s/veh	42.8	44.0	44.3	49.4	17.2	0.7	48.9	3.7	3.9	18.1	24.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	19.5	19.3	5.4	14.5	4.3	10.2	6.1	6.1	9.8	19.3	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.7	83.2	83.5	99.7	55.8	33.0	95.8	36.9	37.2	61.8	60.9	31.3
LnGrp LOS	F	F	F	F	E	C	F	D	D	E	E	C
Approach Vol, veh/h		1169			1278			756			1119	
Approach Delay, s/veh		84.4			56.7			56.6			55.1	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	35.3	13.2	36.2	20.4	40.2	13.8	35.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.9	27.7	8.7	31.7	15.9	35.7	9.3	31.1				
Max Q Clear Time (g_c+I1), s	20.4	15.4	9.8	33.7	17.4	36.0	10.2	30.9				
Green Ext Time (p_c), s	0.3	2.3	0.0	0.0	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			63.8									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	972	243	127	931	182	285	453	127	170	314	121
Future Volume (veh/h)	105	972	243	127	931	182	285	453	127	170	314	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	1057	264	138	1012	198	310	492	138	185	341	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1024	254	151	1309	584	315	686	191	218	365	309
Arrive On Green	0.08	0.36	0.36	0.09	0.37	0.37	0.18	0.25	0.25	0.12	0.19	0.19
Sat Flow, veh/h	1781	2820	701	1781	3554	1585	1781	2744	765	1781	1870	1585
Grp Volume(v), veh/h	114	664	657	138	1012	198	310	318	312	185	341	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1585	1781	1777	1733	1781	1870	1585
Q Serve(g_s), s	6.3	36.3	36.3	7.7	25.2	9.0	17.3	16.3	16.5	10.2	17.9	7.3
Cycle Q Clear(g_c), s	6.3	36.3	36.3	7.7	25.2	9.0	17.3	16.3	16.5	10.2	17.9	7.3
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	142	645	633	151	1309	584	315	444	433	218	365	309
V/C Ratio(X)	0.80	1.03	1.04	0.91	0.77	0.34	0.98	0.72	0.72	0.85	0.93	0.43
Avail Cap(c_a), veh/h	169	645	633	151	1309	584	315	444	433	258	365	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	45.2	31.8	31.9	45.4	27.9	22.8	41.0	34.3	34.3	43.0	39.6	35.3
Incr Delay (d2), s/veh	20.5	43.1	46.0	47.9	2.9	0.3	46.0	9.5	10.0	16.7	28.7	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	22.2	22.3	5.3	10.6	3.3	11.4	8.0	8.0	5.4	11.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	74.9	77.8	93.2	30.8	23.1	87.0	43.7	44.3	59.7	68.3	38.8
LnGrp LOS	E	F	F	F	C	C	F	D	D	E	E	D
Approach Vol, veh/h	1435			1348			940			658		
Approach Delay, s/veh	75.5			36.1			58.2			60.0		
Approach LOS	E			D			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	29.5	13.0	40.8	22.2	24.0	12.5	41.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	22.7	8.5	36.3	17.7	19.5	9.5	35.3				
Max Q Clear Time (g_c+I1), s	12.2	18.5	9.7	38.3	19.3	19.9	8.3	27.2				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.0	0.0	0.0	0.0	4.4				
Intersection Summary												
HCM 6th Ctrl Delay	57.3											
HCM 6th LOS	E											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Future Vol, veh/h	21	1140	80	123	1281	10	1	0	92	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1239	87	134	1392	11	1	0	100	0	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1403	0	0	1326	0	0	2249	2956	620	2326	3032	696
Stage 1	-	-	-	-	-	-	1285	1285	-	1660	1660	-
Stage 2	-	-	-	-	-	-	964	1671	-	666	1372	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	483	-	-	517	-	-	23	14	431	20	13	384
Stage 1	-	-	-	-	-	-	174	233	-	101	153	-
Stage 2	-	-	-	-	-	-	274	151	-	415	212	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	483	-	-	517	-	-	17	10	431	12	9	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	10	-	12	9	-
Stage 1	-	-	-	-	-	-	166	222	-	96	113	-
Stage 2	-	-	-	-	-	-	198	112	-	304	202	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.3			19.9			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	483	-	-	517	-	-	384
HCM Lane V/C Ratio	0.296	0.047	-	-	0.259	-	-	0.023
HCM Control Delay (s)	19.9	12.8	-	-	14.4	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	1	-	-	0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1245	60	74	1252	5	0	0	122	0	0	27
Future Vol, veh/h	21	1245	60	74	1252	5	0	0	122	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1353	65	80	1361	5	0	0	133	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1366	0	0	1418	0	0	2240	2925	677	2244	2985	681
Stage 1	-	-	-	-	-	-	1399	1399	-	1521	1521	-
Stage 2	-	-	-	-	-	-	841	1526	-	723	1464	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	499	-	-	476	-	-	23	15	395	23	14	393
Stage 1	-	-	-	-	-	-	148	206	-	124	179	-
Stage 2	-	-	-	-	-	-	326	178	-	384	191	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	499	-	-	476	-	-	18	12	395	13	11	393
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	12	-	13	11	-
Stage 1	-	-	-	-	-	-	141	197	-	118	149	-
Stage 2	-	-	-	-	-	-	251	148	-	243	182	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			18.7			14.9		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	499	-	-	476	-	-	393
HCM Lane V/C Ratio	0.336	0.046	-	-	0.169	-	-	0.075
HCM Control Delay (s)	18.7	12.6	-	-	14.1	-	-	14.9
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.6	-	-	0.2

HCM 6th Signalized Intersection Summary 8: Dartmouth Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Future Volume (veh/h)	4	1151	82	70	1404	11	11	3	17	12	7	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1251	89	76	1526	12	12	3	18	13	8	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1862	831	228	1893	15	232	82	278	389	218	0
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	337	3554	1585	408	3614	28	460	252	854	894	668	0
Grp Volume(v), veh/h	4	1251	89	76	750	788	33	0	0	21	0	0
Grp Sat Flow(s),veh/h/ln	337	1777	1585	408	1777	1865	1565	0	0	1562	0	0
Q Serve(g_s), s	0.6	15.5	1.7	10.1	20.9	20.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.5	15.5	1.7	25.6	20.9	20.9	0.8	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.36		0.55	0.62		0.00
Lane Grp Cap(c), veh/h	179	1862	831	228	931	977	592	0	0	606	0	0
V/C Ratio(X)	0.02	0.67	0.11	0.33	0.81	0.81	0.06	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	185	1925	859	235	962	1010	592	0	0	606	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.6	10.5	7.2	19.9	11.8	11.8	13.9	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.1	0.3	2.1	2.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	0.4	0.9	6.5	6.8	0.3	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	11.4	7.3	20.2	13.9	13.8	14.1	0.0	0.0	13.9	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1344			1614			33			21		
Approach Delay, s/veh	11.1			14.1			14.1			13.9		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.1			35.9			24.1			35.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	2.8			23.5			2.5			27.6		
Green Ext Time (p_c), s	0.1			5.5			0.0			3.8		
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1533	21	13	1272	13	85	10	83	28	8	0
Future Volume (veh/h)	9	1533	21	13	1272	13	85	10	83	28	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1666	23	14	1383	14	92	11	90	30	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1883	840	154	1910	19	292	58	229	450	122	0
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.32	0.32	0.32	0.32	0.32	0.00
Sat Flow, veh/h	386	3554	1585	298	3604	36	636	181	714	1074	381	0
Grp Volume(v), veh/h	10	1666	23	14	682	715	193	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	386	1777	1585	298	1777	1864	1532	0	0	1454	0	0
Q Serve(g_s), s	1.2	24.9	0.4	2.6	17.5	17.6	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.8	24.9	0.4	27.5	17.5	17.6	5.6	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.48		0.47	0.77		0.00
Lane Grp Cap(c), veh/h	212	1883	840	154	942	988	579	0	0	571	0	0
V/C Ratio(X)	0.05	0.88	0.03	0.09	0.72	0.72	0.33	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	216	1925	859	158	962	1010	579	0	0	571	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	12.5	6.7	24.6	10.8	10.8	15.7	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	5.2	0.0	0.1	1.3	1.2	1.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.1	0.1	0.2	5.8	6.1	2.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	17.7	6.7	24.8	12.0	12.0	17.3	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1699				1411				193			
Approach Delay, s/veh	17.6				12.1				17.3			
Approach LOS	B				B				B			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.7			36.3			23.7			36.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+l1), s	7.6			26.9			2.9			29.5		
Green Ext Time (p_c), s	0.8			4.6			0.1			2.3		
Intersection Summary												
HCM 6th Ctrl Delay	15.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Future Volume (veh/h)	190	911	10	11	1102	119	5	2	17	147	5	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	990	11	12	1198	129	5	2	18	160	5	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1668	19	26	1244	555	239	85	343	188	696	590
Arrive On Green	0.13	0.46	0.46	0.01	0.35	0.35	0.22	0.22	0.22	0.11	0.37	0.37
Sat Flow, veh/h	1781	3600	40	1781	3554	1585	785	391	1585	1781	1870	1585
Grp Volume(v), veh/h	207	489	512	12	1198	129	7	0	18	160	5	387
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1175	0	1585	1781	1870	1585
Q Serve(g_s), s	10.3	18.3	18.3	0.6	29.8	5.2	0.0	0.0	0.8	7.9	0.2	18.3
Cycle Q Clear(g_c), s	10.3	18.3	18.3	0.6	29.8	5.2	0.3	0.0	0.8	7.9	0.2	18.3
Prop In Lane	1.00		0.02	1.00		1.00	0.71		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	823	863	26	1244	555	323	0	343	188	696	590
V/C Ratio(X)	0.91	0.59	0.59	0.47	0.96	0.23	0.02	0.00	0.05	0.85	0.01	0.66
Avail Cap(c_a), veh/h	228	823	863	99	1244	555	323	0	343	188	696	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.46	0.46	0.46	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	38.7	17.9	17.9	44.0	28.7	20.7	27.7	0.0	27.9	39.6	17.8	23.5
Incr Delay (d2), s/veh	27.9	0.8	0.8	6.0	10.2	0.1	0.1	0.0	0.3	26.2	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	7.0	7.3	0.3	13.4	1.8	0.1	0.0	0.3	4.7	0.1	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	18.7	18.6	50.0	38.9	20.8	27.8	0.0	28.2	65.8	17.8	28.4
LnGrp LOS	E	B	B	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h		1208			1339			25			552	
Approach Delay, s/veh		26.9			37.2			28.1			39.1	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	14.0	24.0	5.8	46.2		38.0	16.0	36.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.5	5.0	38.0		33.5	11.5	31.5				
Max Q Clear Time (g_c+I1), s	9.9	2.8	2.6	20.3		20.3	12.3	31.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8		1.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1244	11	39	1029	163	16	8	27	122	5	187
Future Volume (veh/h)	183	1244	11	39	1029	163	16	8	27	122	5	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1352	12	42	1118	177	17	9	29	133	5	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	1578	14	64	1216	543	263	126	372	164	705	597
Arrive On Green	0.13	0.44	0.44	0.04	0.34	0.34	0.23	0.23	0.23	0.09	0.38	0.38
Sat Flow, veh/h	1781	3609	32	1781	3554	1585	837	537	1585	1781	1870	1585
Grp Volume(v), veh/h	199	665	699	42	1118	177	26	0	29	133	5	203
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1374	0	1585	1781	1870	1585
Q Serve(g_s), s	9.8	30.3	30.4	2.1	27.2	7.4	0.0	0.0	1.3	6.6	0.2	8.2
Cycle Q Clear(g_c), s	9.8	30.3	30.4	2.1	27.2	7.4	1.0	0.0	1.3	6.6	0.2	8.2
Prop In Lane	1.00		0.02	1.00		1.00	0.65		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	777	815	64	1216	543	389	0	372	164	705	597
V/C Ratio(X)	0.85	0.86	0.86	0.65	0.92	0.33	0.07	0.00	0.08	0.81	0.01	0.34
Avail Cap(c_a), veh/h	247	777	815	101	1244	555	389	0	372	168	705	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.68	0.68	0.68	1.00	0.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	38.3	22.8	22.8	42.8	28.4	21.9	26.7	0.0	26.8	40.1	17.5	20.0
Incr Delay (d2), s/veh	10.0	3.8	3.6	7.4	7.9	0.2	0.3	0.0	0.4	21.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	12.2	12.8	1.0	12.0	2.6	0.5	0.0	0.5	3.7	0.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	26.5	26.4	50.2	36.3	22.2	27.1	0.0	27.3	61.2	17.5	21.3
LnGrp LOS	D	C	C	D	D	C	C	A	C	E	B	C
Approach Vol, veh/h	1563				1337				55			
Approach Delay, s/veh	29.2				34.9				27.2			
Approach LOS	C				C				C			
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.8	25.6	7.8	43.8		38.4	16.3	35.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	19.5	5.1	38.9		32.5	12.5	31.5				
Max Q Clear Time (g_c+I1), s	8.6	3.3	4.1	32.4		10.2	11.8	29.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.2		0.6	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay	32.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Future Volume (veh/h)	156	793	127	135	964	45	238	336	167	58	284	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	862	138	147	1048	49	259	365	182	63	309	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1197	534	186	1146	511	696	771	378	297	869	295
Arrive On Green	0.12	0.34	0.34	0.10	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1882	2310	1133	860	2604	884
Grp Volume(v), veh/h	170	862	138	147	1048	49	259	279	268	63	209	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	941	1777	1666	860	1777	1711
Q Serve(g_s), s	5.6	12.7	3.8	4.8	17.0	1.3	7.3	7.5	7.6	3.8	5.3	5.5
Cycle Q Clear(g_c), s	5.6	12.7	3.8	4.8	17.0	1.3	12.8	7.5	7.6	11.4	5.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.52
Lane Grp Cap(c), veh/h	212	1197	534	186	1146	511	696	593	556	297	593	571
V/C Ratio(X)	0.80	0.72	0.26	0.79	0.91	0.10	0.37	0.47	0.48	0.21	0.35	0.36
Avail Cap(c_a), veh/h	223	1197	534	229	1155	515	696	593	556	297	593	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	17.4	14.5	26.2	19.5	14.2	20.0	15.8	15.9	20.4	15.1	15.1
Incr Delay (d2), s/veh	14.6	1.7	0.2	13.9	11.2	0.1	1.5	2.6	2.9	1.6	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.7	1.2	2.6	7.7	0.4	1.5	3.0	2.9	0.8	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	19.1	14.7	40.2	30.7	14.3	21.5	18.4	18.8	22.0	16.7	16.9
LnGrp LOS	D	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		1170			1244			806			479	
Approach Delay, s/veh		21.7			31.2			19.5			17.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5	10.8	24.7		24.5	11.6	23.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	7.7	19.3		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		14.8	6.8	14.7		13.4	7.6	19.0				
Green Ext Time (p_c), s		2.0	0.0	2.4		1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1178	183	110	837	47	186	266	119	102	258	117
Future Volume (veh/h)	150	1178	183	110	837	47	186	266	119	102	258	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	1280	199	120	910	51	202	289	129	111	280	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	1416	632	153	1315	586	627	742	323	315	738	326
Arrive On Green	0.11	0.40	0.40	0.09	0.37	0.37	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1898	2409	1049	969	2397	1059
Grp Volume(v), veh/h	163	1280	199	120	910	51	202	211	207	111	206	201
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	949	1777	1681	969	1777	1680
Q Serve(g_s), s	5.8	22.0	5.6	4.3	14.1	1.4	6.1	6.1	6.3	6.6	5.9	6.1
Cycle Q Clear(g_c), s	5.8	22.0	5.6	4.3	14.1	1.4	12.2	6.1	6.3	12.9	5.9	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.62	1.00		0.63
Lane Grp Cap(c), veh/h	204	1416	632	153	1315	586	627	547	518	315	547	517
V/C Ratio(X)	0.80	0.90	0.32	0.79	0.69	0.09	0.32	0.39	0.40	0.35	0.38	0.39
Avail Cap(c_a), veh/h	247	1449	646	178	1315	586	627	547	518	315	547	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	18.4	13.4	29.1	17.3	13.3	22.5	17.7	17.7	22.9	17.6	17.7
Incr Delay (d2), s/veh	7.5	4.3	0.1	17.8	1.6	0.1	1.3	2.0	2.2	3.1	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.4	1.7	2.4	5.2	0.4	1.3	2.5	2.5	1.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	22.7	13.6	46.9	18.9	13.4	23.8	19.7	20.0	25.9	19.6	19.9
LnGrp LOS	D	C	B	D	B	B	C	B	B	C	B	B
Approach Vol, veh/h	1642			1081			620			518		
Approach Delay, s/veh	22.9			21.8			21.1			21.1		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	24.5		10.1	30.4		24.5		11.9	28.5			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	18.5		6.5	26.5		18.5		9.0	24.0			
Max Q Clear Time (g_c+I1), s	14.2		6.3	24.0		14.9		7.8	16.1			
Green Ext Time (p_c), s	1.4		0.0	1.9		1.0		0.0	3.7			
Intersection Summary												
HCM 6th Ctrl Delay	22.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Future Volume (veh/h)	113	625	274	108	805	165	255	605	123	107	500	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	658	288	114	847	174	268	637	129	113	526	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	1011	451	236	973	434	273	1048	467	235	1281	184
Arrive On Green	0.08	0.28	0.28	0.07	0.27	0.27	0.08	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4508	649
Grp Volume(v), veh/h	119	658	288	114	847	174	268	637	129	113	395	208
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1753
Q Serve(g_s), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Cycle Q Clear(g_c), s	4.2	10.3	10.1	2.0	14.4	5.7	4.9	9.8	4.0	2.0	6.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	141	1011	451	236	973	434	273	1048	467	235	967	498
V/C Ratio(X)	0.85	0.65	0.64	0.48	0.87	0.40	0.98	0.61	0.28	0.48	0.41	0.42
Avail Cap(c_a), veh/h	141	1011	451	273	1010	450	273	1048	467	273	967	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	19.9	19.8	28.4	21.9	18.8	29.1	19.2	17.1	28.4	18.4	18.4
Incr Delay (d2), s/veh	35.4	1.5	3.0	1.5	8.1	0.6	49.5	2.6	1.5	1.5	1.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.9	3.6	0.8	6.3	1.9	3.7	3.8	1.5	0.8	2.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	21.4	22.8	30.0	30.1	19.4	78.6	21.8	18.6	30.0	19.6	21.0
LnGrp LOS	E	C	C	C	C	B	E	C	B	C	B	C
Approach Vol, veh/h		1065			1135			1034			716	
Approach Delay, s/veh		26.6			28.4			36.1			21.7	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	23.2	8.8	22.5	9.5	22.5	9.5	21.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.0	11.8	4.0	12.3	6.9	8.1	6.2	16.4				
Green Ext Time (p_c), s	0.0	2.3	0.0	2.5	0.0	2.5	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1039	255	167	711	306	179	516	143	197	619	71
Future Volume (veh/h)	164	1039	255	167	711	306	179	516	143	197	619	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	1094	268	176	748	322	188	543	151	207	652	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1000	446	267	997	445	270	1000	446	270	1309	149
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4649	530
Grp Volume(v), veh/h	173	1094	268	176	748	322	188	543	151	207	476	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1775
Q Serve(g_s), s	5.0	18.0	9.3	3.2	12.3	11.7	3.4	8.3	4.8	3.8	7.5	7.6
Cycle Q Clear(g_c), s	5.0	18.0	9.3	3.2	12.3	11.7	3.4	8.3	4.8	3.8	7.5	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	139	1000	446	267	997	445	270	1000	446	270	958	500
V/C Ratio(X)	1.24	1.09	0.60	0.66	0.75	0.72	0.70	0.54	0.34	0.77	0.50	0.50
Avail Cap(c_a), veh/h	139	1000	446	270	1000	446	270	1000	446	270	958	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	23.0	19.9	28.7	21.0	20.8	28.7	19.5	18.2	28.9	19.2	19.2
Incr Delay (d2), s/veh	155.4	57.5	2.2	5.7	3.2	5.7	7.5	2.1	2.0	12.4	1.8	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	14.5	3.3	1.4	4.9	4.5	1.6	3.2	1.8	1.9	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.8	80.5	22.1	34.4	24.1	26.5	36.3	21.6	20.3	41.3	21.0	22.8
LnGrp LOS	F	F	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h	1535		1246				882		934			
Approach Delay, s/veh	82.0		26.2				24.5		26.0			
Approach LOS	F		C				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.5	9.4	22.5	9.5	22.5	9.5	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	10.3	5.2	20.0	5.4	9.6	7.0	14.3				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	2.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			44.5									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Future Volume (vph)	4	575	255	168	893	0	389	0	137	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1603	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	605	268	177	940	0	409	0	144	0	0	1
RTOR Reduction (vph)	0	0	185	0	0	0	0	105	91	0	1	0
Lane Group Flow (vph)	4	605	83	177	940	0	213	105	39	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Effective Green, g (s)	0.8	18.8	18.8	5.1	23.1		18.2	18.2	18.2		0.9	
Actuated g/C Ratio	0.01	0.31	0.31	0.08	0.38		0.30	0.30	0.30		0.01	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	23	1090	487	287	1340		501	478	448		44	
v/s Ratio Prot	0.00	0.17		c0.05	c0.27		c0.13	0.07			c0.00	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.17	0.56	0.17	0.62	0.70		0.43	0.22	0.09		0.00	
Uniform Delay, d1	29.8	17.6	15.4	27.0	16.0		17.2	16.1	15.4		29.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.6	0.2	3.9	1.7		2.6	1.1	0.4		0.0	
Delay (s)	33.4	18.2	15.6	30.9	17.7		19.8	17.1	15.8		29.6	
Level of Service	C	B	B	C	B		B	B	B		C	
Approach Delay (s)		17.5			19.8			17.9			29.6	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			18.6			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			61.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			58.9%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1076	559	282	699	1	553	2	537	0	2	0
Future Volume (vph)	4	1076	559	282	699	1	553	2	537	0	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.92	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3538		1681	1525	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	1133	588	297	736	1	582	2	565	0	2	0
RTOR Reduction (vph)	0	0	245	0	0	0	0	49	260	0	0	0
Lane Group Flow (vph)	4	1133	343	297	737	0	402	336	102	0	2	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	431	425		55	
v/s Ratio Prot	0.00	c0.32		c0.09	c0.21		c0.24	0.22			c0.00	
v/s Ratio Perm			0.22						0.07			
v/c Ratio	0.17	0.94	0.63	1.11	0.51		0.85	0.78	0.24		0.04	
Uniform Delay, d1	31.2	20.4	17.7	29.5	14.3		21.6	21.1	17.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.3	13.2	2.4	87.1	0.3		16.8	13.1	1.3		0.3	
Delay (s)	34.5	33.5	20.1	116.6	14.6		38.4	34.2	19.0		31.3	
Level of Service	C	C	C	F	B		D	C	B		C	
Approach Delay (s)		29.0			43.9			30.9			31.3	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			33.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			76.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	54.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Future Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	78	5	34	4	776	99	54	850	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1812	1842	851	1837	1794	826	852	0	0	875	0	0
Stage 1	959	959	-	834	834	-	-	-	-	-	-	-
Stage 2	853	883	-	1003	960	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	75	360	~ 58	80	372	787	-	-	771	-	-
Stage 1	309	335	-	362	383	-	-	-	-	-	-	-
Stage 2	354	364	-	292	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	49	69	360	~ 33	74	372	787	-	-	771	-	-
Mov Cap-2 Maneuver	49	69	-	~ 33	74	-	-	-	-	-	-	-
Stage 1	307	312	-	360	381	-	-	-	-	-	-	-
Stage 2	316	362	-	206	312	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	46		\$ 892.7		0		0.6					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	787	-	-	172	46	771	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.512	2.552	0.07	-	-				
HCM Control Delay (s)	9.6	-	-	46	\$ 892.7	10	-	-				
HCM Lane LOS	A	-	-	E	F	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	2.5	12.5	0.2	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	85.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	7	5	88	12	115	7	737	71	91	653	1
Future Vol, veh/h	4	7	5	88	12	115	7	737	71	91	653	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	96	13	125	8	801	77	99	710	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1834	1803	711	1771	1765	840	711	0	0	878	0	0
Stage 1	909	909	-	856	856	-	-	-	-	-	-	-
Stage 2	925	894	-	915	909	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	79	433	~ 65	84	365	888	-	-	769	-	-
Stage 1	329	354	-	352	374	-	-	-	-	-	-	-
Stage 2	323	360	-	327	354	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	30	68	433	~ 53	72	365	888	-	-	769	-	-
Mov Cap-2 Maneuver	30	68	-	~ 53	72	-	-	-	-	-	-	-
Stage 1	326	308	-	349	371	-	-	-	-	-	-	-
Stage 2	203	357	-	274	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	79.5	\$ 700.1	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	65 100	769	-	-
HCM Lane V/C Ratio	0.009	-	-	0.268 2.337	0.129	-	-
HCM Control Delay (s)	9.1	-	-	79.5\$ 700.1	10.4	-	-
HCM Lane LOS	A	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9 20.9	0.4	-	-

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

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Future Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	230	33	50	143	20	73	236	87	22	173	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.3	14.3	21.4	14.4
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	20%	23%	9%
Vol Thru, %	60%	70%	67%	74%
Vol Right, %	22%	10%	9%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	301	196	215
LT Vol	67	59	46	20
Through Vol	217	212	132	159
RT Vol	80	30	18	36
Lane Flow Rate	396	327	213	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.679	0.586	0.399	0.425
Departure Headway (Hd)	6.174	6.444	6.744	6.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	582	556	530	547
Service Time	4.239	4.513	4.823	4.629
HCM Lane V/C Ratio	0.68	0.588	0.402	0.428
HCM Control Delay	21.4	18.3	14.3	14.4
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	5.2	3.8	1.9	2.1

Intersection

Intersection Delay, s/veh 44.1
Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	208	57	99	279	23	72	155	74	21	222	59
Future Vol, veh/h	40	208	57	99	279	23	72	155	74	21	222	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	226	62	108	303	25	78	168	80	23	241	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	34.7	65.8	34.4	34.6
HCM LOS	D	F	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	13%	25%	7%
Vol Thru, %	51%	68%	70%	74%
Vol Right, %	25%	19%	6%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	305	401	302
LT Vol	72	40	99	21
Through Vol	155	208	279	222
RT Vol	74	57	23	59
Lane Flow Rate	327	332	436	328
Geometry Grp	1	1	1	1
Degree of Util (X)	0.766	0.771	0.976	0.768
Departure Headway (Hd)	8.429	8.376	8.065	8.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	429	431	449	427
Service Time	6.514	6.462	6.143	6.506
HCM Lane V/C Ratio	0.762	0.77	0.971	0.768
HCM Control Delay	34.4	34.7	65.8	34.6
HCM Lane LOS	D	D	F	D
HCM 95th-tile Q	6.5	6.6	12.1	6.5

Intersection

Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Future Vol, veh/h	2	238	12	13	256	0	13	0	8	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	259	13	14	278	0	14	0	9	1	1	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.5	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	1%	5%	33%
Vol Thru, %	0%	94%	95%	33%
Vol Right, %	38%	5%	0%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	252	269	3
LT Vol	13	2	13	1
Through Vol	0	238	256	1
RT Vol	8	12	0	1
Lane Flow Rate	23	274	292	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.317	0.341	0.005
Departure Headway (Hd)	5.048	4.171	4.194	5.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	846	845	712
Service Time	3.05	2.269	2.285	3.054
HCM Lane V/C Ratio	0.032	0.324	0.346	0.004
HCM Control Delay	8.2	9.2	9.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.4	1.5	0

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	372	29	22	364	7	16	2	13	4	2	3
Future Vol, veh/h	2	372	29	22	364	7	16	2	13	4	2	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	404	32	24	396	8	17	2	14	4	2	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	12.6	9	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	6%	44%
Vol Thru, %	6%	92%	93%	22%
Vol Right, %	42%	7%	2%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	403	393	9
LT Vol	16	2	22	4
Through Vol	2	372	364	2
RT Vol	13	29	7	3
Lane Flow Rate	34	438	427	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.542	0.535	0.016
Departure Headway (Hd)	5.652	4.458	4.507	5.744
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	810	799	619
Service Time	3.72	2.488	2.537	3.816
HCM Lane V/C Ratio	0.054	0.541	0.534	0.016
HCM Control Delay	9	12.7	12.6	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	3.3	3.2	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Future Volume (veh/h)	81	309	20	270	221	124	37	617	139	46	423	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	325	21	284	233	131	39	649	146	48	445	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	383	25	361	379	321	316	769	173	221	885	91
Arrive On Green	0.22	0.22	0.22	0.20	0.20	0.20	0.04	0.27	0.27	0.04	0.27	0.27
Sat Flow, veh/h	1781	1738	112	1781	1870	1585	1781	2883	648	1781	3252	335
Grp Volume(v), veh/h	85	0	346	284	233	131	39	400	395	48	242	249
Grp Sat Flow(s),veh/h/ln	1781	0	1850	1781	1870	1585	1781	1777	1754	1781	1777	1810
Q Serve(g_s), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Cycle Q Clear(g_c), s	2.6	0.0	12.1	10.2	7.7	4.9	1.1	14.4	14.4	1.3	7.8	7.8
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	393	0	408	361	379	321	316	474	468	221	484	493
V/C Ratio(X)	0.22	0.00	0.85	0.79	0.62	0.41	0.12	0.84	0.85	0.22	0.50	0.50
Avail Cap(c_a), veh/h	475	0	493	475	499	423	380	474	468	275	484	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	25.2	25.5	24.5	23.4	17.1	23.4	23.4	18.1	20.7	20.7
Incr Delay (d2), s/veh	0.3	0.0	11.3	6.4	1.6	0.8	0.2	16.6	16.9	0.5	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.0	4.7	3.4	1.8	0.4	7.6	7.5	0.5	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	36.5	32.0	26.2	24.2	17.3	40.0	40.4	18.6	24.4	24.4
LnGrp LOS	C	A	D	C	C	C	B	D	D	B	C	C
Approach Vol, veh/h		431			648			834			539	
Approach Delay, s/veh		33.6			28.3			39.1			23.9	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	22.5		19.4	7.1	22.9		18.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	16.4		14.1	3.1	9.8		12.2				
Green Ext Time (p_c), s	0.0	0.8		0.8	0.0	1.7		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

16: Claremont Blvd & 6st St/W Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	317	28	317	385	50	32	388	306	141	475	86
Future Volume (veh/h)	58	317	28	317	385	50	32	388	306	141	475	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	334	29	334	405	53	34	408	322	148	500	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	376	33	423	444	376	257	450	352	231	810	147
Arrive On Green	0.22	0.22	0.22	0.24	0.24	0.24	0.03	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1781	1697	147	1781	1870	1585	1781	1896	1484	1781	3005	544
Grp Volume(v), veh/h	61	0	363	334	405	53	34	382	348	148	295	296
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	1870	1585	1781	1777	1603	1781	1777	1772
Q Serve(g_s), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	4.8	11.0	11.1
Cycle Q Clear(g_c), s	2.1	0.0	14.5	13.3	16.0	2.0	1.1	15.8	16.0	4.8	11.0	11.1
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.93	1.00		0.31
Lane Grp Cap(c), veh/h	395	0	409	423	444	376	257	422	381	231	479	478
V/C Ratio(X)	0.15	0.00	0.89	0.79	0.91	0.14	0.13	0.91	0.91	0.64	0.61	0.62
Avail Cap(c_a), veh/h	423	0	438	423	444	376	314	422	381	231	479	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	28.6	27.1	28.1	22.8	21.0	28.1	28.1	22.1	24.2	24.3
Incr Delay (d2), s/veh	0.2	0.0	18.6	9.7	23.0	0.2	0.2	25.5	28.8	5.8	5.8	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	7.9	6.6	9.7	0.7	0.4	9.2	8.7	2.2	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	0.0	47.2	36.9	51.1	23.0	21.3	53.6	56.9	27.8	30.0	30.2
LnGrp LOS	C	A	D	D	D	C	C	D	E	C	C	C
Approach Vol, veh/h	424			792			764			739		
Approach Delay, s/veh	43.9			43.2			53.7			29.7		
Approach LOS	D			D			D			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	22.5		21.3	7.1	24.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	6.8	18.0		16.5	3.1	13.1		18.0				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	1.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	42.6											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Future Volume (veh/h)	121	319	50	197	409	118	50	698	72	33	821	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	336	53	207	431	124	53	735	76	35	864	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	821	128	149	499	423	169	1470	151	66	1436	126
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.27	0.05	0.31	0.31	0.04	0.30	0.30
Sat Flow, veh/h	1781	3080	481	1781	1870	1585	3456	4704	483	1781	4780	419
Grp Volume(v), veh/h	127	192	197	207	431	124	53	530	281	35	614	326
Grp Sat Flow(s),veh/h/ln	1781	1777	1784	1781	1870	1585	1728	1702	1783	1781	1702	1795
Q Serve(g_s), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Cycle Q Clear(g_c), s	4.2	5.3	5.4	5.0	13.2	3.7	0.9	7.6	7.7	1.2	9.2	9.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.27	1.00		0.23
Lane Grp Cap(c), veh/h	149	474	476	149	499	423	169	1064	557	66	1023	539
V/C Ratio(X)	0.85	0.41	0.41	1.39	0.86	0.29	0.31	0.50	0.50	0.53	0.60	0.60
Avail Cap(c_a), veh/h	149	534	536	149	562	476	288	1064	557	149	1023	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	18.1	18.1	27.5	20.9	17.5	27.5	16.8	16.8	28.3	17.9	17.9
Incr Delay (d2), s/veh	35.5	0.6	0.6	212.2	12.2	0.4	1.0	1.7	3.2	6.6	2.6	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.9	2.0	10.7	6.5	1.2	0.4	2.7	3.1	0.6	3.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	18.6	18.7	239.7	33.1	17.9	28.6	18.4	20.0	34.9	20.5	22.8
LnGrp LOS	E	B	B	F	C	B	C	B	C	C	C	C
Approach Vol, veh/h	516			762			864			975		
Approach Delay, s/veh	29.5			86.7			19.6			21.8		
Approach LOS	C			F			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	23.2	9.5	20.5	7.4	22.5	9.5	20.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+l1), s	3.2	9.7	7.0	7.4	2.9	11.3	6.2	15.2				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.5	0.0	3.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	38.3											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	578	53	119	449	69	85	640	210	103	748	170
Future Volume (veh/h)	96	578	53	119	449	69	85	640	210	103	748	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	608	56	125	473	73	89	674	221	108	787	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	896	82	141	522	442	216	1091	352	138	1251	282
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.06	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	3290	303	1781	1870	1585	3456	3820	1233	1781	4166	939
Grp Volume(v), veh/h	101	328	336	125	473	73	89	599	296	108	642	324
Grp Sat Flow(s),veh/h/ln	1781	1777	1816	1781	1870	1585	1728	1702	1648	1781	1702	1701
Q Serve(g_s), s	3.5	10.4	10.4	4.4	15.4	2.2	1.6	9.6	9.8	3.8	10.3	10.4
Cycle Q Clear(g_c), s	3.5	10.4	10.4	4.4	15.4	2.2	1.6	9.6	9.8	3.8	10.3	10.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.75	1.00		0.55
Lane Grp Cap(c), veh/h	129	484	494	141	522	442	216	972	471	138	1022	511
V/C Ratio(X)	0.78	0.68	0.68	0.88	0.91	0.17	0.41	0.62	0.63	0.78	0.63	0.63
Avail Cap(c_a), veh/h	141	507	518	141	534	453	274	972	471	141	1022	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	20.5	20.5	28.7	21.9	17.2	28.4	19.5	19.6	28.6	19.0	19.1
Incr Delay (d2), s/veh	22.4	3.4	3.4	43.6	18.9	0.2	1.2	2.9	6.2	23.8	2.9	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.1	4.2	3.4	8.5	0.7	0.6	3.7	4.0	2.4	3.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	23.9	23.9	72.3	40.9	17.4	29.7	22.5	25.8	52.4	21.9	25.0
LnGrp LOS	D	C	C	E	D	B	C	C	C	D	C	C
Approach Vol, veh/h		765			671			984			1074	
Approach Delay, s/veh		27.5			44.2			24.1			25.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	22.5	9.5	21.7	8.4	23.4	9.1	22.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	11.8	6.4	12.4	3.6	12.4	5.5	17.4				
Green Ext Time (p_c), s	0.0	2.8	0.0	1.8	0.0	2.7	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				29.3								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Future Volume (veh/h)	59	54	47	20	54	27	45	813	68	36	679	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	59	51	22	59	29	49	884	74	39	738	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	49	410	65	135	410	78	955	809	68	910	28
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.51	0.51	0.04	0.50	0.50
Sat Flow, veh/h	0	190	1585	0	523	1585	1781	1870	1585	1781	1804	56
Grp Volume(v), veh/h	123	0	51	81	0	29	49	884	74	39	0	761
Grp Sat Flow(s),veh/h/ln	190	0	1585	523	0	1585	1781	1870	1585	1781	0	1860
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	1.0	1.9	30.7	1.7	1.5	0.0	24.0
Cycle Q Clear(g_c), s	18.1	0.0	1.7	18.1	0.0	1.0	1.9	30.7	1.7	1.5	0.0	24.0
Prop In Lane	0.52		1.00	0.27		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	127	0	410	201	0	410	78	955	809	68	0	939
V/C Ratio(X)	0.97	0.00	0.12	0.40	0.00	0.07	0.63	0.93	0.09	0.58	0.00	0.81
Avail Cap(c_a), veh/h	127	0	410	201	0	410	130	955	809	127	0	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	0.0	19.9	21.3	0.0	19.6	32.9	15.9	8.8	33.1	0.0	14.5
Incr Delay (d2), s/veh	68.9	0.0	0.1	1.3	0.0	0.1	8.0	15.9	0.2	7.5	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.6	1.1	0.0	0.4	1.0	15.7	0.6	0.8	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.0	0.0	20.0	22.6	0.0	19.7	40.9	31.8	9.0	40.7	0.0	22.1
LnGrp LOS	F	A	C	C	A	B	D	C	A	D	A	C
Approach Vol, veh/h		174			110			1007			800	
Approach Delay, s/veh		74.4			21.9			30.6			23.0	
Approach LOS		E			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	39.8		22.6	7.2	40.2		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	33.3		18.1	5.0	33.4		18.1				
Max Q Clear Time (g_c+I1), s	3.9	26.0		20.1	3.5	32.7		20.1				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	0.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	48	40	49	46	37	91	26	666	47	19	712	21
Future Volume (veh/h)	48	40	49	46	37	91	26	666	47	19	712	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	43	53	50	40	99	28	724	51	21	774	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	44	408	80	43	408	53	984	834	43	940	28
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.03	0.53	0.53	0.02	0.52	0.52
Sat Flow, veh/h	0	172	1585	0	166	1585	1781	1870	1585	1781	1807	54
Grp Volume(v), veh/h	95	0	53	90	0	99	28	724	51	21	0	797
Grp Sat Flow(s),veh/h/ln	172	0	1585	166	0	1585	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	3.5	1.1	21.0	1.1	0.8	0.0	25.2
Cycle Q Clear(g_c), s	18.0	0.0	1.8	18.0	0.0	3.5	1.1	21.0	1.1	0.8	0.0	25.2
Prop In Lane	0.55		1.00	0.56		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	408	123	0	408	53	984	834	43	0	968
V/C Ratio(X)	0.77	0.00	0.13	0.73	0.00	0.24	0.52	0.74	0.06	0.49	0.00	0.82
Avail Cap(c_a), veh/h	124	0	408	123	0	408	130	984	834	127	0	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	20.0	26.8	0.0	20.6	33.5	12.8	8.1	33.7	0.0	14.1
Incr Delay (d2), s/veh	24.7	0.0	0.1	20.1	0.0	0.3	7.7	4.9	0.1	8.5	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.7	2.2	0.0	1.3	0.6	9.1	0.4	0.4	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	0.0	20.1	46.9	0.0	20.9	41.2	17.7	8.3	42.3	0.0	22.0
LnGrp LOS	D	A	C	D	A	C	D	B	A	D	A	C
Approach Vol, veh/h		148			189			803			818	
Approach Delay, s/veh		40.4			33.3			17.9			22.5	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	40.9		22.5	6.2	41.3		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	33.4		18.0	5.0	33.5		18.0				
Max Q Clear Time (g_c+I1), s	3.1	27.2		20.0	2.8	23.0		20.0				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Future Volume (veh/h)	9	27	37	128	60	166	58	762	213	92	650	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	29	40	139	65	180	63	828	232	100	707	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	363	307	361	85	235	373	960	814	308	940	39
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.51	0.51	0.07	0.53	0.53
Sat Flow, veh/h	1135	1870	1585	1332	438	1214	1781	1870	1585	1781	1784	73
Grp Volume(v), veh/h	10	29	40	139	0	245	63	828	232	100	0	736
Grp Sat Flow(s),veh/h/ln	1135	1870	1585	1332	0	1652	1781	1870	1585	1781	0	1857
Q Serve(g_s), s	0.5	0.8	1.3	5.7	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Cycle Q Clear(g_c), s	8.9	0.8	1.3	6.5	0.0	8.4	1.0	23.2	5.0	1.5	0.0	18.6
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	181	363	307	361	0	320	373	960	814	308	0	978
V/C Ratio(X)	0.06	0.08	0.13	0.38	0.00	0.76	0.17	0.86	0.29	0.32	0.00	0.75
Avail Cap(c_a), veh/h	301	561	476	503	0	496	427	960	814	336	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	19.8	20.0	22.5	0.0	22.9	8.7	12.7	8.3	11.1	0.0	11.1
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.7	0.0	3.8	0.2	8.4	0.7	0.6	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.5	1.8	0.0	3.4	0.3	10.0	1.6	0.5	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	19.9	20.2	23.1	0.0	26.7	8.9	21.1	9.0	11.7	0.0	16.5
LnGrp LOS	C	B	C	C	A	C	A	C	A	B	A	B
Approach Vol, veh/h	79			384			1123			836		
Approach Delay, s/veh	21.0			25.4			17.9			15.9		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.6	35.3	16.1		7.8	36.1	16.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0	23.5	18.0		5.1	23.4	18.0					
Max Q Clear Time (g_c+I1), s	3.5	25.2	10.9		3.0	20.6	10.4					
Green Ext Time (p_c), s	0.0	0.0	0.1		0.0	1.4	1.2					
Intersection Summary												
HCM 6th Ctrl Delay	18.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	85	88	133	83	171	103	599	210	140	663	86
Future Volume (veh/h)	29	85	88	133	83	171	103	599	210	140	663	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	92	96	145	90	186	112	651	228	152	721	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	399	338	302	116	240	327	1015	860	398	887	114
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.54	0.54	0.06	0.55	0.55
Sat Flow, veh/h	1103	1870	1585	1195	544	1124	1781	1870	1585	1781	1623	209
Grp Volume(v), veh/h	32	92	96	145	0	276	112	651	228	152	0	814
Grp Sat Flow(s),veh/h/ln	1103	1870	1585	1195	0	1668	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	2.1	3.1	3.8	8.6	0.0	11.7	2.0	18.3	5.8	2.8	0.0	27.2
Cycle Q Clear(g_c), s	13.8	3.1	3.8	11.6	0.0	11.7	2.0	18.3	5.8	2.8	0.0	27.2
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	159	399	338	302	0	356	327	1015	860	398	0	1002
V/C Ratio(X)	0.20	0.23	0.28	0.48	0.00	0.78	0.34	0.64	0.26	0.38	0.00	0.81
Avail Cap(c_a), veh/h	189	449	380	334	0	400	341	1015	860	410	0	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	24.4	24.7	29.2	0.0	27.8	12.1	12.0	9.2	9.3	0.0	13.9
Incr Delay (d2), s/veh	0.6	0.3	0.5	1.2	0.0	8.3	0.6	2.8	0.7	0.6	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	2.5	0.0	5.4	0.7	7.4	1.9	1.0	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	24.7	25.2	30.4	0.0	36.1	12.7	14.9	9.8	9.9	0.0	21.1
LnGrp LOS	C	C	C	C	A	D	B	B	A	A	A	C
Approach Vol, veh/h		220			421			991			966	
Approach Delay, s/veh		26.4			34.1			13.5			19.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	45.2		20.5	9.0	45.5		20.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.3	38.2		18.0	5.1	38.4		18.0				
Max Q Clear Time (g_c+I1), s	4.8	20.3		15.8	4.0	29.2		13.7				
Green Ext Time (p_c), s	0.0	5.1		0.2	0.0	4.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				20.1								
HCM 6th LOS				C								

Intersection	
Intersection Delay, s/veh	20.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Future Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	200	52	49	324	149	33	255	30	46	183	20
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	15.2	20.3	25.7	20.2
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	10%	100%	0%	0%	100%	0%	0%	18%
Vol Thru, %	80%	0%	100%	0%	0%	100%	0%	74%
Vol Right, %	10%	0%	0%	100%	0%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	293	55	184	48	45	298	137	228
LT Vol	30	55	0	0	45	0	0	42
Through Vol	235	0	184	0	0	298	0	168
RT Vol	28	0	0	48	0	0	137	18
Lane Flow Rate	318	60	200	52	49	324	149	248
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.683	0.142	0.442	0.105	0.11	0.681	0.283	0.549
Departure Headway (Hd)	7.721	8.578	7.956	7.225	8.089	7.57	6.842	7.977
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	421	450	493	441	476	521	449
Service Time	5.51	6.278	5.755	5.024	5.881	5.361	4.633	5.774
HCM Lane V/C Ratio	0.684	0.143	0.444	0.105	0.111	0.681	0.286	0.552
HCM Control Delay	25.7	12.7	17	10.9	11.9	25.2	12.3	20.2
HCM Lane LOS	D	B	C	B	B	D	B	C
HCM 95th-tile Q	5.1	0.5	2.2	0.3	0.4	5	1.2	3.2

Intersection	
Intersection Delay, s/veh	81.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	336	76	71	274	91	45	139	88	116	313	57
Future Vol, veh/h	49	336	76	71	274	91	45	139	88	116	313	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	365	83	77	298	99	49	151	96	126	340	62
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	45.9	29.2	36.6	186.6
HCM LOS	E	D	E	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	17%	100%	0%	0%	100%	0%	0%	24%
Vol Thru, %	51%	0%	100%	0%	0%	100%	0%	64%
Vol Right, %	32%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	49	336	76	71	274	91	486
LT Vol	45	49	0	0	71	0	0	116
Through Vol	139	0	336	0	0	274	0	313
RT Vol	88	0	0	76	0	0	91	57
Lane Flow Rate	296	53	365	83	77	298	99	528
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.743	0.139	0.901	0.188	0.204	0.747	0.229	1.32
Departure Headway (Hd)	9.977	10.452	9.917	9.167	10.648	10.112	9.361	8.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	367	345	369	394	340	360	386	407
Service Time	7.677	8.152	7.617	6.867	8.348	7.812	7.061	6.77
HCM Lane V/C Ratio	0.807	0.154	0.989	0.211	0.226	0.828	0.256	1.297
HCM Control Delay	36.6	14.8	57.6	14	16.1	37.4	14.8	186.6
HCM Lane LOS	E	B	F	B	C	E	B	F
HCM 95th-tile Q	5.8	0.5	9.1	0.7	0.8	5.8	0.9	24

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Future Volume (veh/h)	65	0	126	8	0	1	399	711	7	1	452	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	0	137	9	0	1	434	773	8	1	491	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	201	171	22	0	19	634	2685	28	539	2648	1181
Arrive On Green	0.11	0.00	0.11	0.01	0.00	0.01	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	798	3603	37	692	3554	1585
Grp Volume(v), veh/h	71	0	137	9	0	1	434	381	400	1	491	137
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	798	1777	1864	692	1777	1585
Q Serve(g_s), s	3.7	0.0	8.4	0.5	0.0	0.1	35.3	7.0	7.0	0.0	4.1	2.4
Cycle Q Clear(g_c), s	3.7	0.0	8.4	0.5	0.0	0.1	39.4	7.0	7.0	7.0	4.1	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	192	201	171	22	0	19	634	1324	1389	539	2648	1181
V/C Ratio(X)	0.37	0.00	0.80	0.42	0.00	0.05	0.68	0.29	0.29	0.00	0.19	0.12
Avail Cap(c_a), veh/h	321	337	285	321	0	285	634	1324	1389	539	2648	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	41.5	0.0	43.6	49.0	0.0	48.8	9.6	4.1	4.1	5.3	3.8	3.6
Incr Delay (d2), s/veh	1.2	0.0	8.5	12.3	0.0	1.1	5.9	0.5	0.5	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	3.7	0.3	0.0	0.0	5.7	2.0	2.1	0.0	1.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	0.0	52.0	61.3	0.0	49.9	15.5	4.7	4.7	5.3	3.9	3.7
LnGrp LOS	D	A	D	E	A	D	B	A	A	A	A	A
Approach Vol, veh/h	208			10			1215			629		
Approach Delay, s/veh	48.8			60.2			8.5			3.8		
Approach LOS	D			E			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	79.0			15.3			79.0			5.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	50.5			18.0			50.5			18.0		
Max Q Clear Time (g_c+l1), s	41.4			10.4			9.0			2.5		
Green Ext Time (p_c), s	4.9			0.4			3.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	11.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	5	314	4	0	1	147	420	7	2	579	225
Future Volume (veh/h)	251	5	314	4	0	1	147	420	7	2	579	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	5	341	4	0	1	160	457	8	2	629	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	431	453	384	12	0	10	397	1996	35	561	1985	885
Arrive On Green	0.24	0.24	0.24	0.01	0.00	0.01	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	634	3573	63	928	3554	1585
Grp Volume(v), veh/h	273	5	341	4	0	1	160	227	238	2	629	245
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	634	1777	1859	928	1777	1585
Q Serve(g_s), s	9.6	0.1	14.5	0.2	0.0	0.0	12.7	4.5	4.5	0.1	6.6	5.6
Cycle Q Clear(g_c), s	9.6	0.1	14.5	0.2	0.0	0.0	19.3	4.5	4.5	4.6	6.6	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	431	453	384	12	0	10	397	992	1038	561	1985	885
V/C Ratio(X)	0.63	0.01	0.89	0.34	0.00	0.10	0.40	0.23	0.23	0.00	0.32	0.28
Avail Cap(c_a), veh/h	458	481	408	458	0	408	397	992	1038	561	1985	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	23.8	20.2	25.6	34.6	0.0	34.6	13.5	7.8	7.8	9.0	8.3	8.1
Incr Delay (d2), s/veh	2.6	0.0	20.0	16.1	0.0	3.9	3.0	0.5	0.5	0.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.1	7.3	0.1	0.0	0.0	1.8	1.5	1.6	0.0	2.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	20.2	45.6	50.7	0.0	38.4	16.5	8.4	8.3	9.0	8.6	8.6
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h	619			5			625			876		
Approach Delay, s/veh	36.9			48.2			10.4			8.6		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.6			21.4			43.6			5.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	21.3			16.5			8.6			2.2		
Green Ext Time (p_c), s	0.0			0.4			3.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Future Volume (veh/h)	186	567	229	159	928	140	223	717	162	166	725	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	616	249	173	1009	152	242	779	176	180	788	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1421	634	381	1421	634	264	1421	634	320	1166	249
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	559	3554	1585	807	3554	1585	587	3554	1585	693	2914	621
Grp Volume(v), veh/h	202	616	249	173	1009	152	242	779	176	180	480	476
Grp Sat Flow(s),veh/h/ln	559	1777	1585	807	1777	1585	587	1777	1585	693	1777	1759
Q Serve(g_s), s	7.3	5.7	5.0	8.9	10.7	2.9	8.0	7.6	3.4	10.4	10.0	10.0
Cycle Q Clear(g_c), s	18.0	5.7	5.0	14.6	10.7	2.9	18.0	7.6	3.4	18.0	10.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	251	1421	634	381	1421	634	264	1421	634	320	711	703
V/C Ratio(X)	0.81	0.43	0.39	0.45	0.71	0.24	0.92	0.55	0.28	0.56	0.68	0.68
Avail Cap(c_a), veh/h	251	1421	634	381	1421	634	264	1421	634	320	711	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	20.9	9.8	9.6	15.1	11.3	9.0	20.8	10.4	9.1	17.9	11.1	11.1
Incr Delay (d2), s/veh	17.4	0.2	0.4	0.6	1.1	0.1	37.3	1.5	1.1	4.8	3.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.8	1.4	1.4	3.5	0.8	5.1	2.6	1.1	2.1	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	10.0	10.0	15.7	12.4	9.1	58.1	11.9	10.2	22.7	14.7	14.7
LnGrp LOS	D	B	B	B	B	A	E	B	B	C	B	B
Approach Vol, veh/h	1067			1334			1197			1136		
Approach Delay, s/veh	15.3			12.5			21.0			16.0		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			16.6		
Green Ext Time (p_c), s	0.0			0.0			0.0			1.1		
Intersection Summary												
HCM 6th Ctrl Delay	16.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	1056	184	201	632	160	196	755	167	178	692	135
Future Volume (veh/h)	218	1056	184	201	632	160	196	755	167	178	692	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	1148	200	218	687	174	213	821	182	193	752	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	1421	634	216	1421	634	281	1421	634	306	1185	232
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	755	3554	1585	490	3554	1585	619	3554	1585	666	2964	579
Grp Volume(v), veh/h	237	1148	200	218	687	174	213	821	182	193	451	448
Grp Sat Flow(s),veh/h/ln	755	1777	1585	490	1777	1585	619	1777	1585	666	1777	1766
Q Serve(g_s), s	11.5	12.9	3.9	5.1	6.5	3.3	8.8	8.1	3.5	9.9	9.2	9.2
Cycle Q Clear(g_c), s	18.0	12.9	3.9	18.0	6.5	3.3	18.0	8.1	3.5	18.0	9.2	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	353	1421	634	216	1421	634	281	1421	634	306	711	706
V/C Ratio(X)	0.67	0.81	0.32	1.01	0.48	0.27	0.76	0.58	0.29	0.63	0.63	0.63
Avail Cap(c_a), veh/h	353	1421	634	216	1421	634	281	1421	634	306	711	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	17.8	12.0	9.3	21.8	10.0	9.1	20.0	10.5	9.2	18.7	10.9	10.9
Incr Delay (d2), s/veh	4.8	3.6	0.3	60.6	0.2	0.2	17.2	1.7	1.1	6.4	2.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.6	1.1	5.7	2.0	0.9	3.4	2.8	1.1	2.4	3.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	15.5	9.6	82.4	10.3	9.3	37.2	12.2	10.3	25.1	13.7	13.7
LnGrp LOS	C	B	A	F	B	A	D	B	B	C	B	B
Approach Vol, veh/h	1585			1079			1216			1092		
Approach Delay, s/veh	15.8			24.7			16.3			15.7		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			20.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Future Volume (veh/h)	54	790	50	56	1087	79	62	125	43	119	93	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	859	54	61	1182	86	67	136	47	129	101	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1648	104	310	1630	118	196	373	114	558	682	578
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	437	3395	213	611	3359	244	330	1024	313	1201	1870	1585
Grp Volume(v), veh/h	59	450	463	61	625	643	250	0	0	129	101	71
Grp Sat Flow(s),veh/h/ln	437	1777	1832	611	1777	1826	1667	0	0	1201	1870	1585
Q Serve(g_s), s	7.4	10.5	10.5	4.6	16.7	16.8	0.9	0.0	0.0	0.0	2.2	1.8
Cycle Q Clear(g_c), s	24.2	10.5	10.5	15.0	16.7	16.8	6.2	0.0	0.0	4.6	2.2	1.8
Prop In Lane	1.00		0.12	1.00		0.13	0.27		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	210	862	889	310	862	886	684	0	0	558	682	578
V/C Ratio(X)	0.28	0.52	0.52	0.20	0.72	0.73	0.37	0.00	0.00	0.23	0.15	0.12
Avail Cap(c_a), veh/h	227	933	962	334	933	959	684	0	0	558	682	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.18	0.18	0.18	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	10.6	10.6	15.8	12.3	12.3	14.1	0.0	0.0	13.6	12.8	12.7
Incr Delay (d2), s/veh	0.6	0.4	0.4	0.1	0.5	0.5	1.5	0.0	0.0	1.0	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.6	0.6	5.6	5.8	2.5	0.0	0.0	1.3	0.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	11.1	11.1	15.9	12.7	12.7	15.6	0.0	0.0	14.5	13.3	13.1
LnGrp LOS	C	B	B	B	B	B	B	A	A	B	B	B
Approach Vol, veh/h	972			1329			250			301		
Approach Delay, s/veh	11.8			12.9			15.6			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.4			33.6			26.4			33.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	8.2			26.2			6.6			18.8		
Green Ext Time (p_c), s	1.1			2.9			1.0			7.3		
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1212	44	37	835	79	49	50	56	129	122	111
Future Volume (veh/h)	66	1212	44	37	835	79	49	50	56	129	122	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	1317	48	40	908	86	53	54	61	140	133	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1702	62	190	1597	151	220	224	208	613	679	576
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	567	3497	127	398	3281	311	389	616	573	1277	1870	1585
Grp Volume(v), veh/h	72	669	696	40	492	502	168	0	0	140	133	121
Grp Sat Flow(s),veh/h/ln	567	1777	1847	398	1777	1814	1577	0	0	1277	1870	1585
Q Serve(g_s), s	6.2	18.6	18.6	5.5	11.8	11.8	0.0	0.0	0.0	0.0	2.9	3.2
Cycle Q Clear(g_c), s	18.0	18.6	18.6	24.1	11.8	11.8	4.0	0.0	0.0	3.4	2.9	3.2
Prop In Lane	1.00		0.07	1.00		0.17	0.32		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	285	865	899	190	865	883	652	0	0	613	679	576
V/C Ratio(X)	0.25	0.77	0.77	0.21	0.57	0.57	0.26	0.00	0.00	0.23	0.20	0.21
Avail Cap(c_a), veh/h	306	933	970	205	933	953	652	0	0	613	679	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	12.7	12.7	22.6	10.9	10.9	13.5	0.0	0.0	13.3	13.1	13.2
Incr Delay (d2), s/veh	0.3	2.1	2.1	0.4	0.5	0.5	1.0	0.0	0.0	0.9	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.6	6.8	0.5	4.0	4.1	1.6	0.0	0.0	1.3	1.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	14.8	14.7	23.0	11.4	11.4	14.4	0.0	0.0	14.1	13.7	14.0
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	B	B
Approach Vol, veh/h	1437			1034			168			394		
Approach Delay, s/veh	14.9			11.9			14.4			14.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.3			33.7			26.3			33.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			31.5			19.5			31.5		
Max Q Clear Time (g_c+I1), s	6.0			20.6			5.4			26.1		
Green Ext Time (p_c), s	0.7			7.0			1.4			3.1		
Intersection Summary												
HCM 6th Ctrl Delay	13.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Future Volume (veh/h)	316	547	23	49	964	317	110	435	36	117	248	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	343	595	25	53	1048	345	120	473	39	127	270	277
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1869	78	68	999	325	139	595	49	144	340	288
Arrive On Green	0.20	0.54	0.54	0.04	0.38	0.38	0.08	0.18	0.18	0.08	0.18	0.18
Sat Flow, veh/h	1781	3475	146	1781	2634	858	1781	3325	273	1781	1870	1585
Grp Volume(v), veh/h	343	304	316	53	703	690	120	252	260	127	270	277
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1716	1781	1777	1821	1781	1870	1585
Q Serve(g_s), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Cycle Q Clear(g_c), s	21.1	10.5	10.5	3.2	41.7	41.7	7.3	14.9	15.0	7.8	15.2	19.1
Prop In Lane	1.00		0.08	1.00		0.50	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	351	956	992	68	674	650	139	318	326	144	340	288
V/C Ratio(X)	0.98	0.32	0.32	0.78	1.04	1.06	0.86	0.79	0.80	0.88	0.79	0.96
Avail Cap(c_a), veh/h	351	956	992	143	674	650	139	318	326	144	340	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	14.2	14.2	52.4	34.1	34.2	50.1	43.2	43.2	50.0	43.0	44.6
Incr Delay (d2), s/veh	37.9	0.2	0.2	16.8	46.7	52.4	38.8	18.1	18.1	42.1	17.2	44.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	3.9	4.1	1.7	25.7	25.8	4.7	8.0	8.3	5.2	8.7	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	14.3	14.3	69.2	80.9	86.5	88.9	61.3	61.3	92.2	60.2	88.6
LnGrp LOS	F	B	B	E	F	F	F	E	E	F	E	F
Approach Vol, veh/h	963			1446			632			674		
Approach Delay, s/veh	38.3			83.1			66.5			77.9		
Approach LOS	D			F			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	24.2	8.7	63.7	13.1	24.5	26.2	46.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.9	19.7	8.8	54.6	8.6	20.0	21.7	41.7				
Max Q Clear Time (g_c+I1), s	9.8	17.0	5.2	12.5	9.3	21.1	23.1	43.7				
Green Ext Time (p_c), s	0.0	0.8	0.0	3.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	67.8											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	1193	60	71	636	127	80	252	66	247	418	287
Future Volume (veh/h)	203	1193	60	71	636	127	80	252	66	247	418	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1297	65	77	691	138	87	274	72	268	454	312
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	1290	65	99	859	171	109	594	153	281	578	490
Arrive On Green	0.14	0.37	0.37	0.06	0.29	0.29	0.06	0.21	0.21	0.16	0.31	0.31
Sat Flow, veh/h	1781	3444	172	1781	2952	589	1781	2796	721	1781	1870	1585
Grp Volume(v), veh/h	221	668	694	77	416	413	87	172	174	268	454	312
Grp Sat Flow(s),veh/h/ln	1781	1777	1839	1781	1777	1764	1781	1777	1741	1781	1870	1585
Q Serve(g_s), s	11.0	33.7	33.7	3.8	19.5	19.5	4.3	7.6	7.9	13.4	19.9	15.2
Cycle Q Clear(g_c), s	11.0	33.7	33.7	3.8	19.5	19.5	4.3	7.6	7.9	13.4	19.9	15.2
Prop In Lane	1.00		0.09	1.00		0.33	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	247	665	689	99	517	513	109	377	370	281	578	490
V/C Ratio(X)	0.89	1.00	1.01	0.78	0.80	0.81	0.80	0.46	0.47	0.95	0.79	0.64
Avail Cap(c_a), veh/h	247	665	689	101	519	516	109	377	370	281	578	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	28.1	28.2	42.0	29.5	29.5	41.7	30.9	31.0	37.6	28.4	26.8
Incr Delay (d2), s/veh	21.4	28.3	28.5	30.9	8.9	9.0	33.0	3.9	4.2	41.1	10.3	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	18.1	18.8	2.5	9.1	9.1	2.9	3.6	3.6	9.0	10.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	56.5	56.7	72.9	38.4	38.6	74.7	34.9	35.3	78.7	38.7	33.0
LnGrp LOS	E	F	F	E	D	D	E	C	D	E	D	C
Approach Vol, veh/h	1583			906			433			1034		
Approach Delay, s/veh	57.0			41.4			43.0			47.3		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	23.6	9.5	38.2	10.0	32.3	17.0	30.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.2	19.0	5.1	33.7	5.5	27.7	12.5	26.3				
Max Q Clear Time (g_c+I1), s	15.4	9.9	5.8	35.7	6.3	21.9	13.0	21.5				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	2.1	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	49.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	122	0	0	0	49	432	0	0	404	22
Future Volume (veh/h)	30	0	122	0	0	0	49	432	0	0	404	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	0	133	0	0	0	53	470	0	0	439	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	0	179	2	2	0	77	2752	1228	2	2399	1070
Arrive On Green	0.06	0.00	0.11	0.00	0.00	0.00	0.04	0.77	0.00	0.00	0.67	0.67
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	0	133	0	0	0	53	470	0	0	439	24
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	0.0	6.5	0.0	0.0	0.0	2.3	2.7	0.0	0.0	3.7	0.4
Cycle Q Clear(g_c), s	1.4	0.0	6.5	0.0	0.0	0.0	2.3	2.7	0.0	0.0	3.7	0.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	0	179	2	2	0	77	2752	1228	2	2399	1070
V/C Ratio(X)	0.30	0.00	0.74	0.00	0.00	0.00	0.69	0.17	0.00	0.00	0.18	0.02
Avail Cap(c_a), veh/h	401	0	614	111	421	0	147	2752	1228	111	2399	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh	35.9	0.0	34.4	0.0	0.0	0.0	37.7	2.3	0.0	0.0	4.8	4.3
Incr Delay (d2), s/veh	1.6	0.0	6.0	0.0	0.0	0.0	10.4	0.1	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.8	0.0	0.0	0.0	1.2	0.5	0.0	0.0	1.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	0.0	40.3	0.0	0.0	0.0	48.1	2.5	0.0	0.0	5.0	4.3
LnGrp LOS	D	A	D	A	A	A	D	A	A	A	A	A
Approach Vol, veh/h	166			0			523			463		
Approach Delay, s/veh	39.7			0.0			7.1			4.9		
Approach LOS	D						A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	66.5	0.0	13.5	8.0	58.5	9.4	4.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	5.0	31.0	6.6	19.4	18.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	4.7	0.0	8.5	4.3	5.7	3.4	0.0				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.8	0.0	2.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	10.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1	122	75	12	50	59	518	3	5	445	30
Future Volume (veh/h)	44	1	122	75	12	50	59	518	3	5	445	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1	133	82	13	54	64	563	3	5	484	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1	181	106	36	148	84	2111	941	12	1966	877
Arrive On Green	0.06	0.11	0.11	0.06	0.11	0.11	0.05	0.59	0.59	0.01	0.55	0.55
Sat Flow, veh/h	1781	12	1575	1781	317	1316	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	48	0	134	82	0	67	64	563	3	5	484	33
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1633	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.1	0.0	6.5	3.6	0.0	3.0	2.8	6.1	0.1	0.2	5.6	0.8
Cycle Q Clear(g_c), s	2.1	0.0	6.5	3.6	0.0	3.0	2.8	6.1	0.1	0.2	5.6	0.8
Prop In Lane	1.00		0.99	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	182	106	0	183	84	2111	941	12	1966	877
V/C Ratio(X)	0.43	0.00	0.73	0.77	0.00	0.37	0.76	0.27	0.00	0.43	0.25	0.04
Avail Cap(c_a), veh/h	401	0	530	207	0	368	158	2111	941	111	1966	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	36.1	0.0	34.2	37.1	0.0	32.9	37.6	7.8	6.6	39.6	9.2	8.2
Incr Delay (d2), s/veh	2.6	0.0	5.6	11.3	0.0	1.2	12.9	0.3	0.0	21.3	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.8	1.9	0.0	1.2	1.5	2.0	0.0	0.2	1.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	39.9	48.4	0.0	34.1	50.5	8.1	6.6	60.9	9.5	8.2
LnGrp LOS	D	A	D	D	A	C	D	A	A	E	A	A
Approach Vol, veh/h	182			149			630			522		
Approach Delay, s/veh	39.6			42.0			12.4			9.9		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	52.0	9.3	13.7	8.3	48.7	9.5	13.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	9.3	26.7	7.1	18.9	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.2	8.1	5.6	8.5	4.8	7.6	4.1	5.0				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.7	0.0	2.3	0.1	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	17.9											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	50	0	0	30	0	0
Future Vol, veh/h	50	0	0	30	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	0	0	33	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	27
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1042
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	50	1	0	59	0	37
Future Vol, veh/h	50	1	0	59	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	1	0	64	0	40
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	28
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1041
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.6	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	1041	-	-	-		
HCM Lane V/C Ratio	0.039	-	-	-		
HCM Control Delay (s)	8.6	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	0	30	0	0	16
Future Vol, veh/h	0	0	30	0	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	33	0	0	17
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	17	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1058	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1058	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	37	21	0	0	107
Future Vol, veh/h	0	37	21	0	0	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	23	0	0	116

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	12	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1065	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1065	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 1065	-
HCM Lane V/C Ratio	-	- 0.038	-
HCM Control Delay (s)	-	- 8.5	-
HCM Lane LOS	-	- A	-
HCM 95th %tile Q(veh)	-	- 0.1	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/04/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	87	50	0
Future Vol, veh/h	0	0	0	87	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	92	53	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	27	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	883	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	883	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/04/2024

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	37	0	68	100	2
Future Vol, veh/h	0	37	0	68	100	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	0	72	105	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	54	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	850	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	850	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 850		-	-		
HCM Lane V/C Ratio	- 0.046		-	-		
HCM Control Delay (s)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/04/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	0	14	318	0	522	52	93	1065	1	
Future Volume (veh/h)	0	0	0	0	14	318	0	522	52	93	1065	1	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	0	0	0	0	15	335	0	549	55	98	1121	1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	0	498	0	196	498	422	196	1596	159	1001	2577	2	
Arrive On Green	0.00	0.00	0.00	0.00	0.27	0.27	0.00	0.49	0.49	0.49	0.49	0.49	
Sat Flow, veh/h	0	1870	0	1781	1870	1585	502	3262	326	1583	5269	5	
Grp Volume(v), veh/h	0	0	0	0	15	335	0	298	306	98	724	398	
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	502	1777	1812	791	1702	1870	
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.2	7.2	0.0	3.8	3.8	1.5	5.1	5.1	
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.2	7.2	0.0	3.8	3.8	5.3	5.1	5.1	
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00	
Lane Grp Cap(c), veh/h	0	498	0	196	498	422	196	869	886	1001	1665	914	
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.03	0.79	0.00	0.34	0.34	0.10	0.44	0.44	
Avail Cap(c_a), veh/h	0	915	0	592	915	775	196	869	886	1001	1665	914	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	10.0	12.6	0.0	5.8	5.8	7.4	6.1	6.1	
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	3.4	0.0	1.1	1.1	0.2	0.8	1.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	2.4	0.0	1.1	1.1	0.2	1.3	1.6	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	10.0	16.0	0.0	6.9	6.8	7.6	6.9	7.6	
LnGrp LOS	A	A	A	A	B	B	A	A	A	A	A	A	
Approach Vol, veh/h	0			350				604				1220	
Approach Delay, s/veh	0.0			15.7				6.8				7.2	
Approach LOS				B				A				A	
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	22.5			14.3			22.5			14.3			
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5			
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0			
Max Q Clear Time (g_c+I1), s	5.8			0.0			7.3			9.2			
Green Ext Time (p_c), s	3.0			0.0			5.8			0.9			
Intersection Summary													
HCM 6th Ctrl Delay	8.5												
HCM 6th LOS	A												

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	106	0	127	1	928	72	34	885	0
Future Volume (veh/h)	0	0	0	106	0	127	1	928	72	34	885	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	112	0	134	1	977	76	36	932	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	267	0	483	267	226	514	1909	149	867	2918	0
Arrive On Green	0.00	0.00	0.00	0.14	0.00	0.14	0.57	0.57	0.57	0.57	0.57	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	601	3341	260	1040	5274	0
Grp Volume(v), veh/h	0	0	0	112	0	134	1	520	533	36	932	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	601	1777	1824	520	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	2.5	0.0	5.6	5.6	0.7	3.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.8	0.0	2.5	3.0	5.6	5.6	6.3	3.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.14	1.00		0.00
Lane Grp Cap(c), veh/h	0	267	0	483	267	226	514	1015	1042	867	2918	0
V/C Ratio(X)	0.00	0.00	0.00	0.23	0.00	0.59	0.00	0.51	0.51	0.04	0.32	0.00
Avail Cap(c_a), veh/h	0	1069	0	1247	1069	906	514	1015	1042	867	2918	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.3	0.0	12.6	4.3	4.1	4.1	6.0	3.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.5	0.0	1.8	1.8	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.8	0.0	1.1	1.2	0.1	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	12.6	0.0	15.1	4.3	5.9	5.9	6.1	3.8	0.0
LnGrp LOS	A	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h	0				246				1054			
Approach Delay, s/veh	0.0				14.0				5.9			
Approach LOS					B				A			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			9.0			22.5			9.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	7.6			0.0			8.3			4.5		
Green Ext Time (p_c), s	5.0			0.0			4.7			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	5.9											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	528	111	289	843	64	155	92	274	87	115	79
Future Volume (veh/h)	43	528	111	289	843	64	155	92	274	87	115	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	574	121	314	916	70	168	100	298	95	125	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	1844	823	478	1844	823	453	588	525	294	687	441
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	610	3554	1585	839	3554	1585	1171	1777	1585	987	2076	1332
Grp Volume(v), veh/h	47	574	121	314	916	70	168	100	298	95	106	105
Grp Sat Flow(s),veh/h/ln	610	1777	1585	839	1777	1585	1171	1777	1585	987	1777	1631
Q Serve(g_s), s	3.2	5.6	2.4	20.6	10.0	1.3	7.2	2.4	9.3	5.3	2.5	2.8
Cycle Q Clear(g_c), s	13.3	5.6	2.4	26.2	10.0	1.3	10.0	2.4	9.3	14.6	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	335	1844	823	478	1844	823	453	588	525	294	588	540
V/C Ratio(X)	0.14	0.31	0.15	0.66	0.50	0.09	0.37	0.17	0.57	0.32	0.18	0.20
Avail Cap(c_a), veh/h	348	1925	859	497	1925	859	453	588	525	294	588	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	8.3	7.5	15.8	9.4	7.3	17.9	14.2	16.5	22.5	14.3	14.4
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.5	0.2	0.0	1.7	0.5	3.3	2.9	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	0.7	3.7	3.2	0.4	2.0	1.0	3.5	1.4	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	8.4	7.6	18.3	9.5	7.3	19.6	14.7	19.8	25.4	14.9	15.2
LnGrp LOS	B	A	A	B	A	A	B	B	B	C	B	B
Approach Vol, veh/h		742			1300			566			306	
Approach Delay, s/veh		8.6			11.5			18.9			18.3	
Approach LOS		A			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.4		35.6		24.4		35.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5		32.5				
Max Q Clear Time (g_c+I1), s		12.0		15.3		16.6		28.2				
Green Ext Time (p_c), s		1.8		4.5		0.3		3.0				
Intersection Summary												
HCM 6th Ctrl Delay				12.9								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	702	147	329	910	82	157	95	246	64	137	70
Future Volume (veh/h)	42	702	147	329	910	82	157	95	246	64	137	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	763	160	358	989	89	171	103	267	70	149	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	2278	1016	472	2278	1016	312	438	391	185	572	277
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	569	3554	1585	704	3554	1585	1156	1777	1585	1012	2320	1125
Grp Volume(v), veh/h	46	763	160	358	989	89	171	103	267	70	112	113
Grp Sat Flow(s),veh/h/ln	569	1777	1585	704	1777	1585	1156	1777	1585	1012	1777	1668
Q Serve(g_s), s	3.5	7.9	3.2	37.9	11.1	1.7	11.2	3.7	12.2	5.4	4.1	4.4
Cycle Q Clear(g_c), s	14.6	7.9	3.2	45.7	11.1	1.7	15.6	3.7	12.2	17.6	4.1	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	376	2278	1016	472	2278	1016	312	438	391	185	438	411
V/C Ratio(X)	0.12	0.33	0.16	0.76	0.43	0.09	0.55	0.24	0.68	0.38	0.26	0.27
Avail Cap(c_a), veh/h	385	2332	1040	483	2332	1040	312	438	391	185	438	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	6.6	5.7	17.0	7.1	5.5	30.7	24.1	27.3	35.3	24.2	24.4
Incr Delay (d2), s/veh	0.1	0.1	0.1	5.9	0.1	0.0	5.1	0.9	7.0	5.8	1.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	0.9	6.1	3.5	0.5	3.5	1.6	5.2	1.6	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	6.6	5.8	22.9	7.3	5.5	35.7	25.0	34.3	41.1	25.7	26.0
LnGrp LOS	B	A	A	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h	969			1436			541			295		
Approach Delay, s/veh	6.7			11.0			33.0			29.5		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.2			55.8			24.2			55.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			52.5			18.5			52.5		
Max Q Clear Time (g_c+I1), s	17.6			16.6			19.6			47.7		
Green Ext Time (p_c), s	0.3			7.6			0.0			3.5		
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	738	131	134	979	153	120	88	97	148	81	167
Future Volume (veh/h)	92	738	131	134	979	153	120	88	97	148	81	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	802	142	146	1064	166	130	96	105	161	88	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	1731	772	349	1731	772	554	679	575	547	679	575
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	530	3554	1585	678	3554	1585	1309	1870	1585	1300	1870	1585
Grp Volume(v), veh/h	100	802	142	146	1064	166	130	96	105	161	88	182
Grp Sat Flow(s),veh/h/ln	530	1777	1585	678	1777	1585	1309	1870	1585	1300	1870	1585
Q Serve(g_s), s	10.2	9.0	3.0	10.9	13.2	3.6	4.4	2.1	2.7	5.7	1.9	5.0
Cycle Q Clear(g_c), s	23.4	9.0	3.0	19.9	13.2	3.6	6.3	2.1	2.7	7.8	1.9	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1731	772	349	1731	772	554	679	575	547	679	575
V/C Ratio(X)	0.38	0.46	0.18	0.42	0.61	0.21	0.23	0.14	0.18	0.29	0.13	0.32
Avail Cap(c_a), veh/h	291	1925	859	386	1925	859	554	679	575	547	679	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.64	0.64	0.64	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	10.2	8.7	16.8	11.3	8.8	14.9	12.8	13.0	15.4	12.8	13.8
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.5	0.3	0.1	0.8	0.3	0.6	1.4	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.9	1.6	4.4	1.1	1.3	0.8	1.0	1.7	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	10.4	8.8	17.3	11.6	8.9	15.7	13.2	13.6	16.8	13.2	15.2
LnGrp LOS	C	B	A	B	B	A	B	B	B	B	B	B
Approach Vol, veh/h	1044			1376			331			431		
Approach Delay, s/veh	11.1			11.9			14.3			15.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.3			33.7			26.3			33.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	8.3			25.4			9.8			21.9		
Green Ext Time (p_c), s	0.9			3.9			1.1			6.5		
Intersection Summary												
HCM 6th Ctrl Delay	12.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	923	150	182	950	96	218	83	68	87	138	168
Future Volume (veh/h)	114	923	150	182	950	96	218	83	68	87	138	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1003	163	198	1033	104	237	90	74	95	150	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	2010	897	333	2010	897	401	553	469	451	553	469
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	546	3554	1585	562	3554	1585	1237	1870	1585	1307	1870	1585
Grp Volume(v), veh/h	124	1003	163	198	1033	104	237	90	74	95	150	183
Grp Sat Flow(s),veh/h/ln	546	1777	1585	562	1777	1585	1237	1870	1585	1307	1870	1585
Q Serve(g_s), s	11.7	11.1	3.2	21.4	11.6	2.0	11.8	2.3	2.2	3.8	4.0	6.0
Cycle Q Clear(g_c), s	23.3	11.1	3.2	32.5	11.6	2.0	15.8	2.3	2.2	6.1	4.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	2010	897	333	2010	897	401	553	469	451	553	469
V/C Ratio(X)	0.38	0.50	0.18	0.60	0.51	0.12	0.59	0.16	0.16	0.21	0.27	0.39
Avail Cap(c_a), veh/h	329	2050	914	339	2050	914	401	553	469	451	553	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.69	0.69	0.69	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	8.5	6.8	18.4	8.6	6.6	23.6	16.9	16.9	19.2	17.5	18.2
Incr Delay (d2), s/veh	0.7	0.2	0.1	1.9	0.1	0.0	5.5	0.5	0.6	1.1	1.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.5	0.9	2.6	3.7	0.6	3.8	1.0	0.8	1.2	1.8	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	8.7	6.9	20.3	8.8	6.6	29.0	17.5	17.5	20.2	18.7	20.6
LnGrp LOS	B	A	A	C	A	A	C	B	B	C	B	C
Approach Vol, veh/h	1290				1335				401			
Approach Delay, s/veh	9.2				10.3				24.3			
Approach LOS	A				B				C			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.7			41.3			23.7			41.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			37.5			18.5			37.5		
Max Q Clear Time (g_c+I1), s	17.8			25.3			8.1			34.5		
Green Ext Time (p_c), s	0.1			6.9			1.3			2.2		
Intersection Summary												
HCM 6th Ctrl Delay	12.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	762	254	550	889	132	358	139	528	142	126	99
Future Volume (veh/h)	56	762	254	550	889	132	358	139	528	142	126	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	828	276	598	966	143	389	151	574	154	137	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	910	406	664	1437	641	490	552	467	344	438	321
Arrive On Green	0.04	0.26	0.26	0.19	0.40	0.40	0.13	0.29	0.29	0.06	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1956	1434
Grp Volume(v), veh/h	61	828	276	598	966	143	389	151	574	154	124	121
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1612
Q Serve(g_s), s	3.1	20.3	14.1	15.2	20.0	5.3	11.5	5.6	26.5	5.1	5.2	5.7
Cycle Q Clear(g_c), s	3.1	20.3	14.1	15.2	20.0	5.3	11.5	5.6	26.5	5.1	5.2	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.89
Lane Grp Cap(c), veh/h	78	910	406	664	1437	641	490	552	467	344	398	361
V/C Ratio(X)	0.78	0.91	0.68	0.90	0.67	0.22	0.79	0.27	1.23	0.45	0.31	0.34
Avail Cap(c_a), veh/h	115	928	414	672	1437	641	490	552	467	344	398	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.5	30.1	35.5	21.9	17.5	25.4	24.3	31.7	25.6	29.1	29.3
Incr Delay (d2), s/veh	16.7	11.7	4.0	15.2	1.2	0.2	8.3	1.2	119.3	0.9	2.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	9.6	5.5	7.4	7.8	1.8	2.9	2.5	24.8	2.5	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	44.1	34.1	50.7	23.2	17.7	33.6	25.5	151.0	26.5	31.2	31.8
LnGrp LOS	E	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1165			1707			1114			399	
Approach Delay, s/veh		42.6			32.3			93.0			29.6	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	31.0	21.8	27.6	16.0	24.6	8.5	40.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	25.9	17.5	23.5	11.5	19.5	5.8	35.2				
Max Q Clear Time (g_c+I1), s	7.1	28.5	17.2	22.3	13.5	7.7	5.1	22.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.0	1.0	0.0	5.5				
Intersection Summary												
HCM 6th Ctrl Delay			50.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	856	197	408	987	117	229	150	570	133	91	57
Future Volume (veh/h)	56	856	197	408	987	117	229	150	570	133	91	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	930	214	443	1073	127	249	163	620	145	99	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	999	446	511	1369	611	554	588	498	353	539	314
Arrive On Green	0.04	0.28	0.28	0.15	0.39	0.39	0.12	0.31	0.31	0.06	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2161	1259
Grp Volume(v), veh/h	61	930	214	443	1073	127	249	163	620	145	80	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1644
Q Serve(g_s), s	3.1	22.9	10.1	11.3	23.9	4.8	8.9	5.9	28.3	5.1	3.2	3.5
Cycle Q Clear(g_c), s	3.1	22.9	10.1	11.3	23.9	4.8	8.9	5.9	28.3	5.1	3.2	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	78	999	446	511	1369	611	554	588	498	353	443	410
V/C Ratio(X)	0.78	0.93	0.48	0.87	0.78	0.21	0.45	0.28	1.25	0.41	0.18	0.20
Avail Cap(c_a), veh/h	115	1007	449	518	1369	611	573	588	498	353	443	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	31.5	26.9	37.5	24.4	18.5	19.5	23.2	30.9	23.6	26.6	26.7
Incr Delay (d2), s/veh	15.9	12.9	0.7	14.2	3.1	0.2	0.5	1.1	125.4	0.8	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	10.8	3.6	5.5	9.7	1.7	3.5	2.6	27.2	2.3	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	44.4	27.6	51.7	27.4	18.7	20.0	24.3	156.3	24.4	27.5	27.8
LnGrp LOS	E	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1205			1643			1032			306	
Approach Delay, s/veh		42.1			33.3			102.5			26.1	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.8	17.8	29.8	15.4	26.9	8.5	39.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	27.9	13.5	25.5	11.9	21.1	5.8	33.2				
Max Q Clear Time (g_c+I1), s	7.1	30.3	13.3	24.9	10.9	5.5	5.1	25.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.1	0.7	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	777	490	77	717	505	179	0	626	107	0	561
Future Volume (veh/h)	146	777	490	77	717	505	179	0	626	107	0	561
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	159	845	533	84	779	549	195	0	680	116	0	610
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	178	998	445	108	858	383	853	0	0	853	0	0
Arrive On Green	0.10	0.28	0.28	0.06	0.24	0.24	0.48	0.00	0.00	0.48	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	195		1781	116	
Grp Volume(v), veh/h	159	845	533	84	779	549	195	11.6		116	11.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	6.6	16.8	21.1	3.5	16.0	18.1	4.8			2.7		
Cycle Q Clear(g_c), s	6.6	16.8	21.1	3.5	16.0	18.1	4.8			2.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	178	998	445	108	858	383	853			853		
V/C Ratio(X)	0.89	0.85	1.20	0.78	0.91	1.44	0.23			0.14		
Avail Cap(c_a), veh/h	178	998	445	121	858	383	853			853		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	33.4	25.4	27.0	34.7	27.6	28.5	11.4			10.9		
Incr Delay (d2), s/veh	38.8	6.9	108.8	24.7	13.4	210.3	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.6	7.3	20.5	2.1	7.7	28.5	1.6			0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	32.3	135.7	59.4	41.1	238.7	11.6			11.0		
LnGrp LOS	E	C	F	E	D	F	B			B		
Approach Vol, veh/h	1537			1412								
Approach Delay, s/veh	72.3			119.0								
Approach LOS	E			F								
Timer - Assigned Phs	1	3		4	5	7		8				
Phs Duration (G+Y+Rc), s	40.4	9.0		25.6	40.4	12.0		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	5.1		20.5	9.0	7.5		18.1				
Max Q Clear Time (g_c+I1), s	4.7	5.5		23.1	6.8	8.6		20.1				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.1	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	86.7											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (veh/h)	186	889	549	46	810	375	122	0	663	73	0	524
Future Volume (veh/h)	186	889	549	46	810	375	122	0	663	73	0	524
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	202	966	597	50	880	408	133	0	721	79	0	570
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	236	1298	579	71	967	431	793	0	0	793	0	0
Arrive On Green	0.13	0.37	0.37	0.04	0.27	0.27	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	133		1781	79	
Grp Volume(v), veh/h	202	966	597	50	880	408	133	15.1		79	14.6	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	10.0	21.3	32.9	2.5	21.6	22.7	4.0			2.3		
Cycle Q Clear(g_c), s	10.0	21.3	32.9	2.5	21.6	22.7	4.0			2.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	236	1298	579	71	967	431	793			793		
V/C Ratio(X)	0.86	0.74	1.03	0.71	0.91	0.95	0.17			0.10		
Avail Cap(c_a), veh/h	247	1298	579	101	967	431	793			793		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	38.2	24.9	28.6	42.7	31.7	32.1	15.0			14.5		
Incr Delay (d2), s/veh	23.5	2.4	45.7	12.2	12.3	29.9	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.7	8.6	18.6	1.3	10.2	11.6	1.5			0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	27.3	74.2	54.9	44.0	62.0	15.1			14.6		
LnGrp LOS	E	C	F	D	D	E	B			B		
Approach Vol, veh/h		1765			1338							
Approach Delay, s/veh		47.1			49.9							
Approach LOS		D			D							
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	44.6		8.1	37.4	44.6		16.4	29.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.9		5.1	31.9	8.5		12.5	24.5				
Max Q Clear Time (g_c+I1), s	4.3		4.5	34.9	6.0		12.0	24.7				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.2									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/04/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	0	19	1	0	0	18	729	1	1	607	249
Future Volume (vph)	271	0	19	1	0	0	18	729	1	1	607	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3539		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.35	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3539		655	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	0	21	1	0	0	20	792	1	1	660	271
RTOR Reduction (vph)	0	121	16	0	0	0	0	0	0	0	0	113
Lane Group Flow (vph)	147	29	3	0	1	0	20	793	0	1	660	158
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Effective Green, g (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Actuated g/C Ratio	0.16	0.16	0.16		0.01		0.04	0.66		0.57	0.57	0.57
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	260	249	233		27		66	2340		371	2008	898
v/s Ratio Prot	c0.09	0.02					0.01	c0.22			0.19	
v/s Ratio Perm			0.00		c0.00					0.00		0.10
v/c Ratio	0.57	0.12	0.01		0.04		0.30	0.34		0.00	0.33	0.18
Uniform Delay, d1	31.3	29.1	28.6		38.8		37.5	5.9		7.5	9.2	8.3
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2	0.0		0.6		2.6	0.4		0.0	0.4	0.4
Delay (s)	34.1	29.3	28.6		39.4		40.1	6.3		7.5	9.6	8.7
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.5			39.4			7.1			9.4	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			36.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	287	0	235	4	7	1	222	624	4	2	472	218
Future Volume (vph)	287	0	235	4	7	1	222	624	4	2	472	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.94	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1547	1504		1815		1770	3536		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.39	1.00	1.00
Satd. Flow (perm)	1681	1547	1504		1843		1770	3536		731	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	312	0	255	4	8	1	241	678	4	2	513	237
RTOR Reduction (vph)	0	117	146	0	1	0	0	0	0	0	0	167
Lane Group Flow (vph)	197	75	32	0	12	0	241	682	0	2	513	70
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	14.5	14.5	14.5		1.5		22.3	50.5		23.7	23.7	23.7
Effective Green, g (s)	14.5	14.5	14.5		1.5		22.3	50.5		23.7	23.7	23.7
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.28	0.63		0.30	0.30	0.30
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	304	280	272		34		493	2232		216	1048	468
v/s Ratio Prot	c0.12	0.05					c0.14	0.19			c0.14	
v/s Ratio Perm			0.02		c0.01					0.00		0.04
v/c Ratio	0.65	0.27	0.12		0.35		0.49	0.31		0.01	0.49	0.15
Uniform Delay, d1	30.4	28.2	27.4		38.8		24.1	6.7		19.9	23.2	20.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.7	0.5	0.2		6.2		0.8	0.4		0.1	1.6	0.7
Delay (s)	35.1	28.7	27.6		45.0		24.9	7.1		19.9	24.8	21.4
Level of Service	D	C	C		D		C	A		B	C	C
Approach Delay (s)		30.6			45.0			11.7			23.7	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			53.6%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	727	252	166	705	144	284	380	162	202	356	110
Future Volume (veh/h)	103	727	252	166	705	144	284	380	162	202	356	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	790	274	180	766	157	309	413	176	220	387	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	751	260	194	1136	507	319	626	264	256	416	352
Arrive On Green	0.08	0.29	0.29	0.11	0.32	0.32	0.18	0.26	0.26	0.14	0.22	0.22
Sat Flow, veh/h	1781	2588	897	1781	3554	1585	1781	2436	1026	1781	1870	1585
Grp Volume(v), veh/h	112	542	522	180	766	157	309	300	289	220	387	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1709	1781	1777	1585	1781	1777	1686	1781	1870	1585
Q Serve(g_s), s	5.6	26.1	26.1	9.0	16.8	6.7	15.5	13.6	13.8	10.9	18.3	5.7
Cycle Q Clear(g_c), s	5.6	26.1	26.1	9.0	16.8	6.7	15.5	13.6	13.8	10.9	18.3	5.7
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	141	515	496	194	1136	507	319	457	433	256	416	352
V/C Ratio(X)	0.79	1.05	1.05	0.93	0.67	0.31	0.97	0.66	0.67	0.86	0.93	0.34
Avail Cap(c_a), veh/h	172	515	496	194	1136	507	319	457	433	305	416	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	40.7	31.9	32.0	39.8	26.5	23.1	36.7	29.9	30.0	37.6	34.3	29.5
Incr Delay (d2), s/veh	18.6	54.1	55.1	44.6	1.6	0.3	42.1	7.2	7.9	16.3	26.9	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	18.2	17.6	6.2	6.9	2.4	10.2	6.5	6.3	5.8	11.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	86.0	87.0	84.4	28.1	23.5	78.8	37.1	37.9	54.0	61.3	31.7
LnGrp LOS	E	F	F	F	C	C	E	D	D	D	E	C
Approach Vol, veh/h		1176			1103			898			727	
Approach Delay, s/veh		83.9			36.6			51.7			54.2	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	27.6	14.3	30.6	20.6	24.5	11.6	33.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.4	20.7	9.8	26.1	16.1	20.0	8.7	27.2				
Max Q Clear Time (g_c+I1), s	12.9	15.8	11.0	28.1	17.5	20.3	7.6	18.8				
Green Ext Time (p_c), s	0.2	1.5	0.0	0.0	0.0	0.0	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			57.6									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	779	234	147	778	135	339	374	154	173	372	144
Future Volume (veh/h)	95	779	234	147	778	135	339	374	154	173	372	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	847	254	160	846	147	368	407	167	188	404	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	813	244	172	1159	517	371	776	315	220	430	365
Arrive On Green	0.07	0.30	0.30	0.19	0.65	0.65	0.21	0.31	0.31	0.12	0.23	0.23
Sat Flow, veh/h	1781	2695	807	1781	3554	1585	1781	2467	1000	1781	1870	1585
Grp Volume(v), veh/h	103	558	543	160	846	147	368	292	282	188	404	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1725	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	6.3	33.2	33.2	9.7	17.4	4.4	22.7	14.8	15.1	11.4	23.3	9.3
Cycle Q Clear(g_c), s	6.3	33.2	33.2	9.7	17.4	4.4	22.7	14.8	15.1	11.4	23.3	9.3
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	128	536	521	172	1159	517	371	559	532	220	430	365
V/C Ratio(X)	0.80	1.04	1.04	0.93	0.73	0.28	0.99	0.52	0.53	0.85	0.94	0.43
Avail Cap(c_a), veh/h	154	536	521	172	1159	517	371	559	532	332	430	365
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	50.3	38.4	38.4	44.0	15.9	13.7	43.5	30.9	31.0	47.2	41.6	36.2
Incr Delay (d2), s/veh	21.9	49.9	50.9	49.3	2.4	0.3	44.6	3.5	3.8	10.6	26.6	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	21.2	20.8	6.1	4.7	1.4	14.4	6.8	6.6	5.7	13.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	88.3	89.3	93.3	18.3	13.9	88.1	34.4	34.8	57.8	68.1	39.2
LnGrp LOS	E	F	F	F	B	B	F	C	C	E	E	D
Approach Vol, veh/h	1204			1153			942			749		
Approach Delay, s/veh	87.4			28.1			55.5			59.5		
Approach LOS	F			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	39.1	15.1	37.7	27.4	29.8	12.4	40.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	27.7	10.6	33.2	22.9	25.3	9.5	34.3				
Max Q Clear Time (g_c+I1), s	13.4	17.1	11.7	35.2	24.7	25.3	8.3	19.4				
Green Ext Time (p_c), s	0.3	2.5	0.0	0.0	0.0	0.0	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay	57.9											
HCM 6th LOS	E											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	1011	54	71	941	11	0	0	102	0	0	45
Future Vol, veh/h	44	1011	54	71	941	11	0	0	102	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1099	59	77	1023	12	0	0	111	0	0	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1035	0	0	1158	0	0	1861	2384	550	1823	2431	512
Stage 1	-	-	-	-	-	-	1195	1195	-	1177	1177	-
Stage 2	-	-	-	-	-	-	666	1189	-	646	1254	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	667	-	-	599	-	-	45	34	479	48	31	507
Stage 1	-	-	-	-	-	-	198	258	-	203	263	-
Stage 2	-	-	-	-	-	-	415	260	-	427	242	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	667	-	-	599	-	-	35	27	479	31	25	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	27	-	31	25	-
Stage 1	-	-	-	-	-	-	184	239	-	188	229	-
Stage 2	-	-	-	-	-	-	327	226	-	305	225	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.8			14.8			12.9		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	479	667	-	-	599	-	-	507				
HCM Lane V/C Ratio	0.231	0.072	-	-	0.129	-	-	0.096				
HCM Control Delay (s)	14.8	10.8	-	-	11.9	-	-	12.9				
HCM Lane LOS	B	B	-	-	B	-	-	B				
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0.4	-	-	0.3				

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	1176	62	90	1117	23	2	0	130	0	0	44
Future Vol, veh/h	42	1176	62	90	1117	23	2	0	130	0	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1278	67	98	1214	25	2	0	141	0	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1239	0	0	1345	0	0	2173	2805	639	2141	2847	607
Stage 1	-	-	-	-	-	-	1370	1370	-	1410	1410	-
Stage 2	-	-	-	-	-	-	803	1435	-	731	1437	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	558	-	-	508	-	-	26	18	419	28	17	439
Stage 1	-	-	-	-	-	-	154	212	-	145	203	-
Stage 2	-	-	-	-	-	-	343	197	-	379	197	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	508	-	-	19	13	419	15	13	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	13	-	15	13	-
Stage 1	-	-	-	-	-	-	141	195	-	133	164	-
Stage 2	-	-	-	-	-	-	247	159	-	230	181	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	25.3	14.2
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	558	-	-	508	-	-	439
HCM Lane V/C Ratio	0.451	0.082	-	-	0.193	-	-	0.109
HCM Control Delay (s)	25.3	12	-	-	13.8	-	-	14.2
HCM Lane LOS	D	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	2.2	0.3	-	-	0.7	-	-	0.4

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1080	34	35	1003	10	40	5	24	27	8	0
Future Volume (veh/h)	9	1080	34	35	1003	10	40	5	24	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1174	37	38	1090	11	43	5	26	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1571	701	208	1594	16	422	67	209	549	156	0
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.39	0.39	0.39	0.39	0.39	0.00
Sat Flow, veh/h	512	3554	1585	461	3604	36	808	170	530	1100	395	0
Grp Volume(v), veh/h	10	1174	37	38	537	564	74	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	512	1777	1585	461	1777	1864	1508	0	0	1494	0	0
Q Serve(g_s), s	0.9	15.1	0.7	4.1	13.3	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.2	15.1	0.7	19.2	13.3	13.3	1.5	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.58		0.35	0.76		0.00
Lane Grp Cap(c), veh/h	234	1571	701	208	786	824	698	0	0	704	0	0
V/C Ratio(X)	0.04	0.75	0.05	0.18	0.68	0.68	0.11	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	254	1712	764	226	856	898	698	0	0	704	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	12.8	8.8	20.8	12.3	12.3	10.5	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.7	0.0	0.2	1.1	1.1	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.9	0.2	0.4	4.2	4.4	0.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	14.5	8.8	21.0	13.4	13.3	10.8	0.0	0.0	10.4	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1221			1139			74			38	
Approach Delay, s/veh		14.3			13.6			10.8			10.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.2		28.8		26.2		28.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		26.5		19.5		26.5				
Max Q Clear Time (g_c+I1), s		3.5		17.1		2.7		21.2				
Green Ext Time (p_c), s		0.3		5.3		0.1		3.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1102	37	31	1211	10	20	2	22	10	4	0
Future Volume (veh/h)	13	1102	37	31	1211	10	20	2	22	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1198	40	34	1316	11	22	2	24	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	1627	726	213	1653	14	328	58	290	513	170	0
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	413	3554	1585	450	3612	30	614	153	767	1056	449	0
Grp Volume(v), veh/h	14	1198	40	34	647	680	48	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	413	1777	1585	450	1777	1865	1533	0	0	1505	0	0
Q Serve(g_s), s	1.6	15.2	0.8	3.7	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.7	15.2	0.8	18.8	17.1	17.1	1.0	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.46		0.50	0.73		0.00
Lane Grp Cap(c), veh/h	192	1627	726	213	813	854	676	0	0	683	0	0
V/C Ratio(X)	0.07	0.74	0.06	0.16	0.80	0.80	0.07	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	209	1777	793	232	888	932	676	0	0	683	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.49	0.49	0.49	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.7	12.2	8.3	19.9	12.7	12.7	10.9	0.0	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.5	0.0	0.2	2.4	2.3	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	0.2	0.3	5.6	5.8	0.4	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	13.7	8.3	20.1	15.1	15.0	11.1	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1252			1361			48			15	
Approach Delay, s/veh		13.6			15.2			11.1			10.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.3		29.7		25.3		29.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		3.0		20.7		2.3		20.8				
Green Ext Time (p_c), s		0.1		4.2		0.0		4.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.3								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	998	31	22	813	121	11	10	50	159	7	208
Future Volume (veh/h)	203	998	31	22	813	121	11	10	50	159	7	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1085	34	24	884	132	12	11	54	173	8	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1358	43	46	953	425	232	193	389	209	784	665
Arrive On Green	0.14	0.39	0.39	0.03	0.27	0.27	0.25	0.25	0.25	0.12	0.42	0.42
Sat Flow, veh/h	1781	3517	110	1781	3554	1585	666	784	1585	1781	1870	1585
Grp Volume(v), veh/h	221	548	571	24	884	132	23	0	54	173	8	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1851	1781	1777	1585	1450	0	1585	1781	1870	1585
Q Serve(g_s), s	9.7	21.9	21.9	1.1	19.4	5.3	0.0	0.0	2.1	7.6	0.2	7.7
Cycle Q Clear(g_c), s	9.7	21.9	21.9	1.1	19.4	5.3	0.8	0.0	2.1	7.6	0.2	7.7
Prop In Lane	1.00		0.06	1.00		1.00	0.52		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	256	686	715	46	953	425	425	0	389	209	784	665
V/C Ratio(X)	0.86	0.80	0.80	0.52	0.93	0.31	0.05	0.00	0.14	0.83	0.01	0.34
Avail Cap(c_a), veh/h	256	686	715	114	955	426	425	0	389	212	784	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.80	0.80	0.80	1.00	0.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	33.5	21.8	21.8	38.5	28.5	23.4	23.0	0.0	23.6	34.5	13.5	15.7
Incr Delay (d2), s/veh	16.2	4.0	3.9	7.1	12.4	0.3	0.2	0.0	0.7	22.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.9	9.3	0.5	9.2	1.9	0.4	0.0	0.8	4.4	0.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	25.8	25.7	45.6	40.9	23.7	23.3	0.0	24.3	56.6	13.6	17.1
LnGrp LOS	D	C	C	D	D	C	C	A	C	E	B	B
Approach Vol, veh/h		1340			1040			77			407	
Approach Delay, s/veh		29.7			38.8			24.0			33.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	24.2	6.6	35.4		38.0	16.0	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.5	5.1	27.9		33.5	11.5	21.5				
Max Q Clear Time (g_c+I1), s	9.6	4.1	3.1	23.9		9.7	11.7	21.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.4		0.7	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay				33.4								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	994	16	50	1027	190	13	4	21	87	1	177
Future Volume (veh/h)	153	994	16	50	1027	190	13	4	21	87	1	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	1080	17	54	1116	207	14	4	23	95	1	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1465	23	78	1206	538	329	84	403	121	708	600
Arrive On Green	0.11	0.41	0.41	0.04	0.34	0.34	0.25	0.25	0.25	0.07	0.38	0.38
Sat Flow, veh/h	1781	3581	56	1781	3554	1585	979	332	1585	1781	1870	1585
Grp Volume(v), veh/h	166	536	561	54	1116	207	18	0	23	95	1	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1860	1781	1777	1585	1311	0	1585	1781	1870	1585
Q Serve(g_s), s	7.3	20.4	20.4	2.4	24.2	7.9	0.0	0.0	0.9	4.2	0.0	6.9
Cycle Q Clear(g_c), s	7.3	20.4	20.4	2.4	24.2	7.9	0.6	0.0	0.9	4.2	0.0	6.9
Prop In Lane	1.00		0.03	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	727	761	78	1206	538	413	0	403	121	708	600
V/C Ratio(X)	0.82	0.74	0.74	0.69	0.93	0.38	0.04	0.00	0.06	0.78	0.00	0.32
Avail Cap(c_a), veh/h	212	727	761	114	1222	545	413	0	403	122	708	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.67	0.67	0.67	1.00	0.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	34.7	20.0	20.0	37.7	25.4	20.1	22.5	0.0	22.6	36.7	15.5	17.6
Incr Delay (d2), s/veh	14.8	2.6	2.5	7.2	8.5	0.3	0.2	0.0	0.3	24.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.0	8.4	1.2	10.7	2.7	0.3	0.0	0.3	2.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	22.6	22.5	44.9	34.0	20.4	22.7	0.0	22.8	60.7	15.5	18.8
LnGrp LOS	D	C	C	D	C	C	C	A	C	E	B	B
Approach Vol, veh/h		1263			1377			41			288	
Approach Delay, s/veh		26.1			32.4			22.8			32.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.9	24.8	8.0	37.2		34.8	13.6	31.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.1	31.9		29.5	9.5	27.5				
Max Q Clear Time (g_c+I1), s	6.2	2.9	4.4	22.4		8.9	9.3	26.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.5		0.6	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			29.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	141	836	212	236	735	53	116	270	178	62	215	84
Future Volume (veh/h)	141	836	212	236	735	53	116	270	178	62	215	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	909	230	257	799	58	126	293	193	67	234	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1037	463	288	1225	547	751	668	428	308	811	306
Arrive On Green	0.11	0.29	0.29	0.16	0.34	0.34	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2046	2077	1331	910	2523	953
Grp Volume(v), veh/h	153	909	230	257	799	58	126	249	237	67	163	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1023	1777	1631	910	1777	1699
Q Serve(g_s), s	5.0	14.6	7.2	8.5	11.4	1.5	3.0	6.6	6.9	3.8	4.1	4.3
Cycle Q Clear(g_c), s	5.0	14.6	7.2	8.5	11.4	1.5	7.3	6.6	6.9	10.7	4.1	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.82	1.00		0.56
Lane Grp Cap(c), veh/h	194	1037	463	288	1225	547	751	571	524	308	571	546
V/C Ratio(X)	0.79	0.88	0.50	0.89	0.65	0.11	0.17	0.44	0.45	0.22	0.28	0.30
Avail Cap(c_a), veh/h	246	1066	476	288	1225	547	751	571	524	308	571	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	20.2	17.6	24.6	16.6	13.4	18.0	16.1	16.2	20.4	15.2	15.3
Incr Delay (d2), s/veh	7.9	5.2	0.5	27.5	1.2	0.1	0.5	2.4	2.8	1.6	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.9	2.3	5.4	4.1	0.5	0.7	2.7	2.6	0.9	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	25.4	18.1	52.1	17.9	13.5	18.5	18.5	18.9	22.0	16.5	16.7
LnGrp LOS	C	C	B	D	B	B	B	B	B	C	B	B
Approach Vol, veh/h		1292			1114			612			392	
Approach Delay, s/veh		25.1			25.5			18.6			17.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.8	14.2	22.0		23.8	11.0	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.8	9.7	18.0		18.8	8.3	19.4				
Max Q Clear Time (g_c+I1), s		9.3	10.5	16.6		12.7	7.0	13.4				
Green Ext Time (p_c), s		2.4	0.0	0.9		1.1	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			23.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	120	912	117	101	811	47	214	231	104	72	220	108
Future Volume (veh/h)	120	912	117	101	811	47	214	231	104	72	220	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	991	127	110	882	51	233	251	113	78	239	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1151	514	141	1102	491	832	895	391	421	870	412
Arrive On Green	0.09	0.32	0.32	0.08	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1989	2406	1052	1018	2340	1108
Grp Volume(v), veh/h	130	991	127	110	882	51	233	183	181	78	180	176
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	995	1777	1681	1018	1777	1671
Q Serve(g_s), s	4.3	15.7	3.5	3.6	13.7	1.4	5.6	4.3	4.5	3.5	4.2	4.4
Cycle Q Clear(g_c), s	4.3	15.7	3.5	3.6	13.7	1.4	10.0	4.3	4.5	8.0	4.2	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.66
Lane Grp Cap(c), veh/h	166	1151	514	141	1102	491	832	661	625	421	661	621
V/C Ratio(X)	0.78	0.86	0.25	0.78	0.80	0.10	0.28	0.28	0.29	0.19	0.27	0.28
Avail Cap(c_a), veh/h	223	1214	542	193	1155	515	832	661	625	421	661	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	19.0	14.9	27.1	19.0	14.8	16.8	13.2	13.3	16.1	13.2	13.2
Incr Delay (d2), s/veh	8.3	4.2	0.2	13.0	4.0	0.1	0.8	1.0	1.1	1.0	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.1	1.1	1.9	5.4	0.4	1.2	1.6	1.6	0.8	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	23.3	15.1	40.1	23.0	14.9	17.6	14.2	14.4	17.1	14.2	14.4
LnGrp LOS	C	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1248			1043			597			434	
Approach Delay, s/veh		23.6			24.4			15.6			14.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.8	9.3	23.9		26.8	10.1	23.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		12.0	5.6	17.7		10.0	6.3	15.7				
Green Ext Time (p_c), s		2.0	0.0	1.8		1.6	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	753	279	259	700	169	276	519	192	139	457	83
Future Volume (veh/h)	41	753	279	259	700	169	276	519	192	139	457	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	793	294	273	737	178	291	546	202	146	481	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	952	425	275	1085	484	275	1040	464	253	1250	221
Arrive On Green	0.04	0.27	0.27	0.08	0.31	0.31	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4363	772
Grp Volume(v), veh/h	43	793	294	273	737	178	291	546	202	146	373	195
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1731
Q Serve(g_s), s	1.5	13.2	10.5	5.0	11.4	5.5	5.0	8.1	6.5	2.6	5.5	5.7
Cycle Q Clear(g_c), s	1.5	13.2	10.5	5.0	11.4	5.5	5.0	8.1	6.5	2.6	5.5	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	75	952	425	275	1085	484	275	1040	464	253	975	496
V/C Ratio(X)	0.57	0.83	0.69	0.99	0.68	0.37	1.06	0.52	0.44	0.58	0.38	0.39
Avail Cap(c_a), veh/h	142	1018	454	275	1085	484	275	1040	464	275	975	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.7	20.7	28.9	19.1	17.1	28.9	18.6	18.0	28.2	18.0	18.0
Incr Delay (d2), s/veh	6.8	5.7	4.1	52.1	1.7	0.5	70.4	1.9	3.0	2.5	1.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.6	3.9	3.9	4.3	1.8	4.6	3.1	2.5	1.0	2.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	27.4	24.8	81.0	20.8	17.5	99.3	20.5	21.0	30.7	19.1	20.4
LnGrp LOS	D	C	C	F	C	B	F	C	C	C	B	C
Approach Vol, veh/h		1130			1188			1039			714	
Approach Delay, s/veh		27.1			34.2			42.6			21.8	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.9	9.5	21.3	9.5	22.5	7.1	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	10.1	7.0	15.2	7.0	7.7	3.5	13.4				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.6	0.0	2.4	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			32.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	832	153	144	735	232	135	435	148	137	455	61
Future Volume (veh/h)	169	832	153	144	735	232	135	435	148	137	455	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	876	161	152	774	244	142	458	156	144	479	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	993	443	256	973	434	252	1019	454	253	1310	172
Arrive On Green	0.08	0.28	0.28	0.07	0.27	0.27	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4567	600
Grp Volume(v), veh/h	178	876	161	152	774	244	142	458	156	144	355	188
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1762
Q Serve(g_s), s	5.0	14.8	5.1	2.7	12.7	8.3	2.5	6.6	4.9	2.5	5.2	5.3
Cycle Q Clear(g_c), s	5.0	14.8	5.1	2.7	12.7	8.3	2.5	6.6	4.9	2.5	5.2	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	142	993	443	256	973	434	252	1019	454	253	977	506
V/C Ratio(X)	1.25	0.88	0.36	0.59	0.80	0.56	0.56	0.45	0.34	0.57	0.36	0.37
Avail Cap(c_a), veh/h	142	1019	454	275	1019	454	275	1019	454	275	977	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	21.6	18.1	28.2	21.2	19.6	28.1	18.3	17.7	28.1	17.8	17.9
Incr Delay (d2), s/veh	159.5	9.1	0.5	3.0	4.3	1.4	2.2	1.4	2.1	2.3	1.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	6.6	1.7	1.1	5.2	2.9	1.0	2.5	1.8	1.0	1.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	188.4	30.7	18.6	31.2	25.5	21.0	30.3	19.8	19.8	30.5	18.9	20.0
LnGrp LOS	F	C	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		1215			1170			756			687	
Approach Delay, s/veh		52.2			25.3			21.8			21.6	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.1	22.0	9.1	22.5	9.5	21.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	8.6	4.7	16.8	4.5	7.3	7.0	14.7				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.7	0.0	2.3	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	853	447	253	863	0	474	0	295	1	0	0
Future Volume (vph)	14	853	447	253	863	0	474	0	295	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1581	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1581	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	898	471	266	908	0	499	0	311	1	0	0
RTOR Reduction (vph)	0	0	248	0	0	0	0	107	183	0	0	0
Lane Group Flow (vph)	15	898	223	266	908	0	279	169	72	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	447	425		55	
v/s Ratio Prot	0.01	c0.25		c0.08	c0.26		c0.17	0.11				
v/s Ratio Perm			0.14						0.05		c0.00	
v/c Ratio	0.62	0.74	0.41	0.99	0.63		0.59	0.38	0.17		0.02	
Uniform Delay, d1	31.4	18.6	16.1	29.5	15.2		19.7	18.4	17.3		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	2.5	0.5	52.7	0.9		5.2	2.4	0.9		0.1	
Delay (s)	72.7	21.0	16.6	82.2	16.1		25.0	20.9	18.2		31.1	
Level of Service	E	C	B	F	B		C	C	B		C	
Approach Delay (s)		20.1			31.1			21.4			31.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			64.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	946	300	243	839	0	365	0	283	0	0	2
Future Volume (vph)	13	946	300	243	839	0	365	0	283	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.95	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	996	316	256	883	0	384	0	298	0	0	2
RTOR Reduction (vph)	0	0	150	0	0	0	0	107	154	0	2	0
Lane Group Flow (vph)	14	996	166	256	883	0	234	126	61	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	439	425		47	
v/s Ratio Prot	0.01	c0.28		c0.07	c0.25		c0.14	0.08			c0.00	
v/s Ratio Perm			0.10						0.04			
v/c Ratio	0.58	0.82	0.31	0.96	0.61		0.49	0.29	0.14		0.00	
Uniform Delay, d1	31.4	19.3	15.5	29.4	15.0		19.1	17.9	17.2		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	31.3	4.6	0.3	42.4	0.8		3.6	1.6	0.7		0.0	
Delay (s)	62.7	23.9	15.8	71.8	15.8		22.7	19.6	17.9		31.0	
Level of Service	E	C	B	E	B		C	B	B		C	
Approach Delay (s)		22.4			28.4			20.1			31.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			64.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	74.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	70	4	137	86	38	7	396	149	36	402	8
Future Vol, veh/h	9	70	4	137	86	38	7	396	149	36	402	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	76	4	149	93	41	8	430	162	39	437	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1114	1128	442	1087	1051	511	446	0	0	592	0	0
Stage 1	520	520	-	527	527	-	-	-	-	-	-	-
Stage 2	594	608	-	560	524	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	185	204	615	194	227	563	1114	-	-	984	-	-
Stage 1	539	532	-	535	528	-	-	-	-	-	-	-
Stage 2	491	486	-	513	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	110	194	615	~ 129	216	563	1114	-	-	984	-	-
Mov Cap-2 Maneuver	110	194	-	~ 129	216	-	-	-	-	-	-	-
Stage 1	535	511	-	531	524	-	-	-	-	-	-	-
Stage 2	371	483	-	416	509	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	41.7		\$ 368.5		0.1		0.7					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1114	-	-	185	171	984	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.488	1.659	0.04	-	-				
HCM Control Delay (s)	8.3	-	-	41.7	\$ 368.5	8.8	-	-				
HCM Lane LOS	A	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	2.4	19.5	0.1	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	148.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	3	108	10	114	6	828	108	97	728	0
Future Vol, veh/h	6	0	3	108	10	114	6	828	108	97	728	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	117	11	124	7	900	117	105	791	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2041	2032	791	1976	1974	959	791	0	0	1017	0	0
Stage 1	1001	1001	-	973	973	-	-	-	-	-	-	-
Stage 2	1040	1031	-	1003	1001	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	57	390	~ 46	62	312	829	-	-	682	-	-
Stage 1	293	321	-	303	330	-	-	-	-	-	-	-
Stage 2	278	310	-	292	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	48	390	~ 40	52	312	829	-	-	682	-	-
Mov Cap-2 Maneuver	19	48	-	~ 40	52	-	-	-	-	-	-	-
Stage 1	291	272	-	301	327	-	-	-	-	-	-	-
Stage 2	161	308	-	245	272	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	191.3		\$ 1270.7		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	829	-	-	28 71	682	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.349 3.552	0.155	-	-					
HCM Control Delay (s)	9.4	-	-	191.\$ 1270.7	11.2	-	-					
HCM Lane LOS	A	-	-	F F	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.1 26.2	0.5	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection	
Intersection Delay, s/veh	24
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	58	281	6	68	269	14	8	173	71	17	172	58
Future Vol, veh/h	58	281	6	68	269	14	8	173	71	17	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	305	7	74	292	15	9	188	77	18	187	63
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	27.1	27.7	19.2	19.1
HCM LOS	D	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	17%	19%	7%
Vol Thru, %	69%	81%	77%	70%
Vol Right, %	28%	2%	4%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	345	351	247
LT Vol	8	58	68	17
Through Vol	173	281	269	172
RT Vol	71	6	14	58
Lane Flow Rate	274	375	382	268
Geometry Grp	1	1	1	1
Degree of Util (X)	0.555	0.732	0.742	0.548
Departure Headway (Hd)	7.295	7.029	7.005	7.346
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	493	514	515	489
Service Time	5.375	5.102	5.077	5.426
HCM Lane V/C Ratio	0.556	0.73	0.742	0.548
HCM Control Delay	19.2	27.1	27.7	19.1
HCM Lane LOS	C	D	D	C
HCM 95th-tile Q	3.3	6	6.2	3.3

Intersection	
Intersection Delay, s/veh	45.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	61	282	65	89	260	15	83	177	57	12	150	56
Future Vol, veh/h	61	282	65	89	260	15	83	177	57	12	150	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	307	71	97	283	16	90	192	62	13	163	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	62.6	47.2	35.9	22.7
HCM LOS	F	E	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	15%	24%	6%
Vol Thru, %	56%	69%	71%	69%
Vol Right, %	18%	16%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	408	364	218
LT Vol	83	61	89	12
Through Vol	177	282	260	150
RT Vol	57	65	15	56
Lane Flow Rate	345	443	396	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.788	0.968	0.882	0.57
Departure Headway (Hd)	8.231	7.855	8.025	8.661
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	438	466	451	415
Service Time	6.315	5.855	6.108	6.759
HCM Lane V/C Ratio	0.788	0.951	0.878	0.571
HCM Control Delay	35.9	62.6	47.2	22.7
HCM Lane LOS	E	F	E	C
HCM 95th-tile Q	6.9	12	9.3	3.4

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	303	16	26	331	5	18	0	9	2	5	0
Future Vol, veh/h	3	303	16	26	331	5	18	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	329	17	28	360	5	20	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	11.4	8.8	8.8
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	1%	7%	29%
Vol Thru, %	0%	94%	91%	71%
Vol Right, %	33%	5%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	322	362	7
LT Vol	18	3	26	2
Through Vol	0	303	331	5
RT Vol	9	16	5	0
Lane Flow Rate	29	350	393	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.429	0.481	0.012
Departure Headway (Hd)	5.476	4.409	4.399	5.645
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	652	819	818	632
Service Time	3.525	2.43	2.42	3.698
HCM Lane V/C Ratio	0.044	0.427	0.48	0.013
HCM Control Delay	8.8	10.7	11.4	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	2.2	2.6	0

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	358	17	15	364	4	14	0	11	2	4	3
Future Vol, veh/h	6	358	17	15	364	4	14	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	389	18	16	396	4	15	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	12.2	8.9	8.8
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	56%	2%	4%	22%
Vol Thru, %	0%	94%	95%	44%
Vol Right, %	44%	4%	1%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	381	383	9
LT Vol	14	6	15	2
Through Vol	0	358	364	4
RT Vol	11	17	4	3
Lane Flow Rate	27	414	416	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.511	0.516	0.015
Departure Headway (Hd)	5.576	4.441	4.461	5.609
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	639	812	808	635
Service Time	3.634	2.464	2.485	3.672
HCM Lane V/C Ratio	0.042	0.51	0.515	0.016
HCM Control Delay	8.9	12	12.2	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	3	3	0

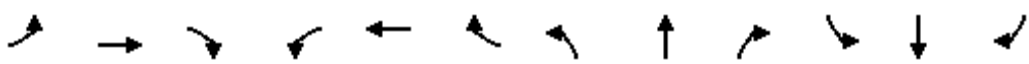
HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	323	56	181	375	122	66	428	167	67	321	120
Future Volume (veh/h)	112	323	56	181	375	122	66	428	167	67	321	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	340	59	191	395	128	69	451	176	71	338	126
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	424	370	64	417	438	371	297	596	231	242	608	223
Arrive On Green	0.24	0.24	0.24	0.23	0.23	0.23	0.05	0.24	0.24	0.05	0.24	0.24
Sat Flow, veh/h	1781	1552	269	1781	1870	1585	1781	2504	969	1781	2546	933
Grp Volume(v), veh/h	118	0	399	191	395	128	69	319	308	71	234	230
Grp Sat Flow(s),veh/h/ln	1781	0	1822	1781	1870	1585	1781	1777	1696	1781	1777	1702
Q Serve(g_s), s	4.1	0.0	16.1	7.0	15.5	5.1	2.2	12.6	12.8	2.2	8.7	9.0
Cycle Q Clear(g_c), s	4.1	0.0	16.1	7.0	15.5	5.1	2.2	12.6	12.8	2.2	8.7	9.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.57	1.00		0.55
Lane Grp Cap(c), veh/h	424	0	434	417	438	371	297	423	404	242	424	407
V/C Ratio(X)	0.28	0.00	0.92	0.46	0.90	0.34	0.23	0.75	0.76	0.29	0.55	0.57
Avail Cap(c_a), veh/h	424	0	434	424	445	378	324	423	404	268	424	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	28.1	24.8	28.1	24.1	20.5	26.7	26.8	21.1	25.2	25.3
Incr Delay (d2), s/veh	0.4	0.0	24.6	0.8	21.0	0.6	0.4	11.8	12.8	0.7	5.1	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	9.3	2.9	9.2	1.9	0.9	6.3	6.2	0.9	4.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	52.7	25.6	49.1	24.7	20.9	38.5	39.6	21.7	30.3	30.9
LnGrp LOS	C	A	D	C	D	C	C	D	D	C	C	C
Approach Vol, veh/h		517			714			696			535	
Approach Delay, s/veh		46.1			38.4			37.2			29.4	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	22.5		22.5	8.3	22.5		22.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.2	14.8		18.1	4.2	11.0		17.5				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	1.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				37.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	356	50	227	334	48	40	271	165	111	413	108
Future Volume (veh/h)	87	356	50	227	334	48	40	271	165	111	413	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	375	53	239	352	51	42	285	174	117	435	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	382	54	388	408	346	275	512	304	324	743	193
Arrive On Green	0.24	0.24	0.24	0.22	0.22	0.22	0.04	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1781	1603	227	1781	1870	1585	1781	2145	1273	1781	2791	725
Grp Volume(v), veh/h	92	0	428	239	352	51	42	235	224	117	276	273
Grp Sat Flow(s),veh/h/ln	1781	0	1830	1781	1870	1585	1781	1777	1641	1781	1777	1740
Q Serve(g_s), s	3.1	0.0	17.5	9.1	13.7	2.0	1.3	8.7	9.1	3.7	10.2	10.3
Cycle Q Clear(g_c), s	3.1	0.0	17.5	9.1	13.7	2.0	1.3	8.7	9.1	3.7	10.2	10.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.78	1.00		0.42
Lane Grp Cap(c), veh/h	425	0	437	388	408	346	275	424	392	324	473	463
V/C Ratio(X)	0.22	0.00	0.98	0.62	0.86	0.15	0.15	0.55	0.57	0.36	0.58	0.59
Avail Cap(c_a), veh/h	425	0	437	425	446	378	324	424	392	324	473	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	28.5	26.6	28.4	23.8	20.6	25.2	25.3	20.1	24.0	24.1
Incr Delay (d2), s/veh	0.3	0.0	37.8	2.3	15.0	0.2	0.3	5.1	6.0	0.7	5.2	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	11.5	4.0	7.5	0.7	0.5	4.0	3.9	1.5	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	66.4	28.9	43.4	24.0	20.9	30.3	31.3	20.8	29.2	29.6
LnGrp LOS	C	A	E	C	D	C	C	C	C	C	C	C
Approach Vol, veh/h	520			642			501			666		
Approach Delay, s/veh	58.8			36.5			30.0			27.9		
Approach LOS	E			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	22.5		22.5	7.4	24.6		20.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	5.7	11.1		19.5	3.3	12.3		15.7				
Green Ext Time (p_c), s	0.0	1.5		0.0	0.0	1.5		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	37.6											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	273	71	47	330	50	138	733	34	29	794	184
Future Volume (veh/h)	213	273	71	47	330	50	138	733	34	29	794	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	287	75	49	347	53	145	772	36	31	836	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	741	190	83	424	359	266	1745	81	60	1267	292
Arrive On Green	0.08	0.26	0.26	0.05	0.23	0.23	0.08	0.35	0.35	0.03	0.31	0.31
Sat Flow, veh/h	1781	2799	719	1781	1870	1585	3456	5000	232	1781	4146	956
Grp Volume(v), veh/h	224	180	182	49	347	53	145	525	283	31	685	345
Grp Sat Flow(s),veh/h/ln	1781	1777	1741	1781	1870	1585	1728	1702	1829	1781	1702	1698
Q Serve(g_s), s	5.0	4.9	5.0	1.6	10.4	1.6	2.4	7.0	7.0	1.0	10.3	10.4
Cycle Q Clear(g_c), s	5.0	4.9	5.0	1.6	10.4	1.6	2.4	7.0	7.0	1.0	10.3	10.4
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.13	1.00		0.56
Lane Grp Cap(c), veh/h	151	471	461	83	424	359	266	1188	638	60	1041	519
V/C Ratio(X)	1.48	0.38	0.39	0.59	0.82	0.15	0.55	0.44	0.44	0.52	0.66	0.66
Avail Cap(c_a), veh/h	151	543	532	151	572	485	293	1188	638	151	1041	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	17.7	17.8	27.5	21.6	18.2	26.2	14.8	14.8	28.0	17.8	17.8
Incr Delay (d2), s/veh	248.4	0.5	0.5	6.4	6.8	0.2	1.7	1.2	2.2	6.7	3.3	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	1.8	1.8	0.8	4.7	0.5	0.9	2.4	2.8	0.5	3.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	275.3	18.2	18.3	33.9	28.4	18.4	27.9	16.0	17.0	34.6	21.0	24.4
LnGrp LOS	F	B	B	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h	586			449			953			1061		
Approach Delay, s/veh	116.5			27.8			18.1			22.5		
Approach LOS	F			C			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	25.0	7.3	20.1	9.0	22.5	9.5	17.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	9.0	3.6	7.0	4.4	12.4	7.0	12.4				
Green Ext Time (p_c), s	0.0	3.2	0.0	1.4	0.0	2.9	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	40.0											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	464	66	79	393	58	85	518	123	75	683	112
Future Volume (veh/h)	134	464	66	79	393	58	85	518	123	75	683	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	488	69	83	414	61	89	545	129	79	719	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	869	122	111	481	408	222	1248	289	108	1318	214
Arrive On Green	0.08	0.28	0.28	0.06	0.26	0.26	0.06	0.30	0.30	0.06	0.30	0.30
Sat Flow, veh/h	1781	3128	440	1781	1870	1585	3456	4143	959	1781	4426	719
Grp Volume(v), veh/h	141	276	281	83	414	61	89	446	228	79	551	286
Grp Sat Flow(s),veh/h/ln	1781	1777	1791	1781	1870	1585	1728	1702	1698	1781	1702	1741
Q Serve(g_s), s	4.8	8.0	8.1	2.8	12.8	1.8	1.5	6.4	6.6	2.6	8.2	8.3
Cycle Q Clear(g_c), s	4.8	8.0	8.1	2.8	12.8	1.8	1.5	6.4	6.6	2.6	8.2	8.3
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.56	1.00		0.41
Lane Grp Cap(c), veh/h	147	494	498	111	481	408	222	1026	512	108	1014	519
V/C Ratio(X)	0.96	0.56	0.56	0.75	0.86	0.15	0.40	0.43	0.45	0.73	0.54	0.55
Avail Cap(c_a), veh/h	147	529	534	147	557	472	286	1026	512	147	1014	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	18.7	18.7	27.9	21.4	17.3	27.2	17.0	17.0	27.9	17.8	17.8
Incr Delay (d2), s/veh	60.9	1.2	1.2	13.6	11.6	0.2	1.2	1.3	2.8	11.2	2.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	3.0	3.0	1.5	6.3	0.6	0.6	2.3	2.5	1.3	3.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.5	19.8	19.9	41.5	33.0	17.5	28.3	18.3	19.8	39.1	19.9	22.0
LnGrp LOS	F	B	B	D	C	B	C	B	B	D	B	C
Approach Vol, veh/h		698			558			763			916	
Approach Delay, s/veh		33.7			32.6			19.9			22.2	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	22.7	8.3	21.3	8.4	22.5	9.5	20.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	8.6	4.8	10.1	3.5	10.3	6.8	14.8				
Green Ext Time (p_c), s	0.0	2.7	0.0	1.9	0.0	3.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	37	23	44	28	23	57	35	793	15	20	781	10
Future Volume (veh/h)	37	23	44	28	23	57	35	793	15	20	781	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	25	48	30	25	62	38	862	16	22	849	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	31	380	74	42	380	65	1039	880	44	1001	13
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.56	0.56	0.02	0.54	0.54
Sat Flow, veh/h	0	130	1585	0	173	1585	1781	1870	1585	1781	1842	24
Grp Volume(v), veh/h	65	0	48	55	0	62	38	862	16	22	0	860
Grp Sat Flow(s),veh/h/ln	130	0	1585	173	0	1585	1781	1870	1585	1781	0	1866
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.3	1.6	28.5	0.3	0.9	0.0	29.3
Cycle Q Clear(g_c), s	18.0	0.0	1.8	18.0	0.0	2.3	1.6	28.5	0.3	0.9	0.0	29.3
Prop In Lane	0.62		1.00	0.55		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	109	0	380	116	0	380	65	1039	880	44	0	1014
V/C Ratio(X)	0.60	0.00	0.13	0.48	0.00	0.16	0.59	0.83	0.02	0.50	0.00	0.85
Avail Cap(c_a), veh/h	109	0	380	116	0	380	121	1039	880	119	0	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	22.3	24.5	0.0	22.5	35.6	13.7	7.5	36.1	0.0	14.5
Incr Delay (d2), s/veh	8.7	0.0	0.1	3.0	0.0	0.2	8.1	7.7	0.0	8.7	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.7	0.8	0.0	0.9	0.8	12.8	0.1	0.5	0.0	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	22.5	27.5	0.0	22.7	43.7	21.4	7.5	44.8	0.0	23.3
LnGrp LOS	D	A	C	C	A	C	D	C	A	D	A	C
Approach Vol, veh/h		113			117			916			882	
Approach Delay, s/veh		31.3			25.0			22.1			23.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	45.3		22.5	6.3	46.2		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	38.4		18.0	5.0	38.5		18.0				
Max Q Clear Time (g_c+I1), s	3.6	31.3		20.0	2.9	30.5		20.0				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 18: Indian Hill Blvd & Harrison Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	45	19	42	17	27	49	48	728	51	20	832	9
Future Volume (veh/h)	45	19	42	17	27	49	48	728	51	20	832	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	21	46	18	29	53	52	791	55	22	904	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	20	357	62	74	357	76	1089	923	43	1040	12
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.58	0.58	0.02	0.56	0.56
Sat Flow, veh/h	0	89	1585	0	330	1585	1781	1870	1585	1781	1846	20
Grp Volume(v), veh/h	70	0	46	47	0	53	52	791	55	22	0	914
Grp Sat Flow(s),veh/h/ln	89	0	1585	330	0	1585	1781	1870	1585	1781	0	1867
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	2.1	2.3	24.5	1.2	1.0	0.0	33.5
Cycle Q Clear(g_c), s	18.0	0.0	1.9	18.0	0.0	2.1	2.3	24.5	1.2	1.0	0.0	33.5
Prop In Lane	0.70		1.00	0.38		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	97	0	357	137	0	357	76	1089	923	43	0	1052
V/C Ratio(X)	0.73	0.00	0.13	0.34	0.00	0.15	0.68	0.73	0.06	0.51	0.00	0.87
Avail Cap(c_a), veh/h	97	0	357	137	0	357	114	1089	923	111	0	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	24.7	26.0	0.0	24.9	37.7	12.1	7.2	38.6	0.0	14.9
Incr Delay (d2), s/veh	23.5	0.0	0.2	1.5	0.0	0.2	10.2	4.2	0.1	9.1	0.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.7	0.8	0.0	0.8	1.2	10.4	0.4	0.5	0.0	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	0.0	24.9	27.5	0.0	25.0	47.9	16.4	7.4	47.6	0.0	24.7
LnGrp LOS	E	A	C	C	A	C	D	B	A	D	A	C
Approach Vol, veh/h		116			100			898			936	
Approach Delay, s/veh		45.2			26.2			17.6			25.2	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	49.6		22.5	6.4	51.1		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	43.4		18.0	5.0	43.5		18.0				
Max Q Clear Time (g_c+I1), s	4.3	35.5		20.0	3.0	26.5		20.0				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	5.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	57	82	142	50	108	112	899	187	44	807	86
Future Volume (veh/h)	32	57	82	142	50	108	112	899	187	44	807	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	62	89	154	54	117	122	977	203	48	877	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	330	279	263	93	201	289	1188	1006	261	1032	109
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	0.63	0.63	0.04	0.62	0.62
Sat Flow, veh/h	1214	1870	1585	1236	526	1139	1781	1870	1585	1781	1662	176
Grp Volume(v), veh/h	35	62	89	154	0	171	122	977	203	48	0	970
Grp Sat Flow(s),veh/h/ln	1214	1870	1585	1236	0	1665	1781	1870	1585	1781	0	1839
Q Serve(g_s), s	2.5	2.5	4.4	10.9	0.0	8.5	2.2	35.9	4.8	0.8	0.0	38.1
Cycle Q Clear(g_c), s	10.9	2.5	4.4	13.5	0.0	8.5	2.2	35.9	4.8	0.8	0.0	38.1
Prop In Lane	1.00		1.00	1.00		0.68	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	179	330	279	263	0	293	289	1188	1006	261	0	1142
V/C Ratio(X)	0.20	0.19	0.32	0.59	0.00	0.58	0.42	0.82	0.20	0.18	0.00	0.85
Avail Cap(c_a), veh/h	208	374	317	292	0	333	303	1188	1006	291	0	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.1	31.6	32.4	37.3	0.0	34.0	15.4	12.6	6.9	12.8	0.0	13.7
Incr Delay (d2), s/veh	0.5	0.3	0.6	2.5	0.0	2.0	0.9	5.8	0.4	0.3	0.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.2	1.7	3.5	0.0	3.6	1.3	14.7	1.6	0.4	0.0	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	31.9	33.0	39.8	0.0	36.0	16.2	18.4	7.3	13.1	0.0	21.7
LnGrp LOS	D	C	C	D	A	D	B	B	A	B	A	C
Approach Vol, veh/h		186			325			1302			1018	
Approach Delay, s/veh		33.9			37.8			16.5			21.3	
Approach LOS		C			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	61.6		20.4	9.3	60.4		20.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	53.5		18.0	5.5	53.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	37.9		12.9	4.2	40.1		15.5				
Green Ext Time (p_c), s	0.0	7.7		0.3	0.0	6.5		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				21.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	83	115	135	116	143	141	678	214	125	683	88
Future Volume (veh/h)	55	83	115	135	116	143	141	678	214	125	683	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	90	125	147	126	155	153	737	233	136	742	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	435	369	322	177	218	290	981	832	333	849	110
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.06	0.52	0.52	0.06	0.52	0.52
Sat Flow, veh/h	1098	1870	1585	1166	763	939	1781	1870	1585	1781	1623	210
Grp Volume(v), veh/h	60	90	125	147	0	281	153	737	233	136	0	838
Grp Sat Flow(s),veh/h/ln	1098	1870	1585	1166	0	1701	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	4.0	2.9	4.9	8.7	0.0	11.4	2.9	23.2	6.1	2.6	0.0	30.1
Cycle Q Clear(g_c), s	15.4	2.9	4.9	11.6	0.0	11.4	2.9	23.2	6.1	2.6	0.0	30.1
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	185	435	369	322	0	396	290	981	832	333	0	959
V/C Ratio(X)	0.32	0.21	0.34	0.46	0.00	0.71	0.53	0.75	0.28	0.41	0.00	0.87
Avail Cap(c_a), veh/h	193	449	380	331	0	408	307	981	832	342	0	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.5	23.2	24.0	27.9	0.0	26.5	14.9	14.0	9.9	11.6	0.0	15.7
Incr Delay (d2), s/veh	1.0	0.2	0.5	1.0	0.0	5.5	1.4	4.9	0.8	0.8	0.0	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	1.9	2.5	0.0	5.1	1.2	9.9	2.1	0.9	0.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	23.4	24.5	28.9	0.0	31.9	16.2	18.9	10.7	12.4	0.0	26.6
LnGrp LOS	C	C	C	C	A	C	B	B	B	B	A	C
Approach Vol, veh/h		275			428			1123			974	
Approach Delay, s/veh		26.3			30.9			16.8			24.6	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	43.8		21.9	9.3	43.8		21.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	38.4		18.0	5.5	38.0		18.0				
Max Q Clear Time (g_c+I1), s	4.6	25.2		17.4	4.9	32.1		13.6				
Green Ext Time (p_c), s	0.0	5.1		0.1	0.0	3.1		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				22.6								
HCM 6th LOS				C								

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	155	57	17	151	40	62	148	36	31	151	85
Future Vol, veh/h	94	155	57	17	151	40	62	148	36	31	151	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	168	62	18	164	43	67	161	39	34	164	92
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	12.2	12.5	16.5	16.7
HCM LOS	B	B	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	25%	100%	0%	0%	100%	0%	0%	12%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%
Vol Right, %	15%	0%	0%	100%	0%	0%	100%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	94	155	57	17	151	40	267
LT Vol	62	94	0	0	17	0	0	31
Through Vol	148	0	155	0	0	151	0	151
RT Vol	36	0	0	57	0	0	40	85
Lane Flow Rate	267	102	168	62	18	164	43	290
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.508	0.212	0.326	0.107	0.039	0.327	0.078	0.533
Departure Headway (Hd)	6.838	7.481	6.965	6.243	7.679	7.162	6.438	6.616
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	527	480	516	574	466	502	556	546
Service Time	4.576	5.222	4.706	3.984	5.422	4.905	4.181	4.354
HCM Lane V/C Ratio	0.507	0.212	0.326	0.108	0.039	0.327	0.077	0.531
HCM Control Delay	16.5	12.2	13.1	9.7	10.7	13.4	9.7	16.7
HCM Lane LOS	C	B	B	A	B	B	A	C
HCM 95th-tile Q	2.8	0.8	1.4	0.4	0.1	1.4	0.3	3.1

Intersection												
Intersection Delay, s/veh	45.4											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	302	85	55	288	101	50	156	52	120	218	45
Future Vol, veh/h	55	302	85	55	288	101	50	156	52	120	218	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	328	92	60	313	110	54	170	57	130	237	49
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	33	29.7	32.3	86.9
HCM LOS	D	D	D	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	31%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%
Vol Right, %	20%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	258	55	302	85	55	288	101	383
LT Vol	50	55	0	0	55	0	0	120
Through Vol	156	0	302	0	0	288	0	218
RT Vol	52	0	0	85	0	0	101	45
Lane Flow Rate	280	60	328	92	60	313	110	416
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.71	0.156	0.814	0.213	0.157	0.778	0.254	1.043
Departure Headway (Hd)	9.467	9.824	9.293	8.55	9.854	9.323	8.579	9.021
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	384	367	394	422	366	391	422	408
Service Time	7.167	7.524	6.993	6.25	7.554	7.023	6.279	6.67
HCM Lane V/C Ratio	0.729	0.163	0.832	0.218	0.164	0.801	0.261	1.02
HCM Control Delay	32.3	14.3	41.9	13.5	14.4	38	14.2	86.9
HCM Lane LOS	D	B	E	B	B	E	B	F
HCM 95th-tile Q	5.3	0.5	7.3	0.8	0.6	6.5	1	13.7

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	2	89	4	1	5	79	559	4	2	449	109
Future Volume (veh/h)	113	2	89	4	1	5	79	559	4	2	449	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	2	97	4	1	5	86	608	4	2	488	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	189	160	18	5	20	628	2510	17	614	2465	1099
Arrive On Green	0.10	0.10	0.10	0.01	0.01	0.01	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1781	1870	1585	1439	360	1585	814	3619	24	810	3554	1585
Grp Volume(v), veh/h	123	2	97	5	0	5	86	298	314	2	488	118
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1798	0	1585	814	1777	1866	810	1777	1585
Q Serve(g_s), s	4.7	0.1	4.1	0.2	0.0	0.2	2.9	4.3	4.3	0.1	3.4	1.7
Cycle Q Clear(g_c), s	4.7	0.1	4.1	0.2	0.0	0.2	6.3	4.3	4.3	4.4	3.4	1.7
Prop In Lane	1.00		1.00	0.80		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	180	189	160	23	0	20	628	1233	1294	614	2465	1099
V/C Ratio(X)	0.68	0.01	0.61	0.22	0.00	0.25	0.14	0.24	0.24	0.00	0.20	0.11
Avail Cap(c_a), veh/h	461	484	410	462	0	408	628	1233	1294	614	2465	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	30.4	28.3	30.1	34.2	0.0	34.2	4.9	3.9	3.9	4.8	3.8	3.5
Incr Delay (d2), s/veh	4.6	0.0	3.7	4.8	0.0	6.4	0.5	0.5	0.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.7	0.1	0.0	0.1	0.4	1.1	1.1	0.0	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	28.3	33.8	39.0	0.0	40.6	5.4	4.4	4.4	4.8	4.0	3.7
LnGrp LOS	C	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	222			10			698			608		
Approach Delay, s/veh	34.4			39.8			4.5			3.9		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	53.1			11.6			53.1			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.4			18.1			20.4			18.0		
Max Q Clear Time (g_c+I1), s	8.3			6.7			6.4			2.2		
Green Ext Time (p_c), s	3.2			0.5			2.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.8											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	4	249	4	0	5	112	296	1	5	503	198
Future Volume (veh/h)	168	4	249	4	0	5	112	296	1	5	503	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	4	271	4	0	5	122	322	1	5	547	215
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	379	322	20	0	18	468	2154	7	687	2107	940
Arrive On Green	0.20	0.20	0.20	0.01	0.00	0.01	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	704	3634	11	1057	3554	1585
Grp Volume(v), veh/h	183	4	271	4	0	5	122	157	166	5	547	215
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	704	1777	1868	1057	1777	1585
Q Serve(g_s), s	6.4	0.1	11.5	0.2	0.0	0.2	7.1	2.8	2.8	0.1	5.2	4.5
Cycle Q Clear(g_c), s	6.4	0.1	11.5	0.2	0.0	0.2	12.2	2.8	2.8	2.9	5.2	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	361	379	322	20	0	18	468	1053	1108	687	2107	940
V/C Ratio(X)	0.51	0.01	0.84	0.20	0.00	0.28	0.26	0.15	0.15	0.01	0.26	0.23
Avail Cap(c_a), veh/h	458	481	408	458	0	408	468	1053	1108	687	2107	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	24.8	22.3	26.8	34.3	0.0	34.3	9.8	6.4	6.4	7.0	6.9	6.7
Incr Delay (d2), s/veh	1.1	0.0	12.2	4.6	0.0	7.9	1.3	0.3	0.3	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.1	5.2	0.1	0.0	0.1	1.1	0.9	0.9	0.0	1.6	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	22.3	39.0	38.9	0.0	42.2	11.2	6.7	6.7	7.0	7.1	7.2
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h	458			9			445			767		
Approach Delay, s/veh	33.6			40.7			7.9			7.1		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	46.0			18.7			46.0			5.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	14.2			13.5			7.2			2.2		
Green Ext Time (p_c), s	1.4			0.7			3.5			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	14.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	628	222	141	486	197	187	869	364	257	746	189
Future Volume (veh/h)	224	628	222	141	486	197	187	869	364	257	746	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	683	241	153	528	214	203	945	396	279	811	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1096	489	229	1096	489	317	1925	859	343	1522	385
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	875	3554	1585	758	3554	1585	555	3554	1585	593	2809	710
Grp Volume(v), veh/h	243	683	241	153	528	214	203	945	396	279	513	503
Grp Sat Flow(s),veh/h/ln	875	1777	1585	758	1777	1585	555	1777	1585	593	1777	1743
Q Serve(g_s), s	11.3	9.9	7.4	8.6	7.2	6.5	21.3	10.0	9.2	22.5	11.2	11.2
Cycle Q Clear(g_c), s	18.5	9.9	7.4	18.5	7.2	6.5	32.5	10.0	9.2	32.5	11.2	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	284	1096	489	229	1096	489	317	1925	859	343	962	944
V/C Ratio(X)	0.86	0.62	0.49	0.67	0.48	0.44	0.64	0.49	0.46	0.81	0.53	0.53
Avail Cap(c_a), veh/h	284	1096	489	229	1096	489	317	1925	859	343	962	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	26.2	17.8	16.9	26.9	16.9	16.6	19.6	8.6	8.4	21.0	8.9	8.9
Incr Delay (d2), s/veh	21.7	1.1	0.8	6.4	0.3	0.5	9.5	0.9	1.8	10.4	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	3.8	2.6	2.5	2.7	2.2	3.4	3.3	2.9	4.8	3.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	18.9	17.7	33.3	17.1	17.1	29.1	9.5	10.2	31.4	9.9	10.0
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	A
Approach Vol, veh/h	1167			895			1544			1295		
Approach Delay, s/veh	24.7			19.9			12.2			14.6		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	37.0			23.0			37.0			23.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	32.5			18.5			32.5			18.5		
Max Q Clear Time (g_c+I1), s	34.5			20.5			34.5			20.5		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	1101	171	152	568	193	192	698	410	256	757	216
Future Volume (veh/h)	203	1101	171	152	568	193	192	698	410	256	757	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1197	186	165	617	210	209	759	446	278	823	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	1421	634	205	1421	634	235	1421	634	327	1091	311
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	806	3554	1585	468	3554	1585	533	3554	1585	706	2728	779
Grp Volume(v), veh/h	221	1197	186	165	617	210	209	759	446	278	536	522
Grp Sat Flow(s),veh/h/ln	806	1777	1585	468	1777	1585	533	1777	1585	706	1777	1730
Q Serve(g_s), s	12.3	13.7	3.6	4.3	5.7	4.1	6.3	7.3	10.6	10.7	11.7	11.7
Cycle Q Clear(g_c), s	18.0	13.7	3.6	18.0	5.7	4.1	18.0	7.3	10.6	18.0	11.7	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	381	1421	634	205	1421	634	235	1421	634	327	711	692
V/C Ratio(X)	0.58	0.84	0.29	0.81	0.43	0.33	0.89	0.53	0.70	0.85	0.75	0.75
Avail Cap(c_a), veh/h	381	1421	634	205	1421	634	235	1421	634	327	711	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	16.3	12.2	9.2	21.9	9.8	9.3	21.4	10.3	11.3	19.3	11.6	11.6
Incr Delay (d2), s/veh	2.2	4.8	0.3	19.6	0.2	0.3	35.8	1.4	6.4	15.0	4.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.1	1.0	2.7	1.8	1.2	4.3	2.5	4.0	4.0	4.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	17.0	9.4	41.6	10.0	9.6	57.2	11.7	17.7	34.2	16.0	16.1
LnGrp LOS	B	B	A	D	A	A	E	B	B	C	B	B
Approach Vol, veh/h	1604			992			1414			1336		
Approach Delay, s/veh	16.3			15.2			20.3			19.8		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			20.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	18.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1112	51	27	733	98	48	51	42	95	57	79
Future Volume (veh/h)	71	1112	51	27	733	98	48	51	42	95	57	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	1209	55	29	797	107	52	55	46	103	62	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1495	68	200	1360	183	263	271	188	674	726	615
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	617	3462	157	439	3148	423	430	698	485	1294	1870	1585
Grp Volume(v), veh/h	77	620	644	29	450	454	153	0	0	103	62	86
Grp Sat Flow(s),veh/h/ln	617	1777	1842	439	1777	1794	1613	0	0	1294	1870	1585
Q Serve(g_s), s	5.4	15.2	15.3	3.1	9.6	9.6	0.0	0.0	0.0	0.0	1.0	1.8
Cycle Q Clear(g_c), s	15.1	15.2	15.3	18.3	9.6	9.6	2.9	0.0	0.0	1.9	1.0	1.8
Prop In Lane	1.00		0.09	1.00		0.24	0.34		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	292	768	796	200	768	775	722	0	0	674	726	615
V/C Ratio(X)	0.26	0.81	0.81	0.15	0.59	0.59	0.21	0.00	0.00	0.15	0.09	0.14
Avail Cap(c_a), veh/h	303	800	829	208	800	807	722	0	0	674	726	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	12.4	12.4	20.4	10.8	10.8	10.2	0.0	0.0	9.9	9.7	9.9
Incr Delay (d2), s/veh	0.3	4.1	4.0	0.2	0.8	0.8	0.7	0.0	0.0	0.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.6	5.8	0.3	3.2	3.2	1.1	0.0	0.0	0.7	0.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	16.5	16.4	20.7	11.6	11.6	10.9	0.0	0.0	10.4	9.9	10.4
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h	1341			933			153			251		
Approach Delay, s/veh	16.5			11.8			10.9			10.3		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.9			26.1			23.9			26.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.9			17.3			3.9			20.3		
Green Ext Time (p_c), s	0.6			3.6			0.8			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	14.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1612	56	43	777	82	43	50	44	119	75	69
Future Volume (veh/h)	57	1612	56	43	777	82	43	50	44	119	75	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1752	61	47	845	89	47	54	48	129	82	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	1898	66	140	1757	185	197	220	160	550	577	489
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	599	3504	121	258	3244	342	383	712	520	1293	1870	1585
Grp Volume(v), veh/h	62	885	928	47	463	471	149	0	0	129	82	75
Grp Sat Flow(s),veh/h/ln	599	1777	1848	258	1777	1809	1616	0	0	1293	1870	1585
Q Serve(g_s), s	4.3	27.3	27.7	4.8	9.7	9.7	0.0	0.0	0.0	0.0	1.9	2.1
Cycle Q Clear(g_c), s	14.0	27.3	27.7	32.5	9.7	9.7	3.8	0.0	0.0	3.2	1.9	2.1
Prop In Lane	1.00		0.07	1.00		0.19	0.32		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	348	962	1001	140	962	980	577	0	0	550	577	489
V/C Ratio(X)	0.18	0.92	0.93	0.33	0.48	0.48	0.26	0.00	0.00	0.23	0.14	0.15
Avail Cap(c_a), veh/h	348	962	1001	140	962	980	577	0	0	550	577	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.38	0.38	0.38	0.77	0.77	0.77	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	12.6	12.7	29.0	8.5	8.5	15.7	0.0	0.0	15.5	15.0	15.1
Incr Delay (d2), s/veh	0.1	6.0	6.4	1.1	0.3	0.3	1.1	0.0	0.0	1.0	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	10.0	10.6	0.7	3.0	3.1	1.6	0.0	0.0	1.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	18.6	19.1	30.0	8.8	8.8	16.8	0.0	0.0	16.5	15.5	15.7
LnGrp LOS	B	B	B	C	A	A	B	A	A	B	B	B
Approach Vol, veh/h	1875			981			149			286		
Approach Delay, s/veh	18.7			9.8			16.8			16.0		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			37.0			23.0			37.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	5.8			29.7			5.2			34.5		
Green Ext Time (p_c), s	0.6			2.5			0.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	15.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

24: Mills Ave/Claremont Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	632	49	59	585	94	80	296	45	88	202	240
Future Volume (veh/h)	283	632	49	59	585	94	80	296	45	88	202	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	687	53	64	636	102	87	322	49	96	220	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1262	97	87	716	115	111	819	123	123	506	429
Arrive On Green	0.19	0.38	0.38	0.05	0.23	0.23	0.06	0.26	0.26	0.07	0.27	0.27
Sat Flow, veh/h	1781	3343	258	1781	3068	491	1781	3097	467	1781	1870	1585
Grp Volume(v), veh/h	308	365	375	64	368	370	87	183	188	96	220	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1824	1781	1777	1782	1781	1777	1786	1781	1870	1585
Q Serve(g_s), s	12.6	12.1	12.1	2.7	15.0	15.1	3.6	6.3	6.5	4.0	7.3	10.8
Cycle Q Clear(g_c), s	12.6	12.1	12.1	2.7	15.0	15.1	3.6	6.3	6.5	4.0	7.3	10.8
Prop In Lane	1.00		0.14	1.00		0.28	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	344	671	689	87	415	416	111	470	472	123	506	429
V/C Ratio(X)	0.89	0.54	0.54	0.73	0.89	0.89	0.78	0.39	0.40	0.78	0.43	0.61
Avail Cap(c_a), veh/h	344	671	689	166	426	428	131	470	472	131	506	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	18.3	18.3	35.2	27.8	27.8	34.6	22.6	22.7	34.4	22.6	23.9
Incr Delay (d2), s/veh	15.3	0.5	0.5	11.1	19.4	19.7	22.3	2.4	2.5	24.6	2.7	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	4.4	4.5	1.4	8.1	8.2	2.2	2.8	2.9	2.5	3.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	18.8	18.8	46.3	47.2	47.6	56.9	25.1	25.2	58.9	25.3	30.2
LnGrp LOS	D	B	B	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1048			802			458			577	
Approach Delay, s/veh		26.4			47.3			31.2			33.1	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	24.3	8.2	32.8	9.2	24.8	19.0	22.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.0	7.0	25.5	5.5	19.0	14.5	18.0				
Max Q Clear Time (g_c+I1), s	6.0	8.5	4.7	14.1	5.6	12.8	14.6	17.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	3.2	0.0	1.2	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			34.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	270	214
Future Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	270	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	942	33	50	625	123	66	202	51	208	293	233
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1075	38	75	700	137	86	812	200	247	707	599
Arrive On Green	0.11	0.31	0.31	0.04	0.24	0.24	0.05	0.29	0.29	0.14	0.38	0.38
Sat Flow, veh/h	1781	3502	123	1781	2961	582	1781	2825	697	1781	1870	1585
Grp Volume(v), veh/h	164	478	497	50	375	373	66	125	128	208	293	233
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1766	1781	1777	1745	1781	1870	1585
Q Serve(g_s), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	9.2	8.6
Cycle Q Clear(g_c), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	9.2	8.6
Prop In Lane	1.00		0.07	1.00		0.33	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	201	545	567	75	420	417	86	511	502	247	707	599
V/C Ratio(X)	0.82	0.88	0.88	0.67	0.89	0.89	0.77	0.25	0.25	0.84	0.41	0.39
Avail Cap(c_a), veh/h	234	553	575	114	433	430	160	511	502	278	707	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	26.3	26.3	37.8	29.6	29.6	37.6	21.8	21.9	33.6	18.3	18.1
Incr Delay (d2), s/veh	6.0	5.1	4.9	9.9	19.9	20.4	13.5	1.1	1.2	18.7	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.5	8.8	1.1	8.8	8.8	1.6	1.9	1.9	5.2	4.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	31.3	31.2	47.7	49.4	49.9	51.1	23.0	23.1	52.3	20.1	20.0
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h	1139			798			319			734		
Approach Delay, s/veh	32.6			49.5			28.9			29.2		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	27.5	7.9	29.1	8.3	34.7	13.5	23.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	19.5	5.1	24.9	7.2	24.8	10.5	19.5				
Max Q Clear Time (g_c+I1), s	11.1	6.5	4.2	22.4	4.9	11.2	9.2	18.4				
Green Ext Time (p_c), s	0.1	1.1	0.0	1.4	0.0	2.3	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	35.9											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	18	68	6	1	4	67	383	107	161	354	35
Future Volume (veh/h)	28	18	68	6	1	4	67	383	107	161	354	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	20	74	7	1	4	73	416	116	175	385	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	28	103	68	29	115	94	2001	893	167	2147	958
Arrive On Green	0.03	0.08	0.08	0.04	0.09	0.09	0.05	0.56	0.56	0.09	0.60	0.60
Sat Flow, veh/h	1781	349	1290	1781	327	1308	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	30	0	94	7	0	5	73	416	116	175	385	38
Grp Sat Flow(s),veh/h/ln	1781	0	1638	1781	0	1635	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	0.0	4.5	0.3	0.0	0.2	3.2	4.6	2.8	7.5	3.8	0.8
Cycle Q Clear(g_c), s	1.3	0.0	4.5	0.3	0.0	0.2	3.2	4.6	2.8	7.5	3.8	0.8
Prop In Lane	1.00		0.79	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	54	0	131	68	0	143	94	2001	893	167	2147	958
V/C Ratio(X)	0.55	0.00	0.72	0.10	0.00	0.03	0.78	0.21	0.13	1.05	0.18	0.04
Avail Cap(c_a), veh/h	125	0	369	401	0	621	134	2001	893	167	2147	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	38.2	0.0	35.9	37.2	0.0	33.4	37.4	8.6	8.2	36.3	7.0	6.4
Incr Delay (d2), s/veh	8.5	0.0	7.1	0.7	0.0	0.1	16.7	0.2	0.3	77.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.0	0.1	0.0	0.1	1.8	1.6	0.9	6.7	1.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	0.0	43.0	37.8	0.0	33.5	54.1	8.9	8.5	114.0	7.2	6.5
LnGrp LOS	D	A	D	D	A	C	D	A	A	F	A	A
Approach Vol, veh/h		124			12			605			598	
Approach Delay, s/veh		43.9			36.0			14.3			38.4	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	49.6	7.5	10.9	8.7	52.8	6.9	11.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	18.5	18.0	18.0	6.0	20.0	5.6	30.4				
Max Q Clear Time (g_c+I1), s	9.5	6.6	2.3	6.5	5.2	5.8	3.3	2.2				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.3	0.0	2.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	65	159	26	106	53	411	2	3	337	37
Future Volume (veh/h)	30	0	65	159	26	106	53	411	2	3	337	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	0	71	173	28	115	58	447	2	3	366	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	0	113	213	41	169	81	2060	919	7	1913	853
Arrive On Green	0.06	0.00	0.07	0.12	0.13	0.13	0.05	0.58	0.58	0.00	0.54	0.54
Sat Flow, veh/h	1781	0	1585	1781	320	1314	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	0	71	173	0	143	58	447	2	3	366	40
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1634	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	0.0	3.5	7.6	0.0	6.7	2.6	4.8	0.0	0.1	4.2	1.0
Cycle Q Clear(g_c), s	1.4	0.0	3.5	7.6	0.0	6.7	2.6	4.8	0.0	0.1	4.2	1.0
Prop In Lane	1.00		1.00	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	113	213	0	211	81	2060	919	7	1913	853
V/C Ratio(X)	0.30	0.00	0.63	0.81	0.00	0.68	0.72	0.22	0.00	0.42	0.19	0.05
Avail Cap(c_a), veh/h	401	0	406	345	0	368	154	2060	919	111	1913	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	35.8	0.0	36.1	34.3	0.0	33.3	37.7	8.1	7.1	39.7	9.5	8.7
Incr Delay (d2), s/veh	1.5	0.0	5.6	7.3	0.0	3.8	11.3	0.2	0.0	33.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.5	3.6	0.0	2.8	1.3	1.6	0.0	0.1	1.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	0.0	41.7	41.6	0.0	37.1	49.0	8.3	7.1	72.9	9.7	8.8
LnGrp LOS	D	A	D	D	A	D	D	A	A	E	A	A
Approach Vol, veh/h		104			316			507			409	
Approach Delay, s/veh		40.3			39.5			13.0			10.1	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	50.9	14.1	10.2	8.1	47.6	9.5	14.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	15.5	20.5	6.9	19.1	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.1	6.8	9.6	5.5	4.6	6.2	3.4	8.7				
Green Ext Time (p_c), s	0.0	2.3	0.2	0.3	0.0	1.9	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	55	18	0	113	0	3
Future Vol, veh/h	55	18	0	113	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	20	0	123	0	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	40
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1022
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.5	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	1022	-	-	-		
HCM Lane V/C Ratio	0.003	-	-	-		
HCM Control Delay (s)	8.5	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0	-	-	-		

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	92	0	0	52	0	79
Future Vol, veh/h	92	0	0	52	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	0	0	57	0	86
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	50
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1008
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1008
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	1008	-	-	-		
HCM Lane V/C Ratio	0.085	-	-	-		
HCM Control Delay (s)	8.9	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0.3	-	-	-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/08/2024

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	114	0	0	46
Future Vol, veh/h	0	3	114	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	124	0	0	50

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	62	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	990	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	990	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 990	-
HCM Lane V/C Ratio	-	- 0.003	-
HCM Control Delay (s)	-	- 8.6	-
HCM Lane LOS	-	- A	-
HCM 95th %tile Q(veh)	-	- 0	-

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	79	40	0	0	191
Future Vol, veh/h	0	79	40	0	0	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	86	43	0	0	208
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	22	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1050	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1050	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.7	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 1050		-		
HCM Lane V/C Ratio	-	- 0.082		-		
HCM Control Delay (s)	-	- 8.7		-		
HCM Lane LOS	-	- A		-		
HCM 95th %tile Q(veh)	-	- 0.3		-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	3	0	98	105	54
Future Vol, veh/h	0	3	0	98	105	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	0	103	111	57
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	84	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	814	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	814	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 814		-	-		
HCM Lane V/C Ratio	- 0.004		-	-		
HCM Control Delay (s)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0		-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/08/2024

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	79	0	130	104	1
Future Vol, veh/h	0	79	0	130	104	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	83	0	137	109	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	55	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	848	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	848	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	9.7	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	848	-	-		
HCM Lane V/C Ratio	-	0.098	-	-		
HCM Control Delay (s)	-	9.7	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	0.3	-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	44	0	40	2	956	42	27	933	0
Future Volume (veh/h)	0	0	0	44	0	40	2	956	42	27	933	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	46	0	42	2	1006	44	28	982	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	163	0	398	163	138	539	2111	92	955	3108	0
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.09	0.61	0.61	0.61	0.61	0.61	0.00
Sat Flow, veh/h	0	1870	0	1781	1870	1585	573	3468	152	1043	5274	0
Grp Volume(v), veh/h	0	0	0	46	0	42	2	515	535	28	982	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	573	1777	1843	521	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.7	0.1	4.7	4.7	0.4	2.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.7	0.0	0.7	2.8	4.7	4.7	5.2	2.8	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	0	163	0	398	163	138	539	1081	1122	955	3108	0
V/C Ratio(X)	0.00	0.00	0.00	0.12	0.00	0.30	0.00	0.48	0.48	0.03	0.32	0.00
Avail Cap(c_a), veh/h	0	1138	0	1328	1138	965	539	1081	1122	955	3108	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.7	0.0	12.7	3.5	3.2	3.2	4.6	2.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.2	0.0	1.5	1.5	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.7	0.7	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	12.8	0.0	13.9	3.5	4.7	4.6	4.7	3.1	0.0
LnGrp LOS	A	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h	0			88			1052			1010		
Approach Delay, s/veh	0.0			13.3			4.7			3.1		
Approach LOS				B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			7.1			22.5			7.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	6.7			0.0			7.2			2.7		
Green Ext Time (p_c), s	5.2			0.0			5.2			0.2		
Intersection Summary												
HCM 6th Ctrl Delay				4.3								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	83	1	79	0	851	49	22	952	0
Future Volume (veh/h)	0	1	0	83	1	79	0	851	49	22	952	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	87	1	83	0	896	52	23	1002	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	234	0	410	234	198	233	1991	116	966	2979	0
Arrive On Green	0.00	0.12	0.00	0.12	0.12	0.12	0.00	0.58	0.58	0.58	0.58	0.00
Sat Flow, veh/h	0	1870	0	1416	1870	1585	562	3413	198	1148	5274	0
Grp Volume(v), veh/h	0	1	0	87	1	83	0	466	482	23	1002	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1416	1870	1585	562	1777	1835	574	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	1.5	0.0	4.6	4.6	0.4	3.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.8	0.0	1.5	0.0	4.6	4.6	4.9	3.1	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	0	234	0	410	234	198	233	1037	1070	966	2979	0
V/C Ratio(X)	0.00	0.00	0.00	0.21	0.00	0.42	0.00	0.45	0.45	0.02	0.34	0.00
Avail Cap(c_a), veh/h	0	1091	0	1059	1091	925	233	1037	1070	966	2979	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.8	0.0	12.6	11.8	12.5	0.0	3.6	3.6	5.0	3.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.4	0.0	1.4	1.4	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.8	0.8	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.8	0.0	12.9	11.8	13.9	0.0	5.0	5.0	5.1	3.6	0.0
LnGrp LOS	A	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1			171			948			1025		
Approach Delay, s/veh	11.8			13.3			5.0			3.7		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			8.4			22.5			8.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	6.6			2.0			6.9			3.8		
Green Ext Time (p_c), s	4.7			0.0			5.3			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	5.0											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	521	111	289	843	64	155	92	267	80	115	79
Future Volume (veh/h)	43	521	111	289	843	64	155	92	267	80	115	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	566	121	314	916	70	168	100	290	87	125	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	1837	819	479	1837	819	456	592	528	303	691	444
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	610	3554	1585	845	3554	1585	1171	1777	1585	994	2076	1332
Grp Volume(v), veh/h	47	566	121	314	916	70	168	100	290	87	106	105
Grp Sat Flow(s),veh/h/ln	610	1777	1585	845	1777	1585	1171	1777	1585	994	1777	1631
Q Serve(g_s), s	3.3	5.5	2.4	20.4	10.1	1.3	7.2	2.4	9.0	4.7	2.5	2.8
Cycle Q Clear(g_c), s	13.3	5.5	2.4	25.9	10.1	1.3	9.9	2.4	9.0	13.7	2.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	333	1837	819	479	1837	819	456	592	528	303	592	543
V/C Ratio(X)	0.14	0.31	0.15	0.65	0.50	0.09	0.37	0.17	0.55	0.29	0.18	0.19
Avail Cap(c_a), veh/h	348	1925	859	500	1925	859	456	592	528	303	592	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	8.3	7.6	15.8	9.4	7.3	17.8	14.1	16.3	21.9	14.2	14.3
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.4	0.2	0.0	1.7	0.5	3.1	2.4	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	0.7	3.7	3.2	0.4	2.0	0.9	3.4	1.2	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	8.4	7.7	18.2	9.6	7.4	19.5	14.6	19.4	24.3	14.9	15.1
LnGrp LOS	B	A	A	B	A	A	B	B	B	C	B	B
Approach Vol, veh/h	734			1300			558			298		
Approach Delay, s/veh	8.6			11.5			18.6			17.7		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.5			35.5			24.5			35.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	11.9			15.3			15.7			27.9		
Green Ext Time (p_c), s	1.7			4.4			0.4			3.1		
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

1: Indian Hill Blvd & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	702	147	319	900	72	157	95	246	64	137	70
Future Volume (veh/h)	42	702	147	319	900	72	157	95	246	64	137	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	763	160	347	978	78	171	103	267	70	149	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	2252	1005	466	2252	1005	321	451	402	194	588	285
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	575	3554	1585	704	3554	1585	1156	1777	1585	1012	2320	1125
Grp Volume(v), veh/h	46	763	160	347	978	78	171	103	267	70	112	113
Grp Sat Flow(s),veh/h/ln	575	1777	1585	704	1777	1585	1156	1777	1585	1012	1777	1668
Q Serve(g_s), s	3.5	8.0	3.3	36.3	11.1	1.5	11.1	3.7	12.1	5.3	4.0	4.3
Cycle Q Clear(g_c), s	14.6	8.0	3.3	44.3	11.1	1.5	15.4	3.7	12.1	17.4	4.0	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	375	2252	1005	466	2252	1005	321	451	402	194	451	423
V/C Ratio(X)	0.12	0.34	0.16	0.75	0.43	0.08	0.53	0.23	0.66	0.36	0.25	0.27
Avail Cap(c_a), veh/h	387	2332	1040	481	2332	1040	321	451	402	194	451	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	6.8	6.0	17.2	7.4	5.6	30.1	23.7	26.8	34.6	23.8	23.9
Incr Delay (d2), s/veh	0.1	0.1	0.1	5.4	0.1	0.0	4.7	0.9	6.4	5.2	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.6	1.0	5.8	3.6	0.4	3.4	1.6	5.1	1.6	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	6.9	6.0	22.5	7.5	5.7	34.8	24.5	33.2	39.8	25.1	25.4
LnGrp LOS	B	A	A	C	A	A	C	C	C	D	C	C
Approach Vol, veh/h	969			1403			541			295		
Approach Delay, s/veh	7.0			11.1			32.0			28.7		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.8			55.2			24.8			55.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			52.5			18.5			52.5		
Max Q Clear Time (g_c+I1), s	17.4			16.6			19.4			46.3		
Green Ext Time (p_c), s	0.4			7.6			0.0			4.4		
Intersection Summary												
HCM 6th Ctrl Delay	15.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	738	110	134	979	153	120	88	97	148	81	167
Future Volume (veh/h)	92	738	110	134	979	153	120	88	97	148	81	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	802	120	146	1064	166	130	96	105	161	88	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	1730	771	349	1730	771	554	680	576	547	680	576
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	530	3554	1585	678	3554	1585	1309	1870	1585	1300	1870	1585
Grp Volume(v), veh/h	100	802	120	146	1064	166	130	96	105	161	88	182
Grp Sat Flow(s),veh/h/ln	530	1777	1585	678	1777	1585	1309	1870	1585	1300	1870	1585
Q Serve(g_s), s	10.2	9.0	2.5	10.9	13.2	3.6	4.4	2.1	2.7	5.7	1.9	5.0
Cycle Q Clear(g_c), s	23.4	9.0	2.5	19.9	13.2	3.6	6.3	2.1	2.7	7.8	1.9	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1730	771	349	1730	771	554	680	576	547	680	576
V/C Ratio(X)	0.38	0.46	0.16	0.42	0.62	0.22	0.23	0.14	0.18	0.29	0.13	0.32
Avail Cap(c_a), veh/h	291	1925	859	386	1925	859	554	680	576	547	680	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.62	0.62	0.62	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	10.2	8.6	16.8	11.3	8.8	14.9	12.8	13.0	15.4	12.8	13.7
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.5	0.3	0.1	0.8	0.4	0.6	1.4	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.8	1.6	4.4	1.1	1.3	0.9	1.0	1.7	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	10.4	8.6	17.3	11.6	8.9	15.7	13.2	13.6	16.8	13.2	15.2
LnGrp LOS	C	B	A	B	B	A	B	B	B	B	B	B
Approach Vol, veh/h	1022			1376			331			431		
Approach Delay, s/veh	11.2			11.9			14.3			15.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	26.3			33.7			26.3			33.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	8.3			25.4			9.8			21.9		
Green Ext Time (p_c), s	0.9			3.8			1.1			6.5		
Intersection Summary												
HCM 6th Ctrl Delay	12.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Mills Ave & Base Line Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	923	150	182	950	96	186	83	68	87	138	168
Future Volume (veh/h)	114	923	150	182	950	96	186	83	68	87	138	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1003	163	198	1033	104	202	90	74	95	150	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	2010	897	333	2010	897	401	553	469	451	553	469
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	546	3554	1585	562	3554	1585	1237	1870	1585	1307	1870	1585
Grp Volume(v), veh/h	124	1003	163	198	1033	104	202	90	74	95	150	183
Grp Sat Flow(s),veh/h/ln	546	1777	1585	562	1777	1585	1237	1870	1585	1307	1870	1585
Q Serve(g_s), s	11.7	11.1	3.2	21.4	11.6	2.0	9.7	2.3	2.2	3.8	4.0	6.0
Cycle Q Clear(g_c), s	23.3	11.1	3.2	32.5	11.6	2.0	13.7	2.3	2.2	6.1	4.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	2010	897	333	2010	897	401	553	469	451	553	469
V/C Ratio(X)	0.38	0.50	0.18	0.60	0.51	0.12	0.50	0.16	0.16	0.21	0.27	0.39
Avail Cap(c_a), veh/h	329	2050	914	339	2050	914	401	553	469	451	553	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.70	0.70	0.70	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	8.5	6.8	18.4	8.6	6.6	22.8	16.9	16.9	19.2	17.5	18.2
Incr Delay (d2), s/veh	0.7	0.2	0.1	1.9	0.1	0.0	3.9	0.5	0.6	1.1	1.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.5	0.9	2.6	3.7	0.6	3.1	1.0	0.8	1.2	1.8	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	8.7	6.9	20.3	8.8	6.6	26.7	17.5	17.5	20.2	18.7	20.6
LnGrp LOS	B	A	A	C	A	A	C	B	B	C	B	C
Approach Vol, veh/h	1290			1335			366			428		
Approach Delay, s/veh	9.2			10.3			22.6			19.9		
Approach LOS	A			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.7			41.3			23.7			41.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			37.5			18.5			37.5		
Max Q Clear Time (g_c+I1), s	15.7			25.3			8.1			34.5		
Green Ext Time (p_c), s	0.4			6.9			1.3			2.2		
Intersection Summary												
HCM 6th Ctrl Delay	12.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	762	254	529	889	132	358	139	528	142	119	99
Future Volume (veh/h)	56	762	254	529	889	132	358	139	528	142	119	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	828	276	575	966	143	389	151	574	154	129	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	910	406	634	1406	627	510	568	482	342	422	327
Arrive On Green	0.04	0.26	0.26	0.18	0.40	0.40	0.14	0.30	0.30	0.06	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1906	1475
Grp Volume(v), veh/h	61	828	276	575	966	143	389	151	574	154	120	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1605
Q Serve(g_s), s	3.1	20.3	14.1	14.7	20.3	5.4	12.5	5.5	27.3	5.1	5.1	5.5
Cycle Q Clear(g_c), s	3.1	20.3	14.1	14.7	20.3	5.4	12.5	5.5	27.3	5.1	5.1	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	78	910	406	634	1406	627	510	568	482	342	394	356
V/C Ratio(X)	0.78	0.91	0.68	0.91	0.69	0.23	0.76	0.27	1.19	0.45	0.30	0.33
Avail Cap(c_a), veh/h	115	928	414	634	1406	627	510	568	482	342	394	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.5	30.1	36.0	22.6	18.1	23.9	23.7	31.3	25.8	29.2	29.4
Incr Delay (d2), s/veh	16.7	11.7	4.0	17.0	1.4	0.2	6.2	1.1	104.3	0.9	2.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	9.6	5.5	7.3	7.9	1.8	6.9	2.5	23.5	2.6	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	44.1	34.1	53.0	24.0	18.3	30.2	24.8	135.6	26.7	31.2	31.9
LnGrp LOS	E	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1165			1684			1114			391	
Approach Delay, s/veh		42.6			33.4			83.8			29.6	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	31.8	21.0	27.6	17.0	24.4	8.5	40.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	26.9	16.5	23.5	12.5	19.5	5.8	34.2				
Max Q Clear Time (g_c+I1), s	7.1	29.3	16.7	22.3	14.5	7.5	5.1	22.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.9	0.0	5.2				
Intersection Summary												
HCM 6th Ctrl Delay			48.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

3: Monte Vista Ave/Padua Ave & Baseline Rd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	856	197	408	987	117	229	140	549	133	91	57
Future Volume (veh/h)	56	856	197	408	987	117	229	140	549	133	91	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	930	214	443	1073	127	249	152	597	145	99	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	999	446	511	1369	611	551	588	498	362	554	323
Arrive On Green	0.04	0.28	0.28	0.15	0.39	0.39	0.11	0.31	0.31	0.06	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	2161	1259
Grp Volume(v), veh/h	61	930	214	443	1073	127	249	152	597	145	80	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1777	1644
Q Serve(g_s), s	3.1	22.9	10.1	11.3	23.9	4.8	8.9	5.5	28.3	5.1	3.2	3.5
Cycle Q Clear(g_c), s	3.1	22.9	10.1	11.3	23.9	4.8	8.9	5.5	28.3	5.1	3.2	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	78	999	446	511	1369	611	551	588	498	362	455	421
V/C Ratio(X)	0.78	0.93	0.48	0.87	0.78	0.21	0.45	0.26	1.20	0.40	0.18	0.19
Avail Cap(c_a), veh/h	115	1007	449	518	1369	611	551	588	498	362	455	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	31.5	26.9	37.5	24.4	18.5	19.5	23.0	30.9	23.2	26.1	26.2
Incr Delay (d2), s/veh	15.9	12.9	0.7	14.2	3.1	0.2	0.5	1.0	106.6	0.7	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	10.8	3.6	5.5	9.7	1.7	3.5	2.4	24.6	2.3	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	44.4	27.6	51.7	27.4	18.7	20.0	24.0	137.5	23.9	26.9	27.2
LnGrp LOS	E	D	C	D	C	B	C	C	F	C	C	C
Approach Vol, veh/h		1205			1643			998			306	
Approach Delay, s/veh		42.1			33.3			90.9			25.5	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.8	17.8	29.8	14.8	27.6	8.5	39.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	27.9	13.5	25.5	10.3	22.7	5.8	33.2				
Max Q Clear Time (g_c+I1), s	7.1	30.3	13.3	24.9	10.9	5.5	5.1	25.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.7	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			49.1									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	777	490	77	717	505	172	0	626	107	0	547
Future Volume (veh/h)	146	777	490	77	717	505	172	0	626	107	0	547
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	159	845	533	84	779	549	187	0	680	116	0	595
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	183	1008	449	108	858	383	848	0	0	848	0	0
Arrive On Green	0.10	0.28	0.28	0.06	0.24	0.24	0.48	0.00	0.00	0.48	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	187		1781	116	
Grp Volume(v), veh/h	159	845	533	84	779	549	187	11.6		116	11.1	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	6.6	16.8	21.3	3.5	16.0	18.1	4.6			2.7		
Cycle Q Clear(g_c), s	6.6	16.8	21.3	3.5	16.0	18.1	4.6			2.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	183	1008	449	108	858	383	848			848		
V/C Ratio(X)	0.87	0.84	1.19	0.78	0.91	1.44	0.22			0.14		
Avail Cap(c_a), veh/h	183	1008	449	121	858	383	848			848		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	33.2	25.3	26.9	34.7	27.6	28.5	11.5			11.0		
Incr Delay (d2), s/veh	33.3	6.4	104.2	24.7	13.4	210.3	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	4.3	7.2	20.1	2.1	7.7	28.5	1.6			0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	31.6	131.0	59.4	41.1	238.7	11.6			11.1		
LnGrp LOS	E	C	F	E	D	F	B			B		
Approach Vol, veh/h	1537			1412								
Approach Delay, s/veh	69.7			119.0								
Approach LOS	E			F								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	40.2		9.0	25.8	40.2		12.2	22.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	10.5		5.1	20.7	9.0		7.7	18.1				
Max Q Clear Time (g_c+I1), s	4.7		5.5	23.3	6.6		8.6	20.1				
Green Ext Time (p_c), s	0.1		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	85.7											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Baseline Rd & SR-210 Ramp

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	889	539	46	810	375	122	0	663	73	0	524
Future Volume (veh/h)	176	889	539	46	810	375	122	0	663	73	0	524
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	0	1870	1870	0	1870
Adj Flow Rate, veh/h	191	966	586	50	880	408	133	0	721	79	0	570
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	0	2	2	0	2
Cap, veh/h	225	1275	569	71	967	431	805	0	0	805	0	0
Arrive On Green	0.13	0.36	0.36	0.04	0.27	0.27	0.45	0.00	0.00	0.45	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	133		1781	79	
Grp Volume(v), veh/h	191	966	586	50	880	408	133	14.7		79	14.2	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	B		1781	B	
Q Serve(g_s), s	9.4	21.5	32.3	2.5	21.6	22.7	4.0			2.3		
Cycle Q Clear(g_c), s	9.4	21.5	32.3	2.5	21.6	22.7	4.0			2.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	225	1275	569	71	967	431	805			805		
V/C Ratio(X)	0.85	0.76	1.03	0.71	0.91	0.95	0.17			0.10		
Avail Cap(c_a), veh/h	228	1275	569	99	967	431	805			805		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Uniform Delay (d), s/veh	38.5	25.4	28.9	42.7	31.7	32.1	14.6			14.2		
Incr Delay (d2), s/veh	24.8	2.7	45.8	12.7	12.3	29.9	0.1			0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.5	8.7	18.3	1.3	10.2	11.6	1.5			0.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	28.1	74.7	55.4	44.0	62.0	14.7			14.2		
LnGrp LOS	E	C	F	E	D	E	B			B		
Approach Vol, veh/h	1743			1338								
Approach Delay, s/veh	47.6			49.9								
Approach LOS	D			D								
Timer - Assigned Phs	1		3	4	5		7	8				
Phs Duration (G+Y+Rc), s	45.1		8.1	36.8	45.1		15.9	29.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	6.9		5.0	31.0	8.5		11.5	24.5				
Max Q Clear Time (g_c+I1), s	4.3		4.5	34.3	6.0		11.4	24.7				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.1		0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	46.4											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

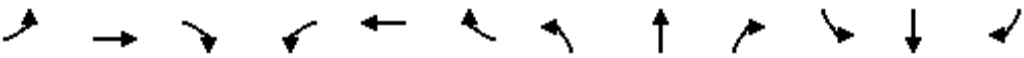
04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	0	19	1	0	0	18	729	1	1	586	242
Future Volume (vph)	271	0	19	1	0	0	18	729	1	1	586	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1612	1504		1770		1770	3539		1770	3539	1583
Flt Permitted	0.95	0.95	1.00		1.00		0.95	1.00		0.35	1.00	1.00
Satd. Flow (perm)	1681	1612	1504		1863		1770	3539		655	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	0	21	1	0	0	20	792	1	1	637	263
RTOR Reduction (vph)	0	121	16	0	0	0	0	0	0	0	0	114
Lane Group Flow (vph)	147	29	3	0	1	0	20	793	0	1	637	149
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Effective Green, g (s)	12.4	12.4	12.4		1.2		3.0	52.9		45.4	45.4	45.4
Actuated g/C Ratio	0.16	0.16	0.16		0.01		0.04	0.66		0.57	0.57	0.57
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	260	249	233		27		66	2340		371	2008	898
v/s Ratio Prot	c0.09	0.02					0.01	c0.22			0.18	
v/s Ratio Perm			0.00		c0.00					0.00		0.09
v/c Ratio	0.57	0.12	0.01		0.04		0.30	0.34		0.00	0.32	0.17
Uniform Delay, d1	31.3	29.1	28.6		38.8		37.5	5.9		7.5	9.1	8.3
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2	0.0		0.6		2.6	0.4		0.0	0.4	0.4
Delay (s)	34.1	29.3	28.6		39.4		40.1	6.3		7.5	9.5	8.7
Level of Service	C	C	C		D		D	A		A	A	A
Approach Delay (s)		31.5			39.4			7.1			9.3	
Approach LOS		C			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			35.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Monte Vista Ave & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	0	235	4	7	1	222	603	4	2	472	218
Future Volume (vph)	277	0	235	4	7	1	222	603	4	2	472	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.94	0.85		0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1543	1504		1815		1770	3536		1770	3539	1583
Flt Permitted	0.95	0.97	1.00		1.00		0.95	1.00		0.40	1.00	1.00
Satd. Flow (perm)	1681	1543	1504		1843		1770	3536		747	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	0	255	4	8	1	241	655	4	2	513	237
RTOR Reduction (vph)	0	117	145	0	1	0	0	0	0	0	0	166
Lane Group Flow (vph)	193	70	31	0	12	0	241	659	0	2	513	71
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8						6		6
Actuated Green, G (s)	14.3	14.3	14.3		1.5		22.3	50.7		23.9	23.9	23.9
Effective Green, g (s)	14.3	14.3	14.3		1.5		22.3	50.7		23.9	23.9	23.9
Actuated g/C Ratio	0.18	0.18	0.18		0.02		0.28	0.63		0.30	0.30	0.30
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	300	275	268		34		493	2240		223	1057	472
v/s Ratio Prot	c0.11	0.05					c0.14	0.19			c0.14	
v/s Ratio Perm			0.02		c0.01					0.00		0.04
v/c Ratio	0.64	0.25	0.12		0.35		0.49	0.29		0.01	0.49	0.15
Uniform Delay, d1	30.5	28.3	27.6		38.8		24.1	6.6		19.7	23.0	20.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.7	0.5	0.2		6.2		0.8	0.3		0.1	1.6	0.7
Delay (s)	35.2	28.7	27.8		45.0		24.9	6.9		19.8	24.6	21.3
Level of Service	D	C	C		D		C	A		B	C	C
Approach Delay (s)		30.7			45.0			11.7			23.5	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			53.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	720	252	166	705	144	284	380	162	202	356	110
Future Volume (veh/h)	103	720	252	166	705	144	284	380	162	202	356	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	783	274	180	766	157	309	413	176	220	387	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	746	261	194	1132	505	319	629	265	256	418	354
Arrive On Green	0.08	0.29	0.29	0.11	0.32	0.32	0.18	0.26	0.26	0.14	0.22	0.22
Sat Flow, veh/h	1781	2582	903	1781	3554	1585	1781	2436	1026	1781	1870	1585
Grp Volume(v), veh/h	112	539	518	180	766	157	309	300	289	220	387	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1708	1781	1777	1585	1781	1777	1686	1781	1870	1585
Q Serve(g_s), s	5.6	26.0	26.0	9.0	16.9	6.7	15.5	13.6	13.8	10.9	18.2	5.7
Cycle Q Clear(g_c), s	5.6	26.0	26.0	9.0	16.9	6.7	15.5	13.6	13.8	10.9	18.2	5.7
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	141	513	493	194	1132	505	319	459	435	256	418	354
V/C Ratio(X)	0.79	1.05	1.05	0.93	0.68	0.31	0.97	0.65	0.66	0.86	0.93	0.34
Avail Cap(c_a), veh/h	172	513	493	194	1132	505	319	459	435	305	418	354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	40.7	32.0	32.0	39.8	26.6	23.2	36.7	29.8	29.9	37.6	34.2	29.4
Incr Delay (d2), s/veh	18.6	53.4	54.4	44.6	1.6	0.3	42.1	7.1	7.8	16.3	26.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	18.0	17.5	6.2	6.9	2.4	10.2	6.5	6.3	5.8	11.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	85.4	86.4	84.4	28.3	23.5	78.8	36.9	37.7	54.0	60.3	31.6
LnGrp LOS	E	F	F	F	C	C	E	D	D	D	E	C
Approach Vol, veh/h		1169			1103			898			727	
Approach Delay, s/veh		83.3			36.7			51.6			53.7	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	27.7	14.3	30.5	20.6	24.6	11.6	33.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.4	20.8	9.8	26.0	16.1	20.1	8.7	27.1				
Max Q Clear Time (g_c+I1), s	12.9	15.8	11.0	28.0	17.5	20.2	7.6	18.9				
Green Ext Time (p_c), s	0.2	1.6	0.0	0.0	0.0	0.0	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay				57.3								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary

6: Foothill Blvd & Indian Hill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	779	234	147	768	135	339	374	154	173	372	144
Future Volume (veh/h)	95	779	234	147	768	135	339	374	154	173	372	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	847	254	160	835	147	368	407	167	188	404	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	813	244	172	1159	517	371	776	315	220	430	365
Arrive On Green	0.07	0.30	0.30	0.19	0.65	0.65	0.21	0.31	0.31	0.12	0.23	0.23
Sat Flow, veh/h	1781	2695	807	1781	3554	1585	1781	2467	1000	1781	1870	1585
Grp Volume(v), veh/h	103	558	543	160	835	147	368	292	282	188	404	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1725	1781	1777	1585	1781	1777	1690	1781	1870	1585
Q Serve(g_s), s	6.3	33.2	33.2	9.7	17.0	4.4	22.7	14.8	15.1	11.4	23.3	9.3
Cycle Q Clear(g_c), s	6.3	33.2	33.2	9.7	17.0	4.4	22.7	14.8	15.1	11.4	23.3	9.3
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	128	536	521	172	1159	517	371	559	532	220	430	365
V/C Ratio(X)	0.80	1.04	1.04	0.93	0.72	0.28	0.99	0.52	0.53	0.85	0.94	0.43
Avail Cap(c_a), veh/h	154	536	521	172	1159	517	371	559	532	332	430	365
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	50.3	38.4	38.4	44.0	15.8	13.7	43.5	30.9	31.0	47.2	41.6	36.2
Incr Delay (d2), s/veh	21.9	49.9	50.9	49.3	2.2	0.3	44.6	3.5	3.8	10.8	27.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	21.2	20.8	6.1	4.6	1.4	14.4	6.8	6.6	5.7	13.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	88.3	89.3	93.3	18.1	13.9	88.1	34.4	34.8	58.0	68.6	39.3
LnGrp LOS	E	F	F	F	B	B	F	C	C	E	E	D
Approach Vol, veh/h	1204			1142			942			749		
Approach Delay, s/veh	87.4			28.1			55.5			59.8		
Approach LOS	F			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	39.1	15.1	37.7	27.4	29.8	12.4	40.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	27.7	10.6	33.2	22.9	25.3	9.5	34.3				
Max Q Clear Time (g_c+I1), s	13.4	17.1	11.7	35.2	24.7	25.3	8.3	19.0				
Green Ext Time (p_c), s	0.3	2.5	0.0	0.0	0.0	0.0	0.0	5.3				
Intersection Summary												
HCM 6th Ctrl Delay	58.0											
HCM 6th LOS	E											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	1004	54	71	941	11	0	0	102	0	0	45
Future Vol, veh/h	44	1004	54	71	941	11	0	0	102	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	1091	59	77	1023	12	0	0	111	0	0	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1035	0	0	1150	0	0	1853	2376	546	1819	2423	512
Stage 1	-	-	-	-	-	-	1187	1187	-	1177	1177	-
Stage 2	-	-	-	-	-	-	666	1189	-	642	1246	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	667	-	-	603	-	-	46	34	482	48	32	507
Stage 1	-	-	-	-	-	-	200	260	-	203	263	-
Stage 2	-	-	-	-	-	-	415	260	-	429	244	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	667	-	-	603	-	-	35	28	482	32	26	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	28	-	32	26	-
Stage 1	-	-	-	-	-	-	186	241	-	188	229	-
Stage 2	-	-	-	-	-	-	327	227	-	307	226	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.8			14.7			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	482	667	-	-	603	-	-	507
HCM Lane V/C Ratio	0.23	0.072	-	-	0.128	-	-	0.096
HCM Control Delay (s)	14.7	10.8	-	-	11.8	-	-	12.9
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0.4	-	-	0.3

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	1176	62	90	1107	23	2	0	130	0	0	44
Future Vol, veh/h	42	1176	62	90	1107	23	2	0	130	0	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	180	75	-	92	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1278	67	98	1203	25	2	0	141	0	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1228	0	0	1345	0	0	2168	2794	639	2130	2836	602
Stage 1	-	-	-	-	-	-	1370	1370	-	1399	1399	-
Stage 2	-	-	-	-	-	-	798	1424	-	731	1437	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	563	-	-	508	-	-	26	18	419	28	17	443
Stage 1	-	-	-	-	-	-	154	212	-	148	206	-
Stage 2	-	-	-	-	-	-	346	200	-	379	197	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	563	-	-	508	-	-	19	13	419	15	13	443
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	13	-	15	13	-
Stage 1	-	-	-	-	-	-	141	195	-	136	166	-
Stage 2	-	-	-	-	-	-	249	161	-	231	181	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	25.3	14.1
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	563	-	-	508	-	-	443
HCM Lane V/C Ratio	0.451	0.081	-	-	0.193	-	-	0.108
HCM Control Delay (s)	25.3	12	-	-	13.8	-	-	14.1
HCM Lane LOS	D	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	2.2	0.3	-	-	0.7	-	-	0.4

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1073	34	35	1003	10	40	5	24	27	8	0
Future Volume (veh/h)	9	1073	34	35	1003	10	40	5	24	27	8	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1166	37	38	1090	11	43	5	26	29	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1566	699	209	1589	16	423	67	210	550	156	0
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.40	0.40	0.40	0.40	0.00
Sat Flow, veh/h	512	3554	1585	465	3604	36	809	170	530	1100	395	0
Grp Volume(v), veh/h	10	1166	37	38	537	564	74	0	0	38	0	0
Grp Sat Flow(s),veh/h/ln	512	1777	1585	465	1777	1864	1508	0	0	1494	0	0
Q Serve(g_s), s	0.9	15.0	0.7	4.1	13.3	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.2	15.0	0.7	19.1	13.3	13.3	1.5	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.58		0.35	0.76		0.00
Lane Grp Cap(c), veh/h	232	1566	699	209	783	821	700	0	0	707	0	0
V/C Ratio(X)	0.04	0.74	0.05	0.18	0.69	0.69	0.11	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	253	1712	764	228	856	898	700	0	0	707	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	12.8	8.8	20.7	12.3	12.3	10.5	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.6	0.0	0.2	1.1	1.1	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.9	0.2	0.4	4.3	4.4	0.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	14.5	8.8	21.0	13.4	13.4	10.8	0.0	0.0	10.4	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1213				1139				74			
Approach Delay, s/veh	14.3				13.7				10.8			
Approach LOS	B				B				B			
Timer - Assigned Phs	2				4				6			
Phs Duration (G+Y+Rc), s	26.3				28.7				28.7			
Change Period (Y+Rc), s	4.5				4.5				4.5			
Max Green Setting (Gmax), s	19.5				26.5				26.5			
Max Q Clear Time (g_c+I1), s	3.5				17.0				21.1			
Green Ext Time (p_c), s	0.3				5.3				0.1			
Intersection Summary												
HCM 6th Ctrl Delay	13.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Dartmouth Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1102	37	31	1201	10	20	2	22	10	4	0
Future Volume (veh/h)	13	1102	37	31	1201	10	20	2	22	10	4	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1198	40	34	1305	11	22	2	24	11	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1625	725	212	1652	14	328	58	291	514	170	0
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	417	3554	1585	450	3611	30	614	153	767	1056	449	0
Grp Volume(v), veh/h	14	1198	40	34	642	674	48	0	0	15	0	0
Grp Sat Flow(s),veh/h/ln	417	1777	1585	450	1777	1865	1533	0	0	1505	0	0
Q Serve(g_s), s	1.6	15.2	0.8	3.7	16.9	16.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.5	15.2	0.8	18.9	16.9	16.9	1.0	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.46		0.50	0.73		0.00
Lane Grp Cap(c), veh/h	194	1625	725	212	813	853	677	0	0	684	0	0
V/C Ratio(X)	0.07	0.74	0.06	0.16	0.79	0.79	0.07	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	211	1777	793	232	888	932	677	0	0	684	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.46	0.46	0.46	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	12.2	8.3	19.9	12.7	12.7	10.9	0.0	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.5	0.0	0.2	2.1	2.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	0.2	0.3	5.5	5.7	0.4	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	13.7	8.3	20.1	14.8	14.7	11.1	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1252			1350			48			15		
Approach Delay, s/veh	13.6			14.9			11.1			10.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.3			29.7			25.3			29.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			27.5			18.5			27.5		
Max Q Clear Time (g_c+I1), s	3.0			20.5			2.3			20.9		
Green Ext Time (p_c), s	0.1			4.3			0.0			4.3		
Intersection Summary												
HCM 6th Ctrl Delay	14.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	991	31	22	813	121	11	10	43	138	7	208
Future Volume (veh/h)	203	991	31	22	813	121	11	10	43	138	7	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1077	34	24	884	132	12	11	47	150	8	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1358	43	46	953	425	242	202	411	185	784	665
Arrive On Green	0.14	0.39	0.39	0.03	0.27	0.27	0.26	0.26	0.26	0.10	0.42	0.42
Sat Flow, veh/h	1781	3516	111	1781	3554	1585	669	779	1585	1781	1870	1585
Grp Volume(v), veh/h	221	544	567	24	884	132	23	0	47	150	8	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1585	1448	0	1585	1781	1870	1585
Q Serve(g_s), s	9.7	21.7	21.7	1.1	19.4	5.3	0.0	0.0	1.8	6.6	0.2	7.7
Cycle Q Clear(g_c), s	9.7	21.7	21.7	1.1	19.4	5.3	0.7	0.0	1.8	6.6	0.2	7.7
Prop In Lane	1.00		0.06	1.00		1.00	0.52		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	256	686	715	46	953	425	444	0	411	185	784	665
V/C Ratio(X)	0.86	0.79	0.79	0.52	0.93	0.31	0.05	0.00	0.11	0.81	0.01	0.34
Avail Cap(c_a), veh/h	256	686	715	114	955	426	444	0	411	189	784	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.80	0.80	0.80	1.00	0.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	33.5	21.7	21.7	38.5	28.5	23.4	22.2	0.0	22.6	35.1	13.5	15.7
Incr Delay (d2), s/veh	16.2	3.9	3.7	7.1	12.4	0.3	0.2	0.0	0.6	21.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.8	9.2	0.5	9.2	1.9	0.3	0.0	0.7	3.8	0.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	25.6	25.4	45.6	40.9	23.7	22.4	0.0	23.2	56.9	13.6	17.1
LnGrp LOS	D	C	C	D	D	C	C	A	C	E	B	B
Approach Vol, veh/h		1332			1040			70			384	
Approach Delay, s/veh		29.5			38.8			22.9			32.6	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.8	25.3	6.6	35.4		38.0	16.0	26.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	20.5	5.1	27.9		33.5	11.5	21.5				
Max Q Clear Time (g_c+I1), s	8.6	3.8	3.1	23.7		9.7	11.7	21.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.5		0.7	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			33.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Foothill Blvd & Mills Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	994	16	40	1017	158	13	4	21	87	1	177
Future Volume (veh/h)	153	994	16	40	1017	158	13	4	21	87	1	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	1080	17	43	1105	172	14	4	23	95	1	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1478	23	69	1201	536	330	85	405	121	711	602
Arrive On Green	0.11	0.41	0.41	0.04	0.34	0.34	0.26	0.26	0.26	0.07	0.38	0.38
Sat Flow, veh/h	1781	3581	56	1781	3554	1585	979	332	1585	1781	1870	1585
Grp Volume(v), veh/h	166	536	561	43	1105	172	18	0	23	95	1	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1860	1781	1777	1585	1311	0	1585	1781	1870	1585
Q Serve(g_s), s	7.3	20.3	20.3	1.9	23.9	6.4	0.0	0.0	0.9	4.2	0.0	6.8
Cycle Q Clear(g_c), s	7.3	20.3	20.3	1.9	23.9	6.4	0.6	0.0	0.9	4.2	0.0	6.8
Prop In Lane	1.00		0.03	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	734	768	69	1201	536	415	0	405	121	711	602
V/C Ratio(X)	0.82	0.73	0.73	0.63	0.92	0.32	0.04	0.00	0.06	0.78	0.00	0.32
Avail Cap(c_a), veh/h	212	734	768	114	1222	545	415	0	405	122	711	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.66	0.66	0.66	1.00	0.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	34.7	19.7	19.7	37.9	25.4	19.7	22.4	0.0	22.5	36.7	15.4	17.5
Incr Delay (d2), s/veh	14.8	2.4	2.3	6.1	7.9	0.2	0.2	0.0	0.3	24.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.9	8.3	0.9	10.5	2.2	0.3	0.0	0.3	2.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	22.2	22.1	44.0	33.4	19.9	22.6	0.0	22.8	60.7	15.4	18.7
LnGrp LOS	D	C	C	D	C	B	C	A	C	E	B	B
Approach Vol, veh/h		1263			1320			41			288	
Approach Delay, s/veh		25.7			32.0			22.7			32.5	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.9	24.9	7.6	37.5		34.9	13.6	31.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.1	31.9		29.5	9.5	27.5				
Max Q Clear Time (g_c+I1), s	6.2	2.9	3.9	22.3		8.8	9.3	25.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.6		0.6	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	836	177	215	735	53	116	270	178	62	208	84
Future Volume (veh/h)	141	836	177	215	735	53	116	270	178	62	208	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	909	192	234	799	58	126	293	193	67	226	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1036	462	281	1210	540	769	677	434	312	814	318
Arrive On Green	0.11	0.29	0.29	0.16	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	2061	2077	1331	910	2497	975
Grp Volume(v), veh/h	153	909	192	234	799	58	126	249	237	67	159	158
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1031	1777	1631	910	1777	1695
Q Serve(g_s), s	5.0	14.6	5.9	7.6	11.5	1.5	2.9	6.6	6.9	3.8	4.0	4.2
Cycle Q Clear(g_c), s	5.0	14.6	5.9	7.6	11.5	1.5	7.1	6.6	6.9	10.6	4.0	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.82	1.00		0.58
Lane Grp Cap(c), veh/h	194	1036	462	281	1210	540	769	579	532	312	579	552
V/C Ratio(X)	0.79	0.88	0.42	0.83	0.66	0.11	0.16	0.43	0.45	0.21	0.27	0.29
Avail Cap(c_a), veh/h	246	1066	476	282	1210	540	769	579	532	312	579	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	20.2	17.1	24.5	16.8	13.5	17.7	15.9	15.9	20.1	15.0	15.0
Incr Delay (d2), s/veh	8.0	5.3	0.4	18.9	1.3	0.1	0.5	2.3	2.7	1.6	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.0	1.9	4.4	4.2	0.5	0.7	2.7	2.6	0.8	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	25.5	17.5	43.4	18.2	13.6	18.1	18.2	18.6	21.7	16.1	16.3
LnGrp LOS	C	C	B	D	B	B	B	B	B	C	B	B
Approach Vol, veh/h		1254			1091			612			384	
Approach Delay, s/veh		25.3			23.3			18.3			17.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.1	13.9	22.0		24.1	11.0	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.0	9.5	18.0		19.0	8.3	19.2				
Max Q Clear Time (g_c+I1), s		9.1	9.6	16.6		12.6	7.0	13.5				
Green Ext Time (p_c), s		2.5	0.0	0.9		1.1	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			22.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Claremont Blvd & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	912	117	101	811	47	161	221	94	72	220	108
Future Volume (veh/h)	120	912	117	101	811	47	161	221	94	72	220	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	991	127	110	882	51	175	240	102	78	239	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1151	514	141	1102	491	832	912	376	433	870	412
Arrive On Green	0.09	0.32	0.32	0.08	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1989	2453	1012	1039	2340	1108
Grp Volume(v), veh/h	130	991	127	110	882	51	175	172	170	78	180	176
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	995	1777	1688	1039	1777	1671
Q Serve(g_s), s	4.3	15.7	3.5	3.6	13.7	1.4	4.1	4.0	4.2	3.4	4.2	4.4
Cycle Q Clear(g_c), s	4.3	15.7	3.5	3.6	13.7	1.4	8.5	4.0	4.2	7.6	4.2	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.66
Lane Grp Cap(c), veh/h	166	1151	514	141	1102	491	832	661	628	433	661	621
V/C Ratio(X)	0.78	0.86	0.25	0.78	0.80	0.10	0.21	0.26	0.27	0.18	0.27	0.28
Avail Cap(c_a), veh/h	223	1214	542	193	1155	515	832	661	628	433	661	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	19.0	14.9	27.1	19.0	14.8	16.2	13.1	13.2	15.8	13.2	13.2
Incr Delay (d2), s/veh	8.3	4.2	0.2	13.0	4.0	0.1	0.6	0.9	1.1	0.9	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.1	1.1	1.9	5.4	0.4	0.9	1.5	1.5	0.8	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	23.3	15.1	40.1	23.0	14.9	16.8	14.1	14.2	16.7	14.2	14.4
LnGrp LOS	C	C	B	D	C	B	B	B	B	B	B	B
Approach Vol, veh/h		1248			1043			517			434	
Approach Delay, s/veh		23.6			24.4			15.0			14.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.8	9.3	23.9		26.8	10.1	23.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	7.5	19.5				
Max Q Clear Time (g_c+I1), s		10.5	5.6	17.7		9.6	6.3	15.7				
Green Ext Time (p_c), s		1.9	0.0	1.8		1.6	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	753	279	259	686	169	276	519	192	139	450	69
Future Volume (veh/h)	41	753	279	259	686	169	276	519	192	139	450	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	793	294	273	722	178	291	546	202	146	474	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	952	425	275	1085	484	275	1040	464	253	1283	194
Arrive On Green	0.04	0.27	0.27	0.08	0.31	0.31	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4477	676
Grp Volume(v), veh/h	43	793	294	273	722	178	291	546	202	146	358	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1749
Q Serve(g_s), s	1.5	13.2	10.5	5.0	11.1	5.5	5.0	8.1	6.5	2.6	5.3	5.4
Cycle Q Clear(g_c), s	1.5	13.2	10.5	5.0	11.1	5.5	5.0	8.1	6.5	2.6	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	75	952	425	275	1085	484	275	1040	464	253	975	501
V/C Ratio(X)	0.57	0.83	0.69	0.99	0.67	0.37	1.06	0.52	0.44	0.58	0.37	0.38
Avail Cap(c_a), veh/h	142	1018	454	275	1085	484	275	1040	464	275	975	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.7	20.7	28.9	19.0	17.1	28.9	18.6	18.0	28.2	17.9	17.9
Incr Delay (d2), s/veh	6.8	5.7	4.1	52.1	1.5	0.5	70.4	1.9	3.0	2.5	1.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.6	3.9	3.9	4.2	1.8	4.6	3.1	2.5	1.0	1.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	27.4	24.8	81.0	20.6	17.5	99.3	20.5	21.0	30.7	18.9	20.1
LnGrp LOS	D	C	C	F	C	B	F	C	C	C	B	C
Approach Vol, veh/h		1130			1173			1039			693	
Approach Delay, s/veh		27.1			34.2			42.6			21.7	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.9	9.5	21.3	9.5	22.5	7.1	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	10.1	7.0	15.2	7.0	7.4	3.5	13.1				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.6	0.0	2.3	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			32.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Monte Vista Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	811	153	144	735	232	135	435	148	137	455	61
Future Volume (veh/h)	148	811	153	144	735	232	135	435	148	137	455	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	854	161	152	774	244	142	458	156	144	479	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	984	439	257	963	430	253	1023	456	254	1315	173
Arrive On Green	0.08	0.28	0.28	0.07	0.27	0.27	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	3554	1585	3456	4567	600
Grp Volume(v), veh/h	156	854	161	152	774	244	142	458	156	144	355	188
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1702	1762
Q Serve(g_s), s	5.0	14.3	5.1	2.7	12.7	8.3	2.5	6.6	4.9	2.5	5.2	5.3
Cycle Q Clear(g_c), s	5.0	14.3	5.1	2.7	12.7	8.3	2.5	6.6	4.9	2.5	5.2	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	142	984	439	257	963	430	253	1023	456	254	980	508
V/C Ratio(X)	1.10	0.87	0.37	0.59	0.80	0.57	0.56	0.45	0.34	0.57	0.36	0.37
Avail Cap(c_a), veh/h	142	1023	456	276	1023	456	276	1023	456	276	980	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	21.5	18.2	28.0	21.2	19.6	28.0	18.2	17.6	28.0	17.7	17.7
Incr Delay (d2), s/veh	103.3	7.9	0.5	3.0	4.5	1.5	2.1	1.4	2.0	2.3	1.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.3	1.7	1.1	5.2	2.9	1.0	2.5	1.8	1.0	1.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.1	29.4	18.7	31.0	25.7	21.1	30.2	19.6	19.6	30.3	18.7	19.8
LnGrp LOS	F	C	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		1171			1170			756			687	
Approach Delay, s/veh		41.6			25.5			21.6			21.5	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	22.5	9.1	21.8	9.1	22.5	9.5	21.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	8.6	4.7	16.3	4.5	7.3	7.0	14.7				
Green Ext Time (p_c), s	0.0	2.3	0.0	1.0	0.0	2.3	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	853	447	253	849	0	474	0	295	1	0	0
Future Volume (vph)	14	853	447	253	849	0	474	0	295	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.95	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1581	1504		3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1581	1504		3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	898	471	266	894	0	499	0	311	1	0	0
RTOR Reduction (vph)	0	0	248	0	0	0	0	107	183	0	0	0
Lane Group Flow (vph)	15	898	223	266	894	0	279	169	72	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	447	425		55	
v/s Ratio Prot	0.01	c0.25		c0.08	c0.25		c0.17	0.11				
v/s Ratio Perm			0.14						0.05		c0.00	
v/c Ratio	0.62	0.74	0.41	0.99	0.62		0.59	0.38	0.17		0.02	
Uniform Delay, d1	31.4	18.6	16.1	29.5	15.1		19.7	18.4	17.3		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	41.4	2.5	0.5	52.7	0.8		5.2	2.4	0.9		0.1	
Delay (s)	72.7	21.0	16.6	82.2	15.9		25.0	20.9	18.2		31.1	
Level of Service	E	C	B	F	B		C	C	B		C	
Approach Delay (s)		20.1			31.1			21.4			31.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			64.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

12: Central Ave & Foothill Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	925	300	243	839	0	365	0	283	0	0	2
Future Volume (vph)	13	925	300	243	839	0	365	0	283	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.91	0.95		0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.95	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3539		1681	1554	1504		3008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	974	316	256	883	0	384	0	298	0	0	2
RTOR Reduction (vph)	0	0	153	0	0	0	0	107	154	0	2	0
Lane Group Flow (vph)	14	974	163	256	883	0	234	126	61	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Effective Green, g (s)	0.9	21.9	21.9	5.0	26.0		18.1	18.1	18.1		1.0	
Actuated g/C Ratio	0.01	0.34	0.34	0.08	0.41		0.28	0.28	0.28		0.02	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	24	1211	541	268	1437		475	439	425		47	
v/s Ratio Prot	0.01	c0.28		c0.07	c0.25		c0.14	0.08			c0.00	
v/s Ratio Perm			0.10						0.04			
v/c Ratio	0.58	0.80	0.30	0.96	0.61		0.49	0.29	0.14		0.00	
Uniform Delay, d1	31.4	19.1	15.4	29.4	15.0		19.1	17.9	17.2		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	31.3	4.0	0.3	42.4	0.8		3.6	1.6	0.7		0.0	
Delay (s)	62.7	23.1	15.8	71.8	15.8		22.7	19.6	17.9		31.0	
Level of Service	E	C	B	E	B		C	B	B		C	
Approach Delay (s)		21.7			28.4			20.1			31.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			64.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	73.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	9	70	4	137	86	38	7	396	142	36	402	8
Future Vol, veh/h	9	70	4	137	86	38	7	396	142	36	402	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	76	4	149	93	41	8	430	154	39	437	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1110	1120	442	1083	1047	507	446	0	0	584	0	0
Stage 1	520	520	-	523	523	-	-	-	-	-	-	-
Stage 2	590	600	-	560	524	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	187	206	615	195	228	566	1114	-	-	991	-	-
Stage 1	539	532	-	537	530	-	-	-	-	-	-	-
Stage 2	494	490	-	513	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	197	615	~ 131	218	566	1114	-	-	991	-	-
Mov Cap-2 Maneuver	111	197	-	~ 131	218	-	-	-	-	-	-	-
Stage 1	535	511	-	533	526	-	-	-	-	-	-	-
Stage 2	374	487	-	416	509	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41	\$ 359.7	0.1	0.7
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1114	-	-	187 173	991	-	-
HCM Lane V/C Ratio	0.007	-	-	0.482 1.64	0.039	-	-
HCM Control Delay (s)	8.3	-	-	41\$ 359.7	8.8	-	-
HCM Lane LOS	A	-	-	E F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3 19.3	0.1	-	-

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

Intersection												
Int Delay, s/veh	127.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	3	98	10	114	6	828	108	97	728	0
Future Vol, veh/h	6	0	3	98	10	114	6	828	108	97	728	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	52	-	-	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	107	11	124	7	900	117	105	791	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2041	2032	791	1976	1974	959	791	0	0	1017	0	0
Stage 1	1001	1001	-	973	973	-	-	-	-	-	-	-
Stage 2	1040	1031	-	1003	1001	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	57	390	~ 46	62	312	829	-	-	682	-	-
Stage 1	293	321	-	303	330	-	-	-	-	-	-	-
Stage 2	278	310	-	292	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	48	390	~ 40	52	312	829	-	-	682	-	-
Mov Cap-2 Maneuver	19	48	-	~ 40	52	-	-	-	-	-	-	-
Stage 1	291	272	-	301	327	-	-	-	-	-	-	-
Stage 2	161	308	-	245	272	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	191.3		\$ 1136.9		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	829	-	-	28 74	682	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.349 3.261	0.155	-	-					
HCM Control Delay (s)	9.4	-	-	191.\$ 1136.9	11.2	-	-					
HCM Lane LOS	A	-	-	F F	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.1 24.6	0.5	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection	
Intersection Delay, s/veh	23.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	58	274	6	68	269	14	8	173	71	17	172	58
Future Vol, veh/h	58	274	6	68	269	14	8	173	71	17	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	298	7	74	292	15	9	188	77	18	187	63
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.9	27.3	18.9	18.8
HCM LOS	D	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	17%	19%	7%
Vol Thru, %	69%	81%	77%	70%
Vol Right, %	28%	2%	4%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	338	351	247
LT Vol	8	58	68	17
Through Vol	173	274	269	172
RT Vol	71	6	14	58
Lane Flow Rate	274	367	382	268
Geometry Grp	1	1	1	1
Degree of Util (X)	0.551	0.715	0.738	0.544
Departure Headway (Hd)	7.246	7.005	6.961	7.296
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	496	514	519	491
Service Time	5.323	5.078	5.032	5.374
HCM Lane V/C Ratio	0.552	0.714	0.736	0.546
HCM Control Delay	18.9	25.9	27.3	18.8
HCM Lane LOS	C	D	D	C
HCM 95th-tile Q	3.3	5.7	6.2	3.2

Intersection	
Intersection Delay, s/veh	42.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	61	282	65	89	250	15	83	177	57	12	150	56
Future Vol, veh/h	61	282	65	89	250	15	83	177	57	12	150	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	307	71	97	272	16	90	192	62	13	163	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	58.4	42.8	34.7	22.2
HCM LOS	F	E	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	15%	25%	6%
Vol Thru, %	56%	69%	71%	69%
Vol Right, %	18%	16%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	408	354	218
LT Vol	83	61	89	12
Through Vol	177	282	250	150
RT Vol	57	65	15	56
Lane Flow Rate	345	443	385	237
Geometry Grp	1	1	1	1
Degree of Util (X)	0.78	0.951	0.854	0.563
Departure Headway (Hd)	8.151	7.717	7.988	8.546
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	444	470	454	419
Service Time	6.205	5.767	6.039	6.633
HCM Lane V/C Ratio	0.777	0.943	0.848	0.566
HCM Control Delay	34.7	58.4	42.8	22.2
HCM Lane LOS	D	F	E	C
HCM 95th-tile Q	6.8	11.5	8.6	3.4

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	296	16	26	331	5	18	0	9	2	5	0
Future Vol, veh/h	3	296	16	26	331	5	18	0	9	2	5	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	322	17	28	360	5	20	0	10	2	5	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	11.4	8.8	8.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	1%	7%	29%
Vol Thru, %	0%	94%	91%	71%
Vol Right, %	33%	5%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	315	362	7
LT Vol	18	3	26	2
Through Vol	0	296	331	5
RT Vol	9	16	5	0
Lane Flow Rate	29	342	393	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.419	0.48	0.012
Departure Headway (Hd)	5.461	4.406	4.389	5.628
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	818	822	634
Service Time	3.507	2.429	2.411	3.68
HCM Lane V/C Ratio	0.044	0.418	0.478	0.013
HCM Control Delay	8.8	10.6	11.4	8.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	2.1	2.6	0

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	358	17	15	354	4	14	0	11	2	4	3
Future Vol, veh/h	6	358	17	15	354	4	14	0	11	2	4	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	389	18	16	385	4	15	0	12	2	4	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	11.9	8.9	8.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	56%	2%	4%	22%
Vol Thru, %	0%	94%	95%	44%
Vol Right, %	44%	4%	1%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	381	373	9
LT Vol	14	6	15	2
Through Vol	0	358	354	4
RT Vol	11	17	4	3
Lane Flow Rate	27	414	405	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.51	0.502	0.015
Departure Headway (Hd)	5.553	4.43	4.46	5.586
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	816	807	638
Service Time	3.61	2.452	2.485	3.647
HCM Lane V/C Ratio	0.042	0.507	0.502	0.016
HCM Control Delay	8.9	12	11.9	8.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	2.9	2.9	0

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6st St/W Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	323	56	181	375	108	66	407	167	67	321	120
Future Volume (veh/h)	105	323	56	181	375	108	66	407	167	67	321	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	340	59	191	395	114	69	428	176	71	338	126
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	424	370	64	417	438	371	297	587	239	249	608	223
Arrive On Green	0.24	0.24	0.24	0.23	0.23	0.23	0.05	0.24	0.24	0.05	0.24	0.24
Sat Flow, veh/h	1781	1552	269	1781	1870	1585	1781	2464	1003	1781	2546	933
Grp Volume(v), veh/h	111	0	399	191	395	114	69	307	297	71	234	230
Grp Sat Flow(s),veh/h/ln	1781	0	1822	1781	1870	1585	1781	1777	1690	1781	1777	1702
Q Serve(g_s), s	3.8	0.0	16.1	7.0	15.5	4.5	2.2	12.0	12.3	2.2	8.7	9.0
Cycle Q Clear(g_c), s	3.8	0.0	16.1	7.0	15.5	4.5	2.2	12.0	12.3	2.2	8.7	9.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.59	1.00		0.55
Lane Grp Cap(c), veh/h	424	0	434	417	438	371	297	423	402	249	424	407
V/C Ratio(X)	0.26	0.00	0.92	0.46	0.90	0.31	0.23	0.73	0.74	0.29	0.55	0.57
Avail Cap(c_a), veh/h	424	0	434	424	445	378	324	423	402	275	424	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	28.1	24.8	28.1	23.9	20.5	26.5	26.6	21.0	25.2	25.3
Incr Delay (d2), s/veh	0.3	0.0	24.6	0.8	21.0	0.5	0.4	10.4	11.4	0.6	5.1	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	9.3	2.9	9.2	1.7	0.9	5.9	5.8	0.9	4.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	52.7	25.6	49.1	24.3	20.8	36.9	38.0	21.6	30.3	30.9
LnGrp LOS	C	A	D	C	D	C	C	D	D	C	C	C
Approach Vol, veh/h		510			700			673			535	
Approach Delay, s/veh		46.4			38.7			35.8			29.4	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	22.5		22.5	8.3	22.5		22.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.2	14.3		18.1	4.2	11.0		17.5				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	1.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				37.4								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary 16: Claremont Blvd & 6th St/W Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	356	50	227	334	48	40	271	165	90	381	98
Future Volume (veh/h)	87	356	50	227	334	48	40	271	165	90	381	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	375	53	239	352	51	42	285	174	95	401	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	387	55	390	409	347	287	517	307	312	729	185
Arrive On Green	0.24	0.24	0.24	0.22	0.22	0.22	0.04	0.24	0.24	0.06	0.26	0.26
Sat Flow, veh/h	1781	1603	227	1781	1870	1585	1781	2145	1273	1781	2805	713
Grp Volume(v), veh/h	92	0	428	239	352	51	42	235	224	95	252	252
Grp Sat Flow(s),veh/h/ln	1781	0	1830	1781	1870	1585	1781	1777	1641	1781	1777	1742
Q Serve(g_s), s	3.1	0.0	17.3	9.0	13.5	1.9	1.3	8.6	9.0	2.9	9.1	9.3
Cycle Q Clear(g_c), s	3.1	0.0	17.3	9.0	13.5	1.9	1.3	8.6	9.0	2.9	9.1	9.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.78	1.00		0.41
Lane Grp Cap(c), veh/h	430	0	441	390	409	347	287	429	396	312	462	453
V/C Ratio(X)	0.21	0.00	0.97	0.61	0.86	0.15	0.15	0.55	0.57	0.30	0.55	0.56
Avail Cap(c_a), veh/h	430	0	441	430	451	382	337	429	396	329	462	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	28.0	26.3	28.1	23.5	20.2	24.8	24.9	20.0	23.8	23.9
Incr Delay (d2), s/veh	0.2	0.0	35.0	2.2	14.4	0.2	0.2	5.0	5.8	0.5	4.6	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	11.1	3.9	7.4	0.7	0.5	3.9	3.9	1.2	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	63.0	28.5	42.5	23.7	20.5	29.7	30.7	20.5	28.4	28.7
LnGrp LOS	C	A	E	C	D	C	C	C	C	C	C	C
Approach Vol, veh/h	520			642			501			599		
Approach Delay, s/veh	55.9			35.8			29.4			27.3		
Approach LOS	E			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	22.5		22.5	7.4	23.9		20.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s	4.9	11.0		19.3	3.3	11.3		15.5				
Green Ext Time (p_c), s	0.0	1.5		0.0	0.0	1.6		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	36.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

17: Monte Vista Ave & Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	273	71	47	323	50	131	719	34	29	794	184
Future Volume (veh/h)	213	273	71	47	323	50	131	719	34	29	794	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	287	75	49	340	53	138	757	36	31	836	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	733	188	84	418	354	264	1748	83	60	1274	294
Arrive On Green	0.09	0.26	0.26	0.05	0.22	0.22	0.08	0.35	0.35	0.03	0.31	0.31
Sat Flow, veh/h	1781	2799	719	1781	1870	1585	3456	4995	237	1781	4146	956
Grp Volume(v), veh/h	224	180	182	49	340	53	138	515	278	31	685	345
Grp Sat Flow(s),veh/h/ln	1781	1777	1741	1781	1870	1585	1728	1702	1828	1781	1702	1698
Q Serve(g_s), s	5.0	4.9	5.0	1.6	10.1	1.6	2.2	6.8	6.8	1.0	10.2	10.3
Cycle Q Clear(g_c), s	5.0	4.9	5.0	1.6	10.1	1.6	2.2	6.8	6.8	1.0	10.2	10.3
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.13	1.00		0.56
Lane Grp Cap(c), veh/h	152	466	456	84	418	354	264	1191	639	60	1046	522
V/C Ratio(X)	1.47	0.39	0.40	0.59	0.81	0.15	0.52	0.43	0.43	0.51	0.66	0.66
Avail Cap(c_a), veh/h	152	546	535	152	575	487	295	1191	639	152	1046	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	17.7	17.8	27.4	21.6	18.3	26.0	14.6	14.6	27.8	17.6	17.6
Incr Delay (d2), s/veh	244.8	0.5	0.6	6.4	6.3	0.2	1.6	1.1	2.1	6.6	3.2	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	1.8	1.8	0.7	4.5	0.5	0.9	2.3	2.7	0.5	3.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.6	18.3	18.4	33.7	27.8	18.5	27.6	15.7	16.7	34.5	20.8	24.1
LnGrp LOS	F	B	B	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h	586			442			931			1061		
Approach Delay, s/veh	115.1			27.4			17.8			22.3		
Approach LOS	F			C			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	25.0	7.2	19.8	9.0	22.5	9.5	17.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	3.0	8.8	3.6	7.0	4.2	12.3	7.0	12.1				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.4	0.0	2.9	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	39.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 17: Monte Vista Ave & Arrow Rt

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	454	56	79	393	58	85	518	123	75	651	112
Future Volume (veh/h)	134	454	56	79	393	58	85	518	123	75	651	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	478	59	83	414	61	89	545	129	79	685	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	885	109	111	481	408	222	1248	289	108	1308	223
Arrive On Green	0.08	0.28	0.28	0.06	0.26	0.26	0.06	0.30	0.30	0.06	0.30	0.30
Sat Flow, veh/h	1781	3185	391	1781	1870	1585	3456	4143	959	1781	4392	748
Grp Volume(v), veh/h	141	266	271	83	414	61	89	446	228	79	529	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1800	1781	1870	1585	1728	1702	1698	1781	1702	1736
Q Serve(g_s), s	4.8	7.7	7.7	2.8	12.8	1.8	1.5	6.4	6.6	2.6	7.8	7.9
Cycle Q Clear(g_c), s	4.8	7.7	7.7	2.8	12.8	1.8	1.5	6.4	6.6	2.6	7.8	7.9
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.56	1.00		0.43
Lane Grp Cap(c), veh/h	147	494	500	111	481	408	222	1026	512	108	1014	517
V/C Ratio(X)	0.96	0.54	0.54	0.75	0.86	0.15	0.40	0.43	0.45	0.73	0.52	0.53
Avail Cap(c_a), veh/h	147	529	536	147	557	472	286	1026	512	147	1014	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	18.5	18.6	27.9	21.4	17.3	27.2	17.0	17.0	27.9	17.6	17.7
Incr Delay (d2), s/veh	60.9	0.9	1.0	13.6	11.6	0.2	1.2	1.3	2.8	11.2	1.9	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.8	2.9	1.5	6.3	0.6	0.6	2.3	2.5	1.3	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.5	19.5	19.5	41.5	33.0	17.5	28.3	18.3	19.8	39.1	19.6	21.5
LnGrp LOS	F	B	B	D	C	B	C	B	B	D	B	C
Approach Vol, veh/h		678			558			763			882	
Approach Delay, s/veh		33.8			32.6			19.9			21.9	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	22.7	8.3	21.3	8.4	22.5	9.5	20.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.6	8.6	4.8	9.7	3.5	9.9	6.8	14.8				
Green Ext Time (p_c), s	0.0	2.7	0.0	1.8	0.0	3.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	30	23	44	28	23	57	35	793	15	20	781	10
Future Volume (veh/h)	30	23	44	28	23	57	35	793	15	20	781	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	25	48	30	25	62	38	862	16	22	849	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	38	380	74	42	380	65	1039	880	44	1001	13
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.56	0.56	0.02	0.54	0.54
Sat Flow, veh/h	0	157	1585	0	173	1585	1781	1870	1585	1781	1842	24
Grp Volume(v), veh/h	58	0	48	55	0	62	38	862	16	22	0	860
Grp Sat Flow(s),veh/h/ln	158	0	1585	173	0	1585	1781	1870	1585	1781	0	1866
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.3	1.6	28.5	0.3	0.9	0.0	29.3
Cycle Q Clear(g_c), s	18.0	0.0	1.8	18.0	0.0	2.3	1.6	28.5	0.3	0.9	0.0	29.3
Prop In Lane	0.57		1.00	0.55		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	113	0	380	116	0	380	65	1039	880	44	0	1014
V/C Ratio(X)	0.51	0.00	0.13	0.48	0.00	0.16	0.59	0.83	0.02	0.50	0.00	0.85
Avail Cap(c_a), veh/h	113	0	380	116	0	380	121	1039	880	119	0	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	22.3	24.5	0.0	22.5	35.6	13.7	7.5	36.1	0.0	14.5
Incr Delay (d2), s/veh	3.9	0.0	0.1	3.0	0.0	0.2	8.1	7.7	0.0	8.7	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	0.8	0.0	0.9	0.8	12.8	0.1	0.5	0.0	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	22.5	27.5	0.0	22.7	43.7	21.4	7.5	44.8	0.0	23.3
LnGrp LOS	C	A	C	C	A	C	D	C	A	D	A	C
Approach Vol, veh/h		106			117			916			882	
Approach Delay, s/veh		26.7			25.0			22.1			23.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	45.3		22.5	6.3	46.2		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	38.4		18.0	5.0	38.5		18.0				
Max Q Clear Time (g_c+I1), s	3.6	31.3		20.0	2.9	30.5		20.0				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

18: Indian Hill Blvd & Harrison Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	45	19	42	17	27	49	48	728	41	20	832	9
Future Volume (veh/h)	45	19	42	17	27	49	48	728	41	20	832	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	21	46	18	29	53	52	791	45	22	904	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	20	357	62	74	357	76	1089	923	43	1040	12
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.58	0.58	0.02	0.56	0.56
Sat Flow, veh/h	0	89	1585	0	330	1585	1781	1870	1585	1781	1846	20
Grp Volume(v), veh/h	70	0	46	47	0	53	52	791	45	22	0	914
Grp Sat Flow(s),veh/h/ln	89	0	1585	330	0	1585	1781	1870	1585	1781	0	1867
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	2.1	2.3	24.5	1.0	1.0	0.0	33.5
Cycle Q Clear(g_c), s	18.0	0.0	1.9	18.0	0.0	2.1	2.3	24.5	1.0	1.0	0.0	33.5
Prop In Lane	0.70		1.00	0.38		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	97	0	357	137	0	357	76	1089	923	43	0	1052
V/C Ratio(X)	0.73	0.00	0.13	0.34	0.00	0.15	0.68	0.73	0.05	0.51	0.00	0.87
Avail Cap(c_a), veh/h	97	0	357	137	0	357	114	1089	923	111	0	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	24.7	26.0	0.0	24.9	37.7	12.1	7.2	38.6	0.0	14.9
Incr Delay (d2), s/veh	23.5	0.0	0.2	1.5	0.0	0.2	10.2	4.2	0.1	9.1	0.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.7	0.8	0.0	0.8	1.2	10.4	0.3	0.5	0.0	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	0.0	24.9	27.5	0.0	25.0	47.9	16.4	7.3	47.6	0.0	24.7
LnGrp LOS	E	A	C	C	A	C	D	B	A	D	A	C
Approach Vol, veh/h		116			100			888			936	
Approach Delay, s/veh		45.2			26.2			17.7			25.2	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	49.6		22.5	6.4	51.1		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	43.4		18.0	5.0	43.5		18.0				
Max Q Clear Time (g_c+I1), s	4.3	35.5		20.0	3.0	26.5		20.0				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	5.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	50	82	142	50	108	112	899	187	44	807	86
Future Volume (veh/h)	32	50	82	142	50	108	112	899	187	44	807	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	54	89	154	54	117	122	977	203	48	877	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	322	273	264	91	196	294	1195	1013	265	1039	110
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.05	0.64	0.64	0.04	0.62	0.62
Sat Flow, veh/h	1214	1870	1585	1245	526	1139	1781	1870	1585	1781	1662	176
Grp Volume(v), veh/h	35	54	89	154	0	171	122	977	203	48	0	970
Grp Sat Flow(s),veh/h/ln	1214	1870	1585	1245	0	1665	1781	1870	1585	1781	0	1839
Q Serve(g_s), s	2.5	2.2	4.4	10.8	0.0	8.5	2.1	35.5	4.8	0.8	0.0	37.7
Cycle Q Clear(g_c), s	11.0	2.2	4.4	13.0	0.0	8.5	2.1	35.5	4.8	0.8	0.0	37.7
Prop In Lane	1.00		1.00	1.00		0.68	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	174	322	273	264	0	287	294	1195	1013	265	0	1149
V/C Ratio(X)	0.20	0.17	0.33	0.58	0.00	0.60	0.42	0.82	0.20	0.18	0.00	0.84
Avail Cap(c_a), veh/h	208	374	317	298	0	333	308	1195	1013	295	0	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	31.8	32.7	37.3	0.0	34.4	15.0	12.3	6.7	12.5	0.0	13.4
Incr Delay (d2), s/veh	0.6	0.2	0.7	2.3	0.0	2.2	0.8	5.6	0.4	0.3	0.0	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.0	1.8	3.4	0.0	3.6	1.2	14.4	1.5	0.4	0.0	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	32.0	33.4	39.6	0.0	36.5	15.9	17.9	7.1	12.8	0.0	21.1
LnGrp LOS	D	C	C	D	A	D	B	B	A	B	A	C
Approach Vol, veh/h		178			325			1302			1018	
Approach Delay, s/veh		34.2			38.0			16.0			20.7	
Approach LOS		C			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	62.0		20.0	9.3	60.7		20.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	53.5		18.0	5.5	53.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	37.5		13.0	4.1	39.7		15.0				
Green Ext Time (p_c), s	0.0	7.8		0.3	0.0	6.6		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

19: Indian Hill Blvd & 1st St

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	83	115	135	106	143	141	678	214	125	683	88
Future Volume (veh/h)	55	83	115	135	106	143	141	678	214	125	683	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	90	125	147	115	155	153	737	233	136	742	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	425	360	316	164	221	296	991	840	338	858	111
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.06	0.53	0.53	0.06	0.53	0.53
Sat Flow, veh/h	1109	1870	1585	1166	722	973	1781	1870	1585	1781	1623	210
Grp Volume(v), veh/h	60	90	125	147	0	270	153	737	233	136	0	838
Grp Sat Flow(s),veh/h/ln	1109	1870	1585	1166	0	1695	1781	1870	1585	1781	0	1833
Q Serve(g_s), s	3.9	2.9	5.0	8.8	0.0	11.0	2.9	22.9	6.1	2.5	0.0	29.8
Cycle Q Clear(g_c), s	14.9	2.9	5.0	11.7	0.0	11.0	2.9	22.9	6.1	2.5	0.0	29.8
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	186	425	360	316	0	385	296	991	840	338	0	969
V/C Ratio(X)	0.32	0.21	0.35	0.47	0.00	0.70	0.52	0.74	0.28	0.40	0.00	0.86
Avail Cap(c_a), veh/h	200	449	380	330	0	407	313	991	840	347	0	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.5	23.5	24.3	28.3	0.0	26.6	14.5	13.7	9.7	11.3	0.0	15.3
Incr Delay (d2), s/veh	1.0	0.2	0.6	1.1	0.0	5.0	1.3	4.7	0.8	0.8	0.0	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	1.9	2.5	0.0	4.8	1.2	9.7	2.1	0.9	0.0	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	23.8	24.9	29.3	0.0	31.6	15.8	18.3	10.5	12.1	0.0	25.5
LnGrp LOS	C	C	C	C	A	C	B	B	B	B	A	C
Approach Vol, veh/h		275			417			1123			974	
Approach Delay, s/veh		26.6			30.8			16.4			23.6	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	44.2		21.5	9.3	44.2		21.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	38.4		18.0	5.5	38.0		18.0				
Max Q Clear Time (g_c+I1), s	4.5	24.9		16.9	4.9	31.8		13.7				
Green Ext Time (p_c), s	0.0	5.1		0.1	0.0	3.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	148	57	17	151	40	62	148	36	31	151	85
Future Vol, veh/h	94	148	57	17	151	40	62	148	36	31	151	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	161	62	18	164	43	67	161	39	34	164	92
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	12	12.4	16.3	16.6
HCM LOS	B	B	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	25%	100%	0%	0%	100%	0%	0%	12%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%
Vol Right, %	15%	0%	0%	100%	0%	0%	100%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	94	148	57	17	151	40	267
LT Vol	62	94	0	0	17	0	0	31
Through Vol	148	0	148	0	0	151	0	151
RT Vol	36	0	0	57	0	0	40	85
Lane Flow Rate	267	102	161	62	18	164	43	290
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.506	0.212	0.311	0.107	0.039	0.325	0.077	0.531
Departure Headway (Hd)	6.81	7.472	6.956	6.234	7.654	7.138	6.414	6.589
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	529	481	516	575	468	504	558	549
Service Time	4.545	5.211	4.695	3.973	5.397	4.88	4.157	4.324
HCM Lane V/C Ratio	0.505	0.212	0.312	0.108	0.038	0.325	0.077	0.528
HCM Control Delay	16.3	12.2	12.8	9.7	10.7	13.3	9.7	16.6
HCM Lane LOS	C	B	B	A	B	B	A	C
HCM 95th-tile Q	2.8	0.8	1.3	0.4	0.1	1.4	0.2	3.1

Intersection												
Intersection Delay, s/veh	44.3											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	302	85	55	278	101	50	156	52	120	218	45
Future Vol, veh/h	55	302	85	55	278	101	50	156	52	120	218	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	328	92	60	302	110	54	170	57	130	237	49
Number of Lanes	1	1	1	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	32.5	27.7	32.4	84.8
HCM LOS	D	D	D	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	19%	100%	0%	0%	100%	0%	0%	31%
Vol Thru, %	60%	0%	100%	0%	0%	100%	0%	57%
Vol Right, %	20%	0%	0%	100%	0%	0%	100%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	258	55	302	85	55	278	101	383
LT Vol	50	55	0	0	55	0	0	120
Through Vol	156	0	302	0	0	278	0	218
RT Vol	52	0	0	85	0	0	101	45
Lane Flow Rate	280	60	328	92	60	302	110	416
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.714	0.156	0.809	0.212	0.157	0.75	0.253	1.036
Departure Headway (Hd)	9.402	9.78	9.25	8.507	9.84	9.309	8.565	8.963
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	387	369	394	425	366	390	422	408
Service Time	7.102	7.48	6.95	6.207	7.54	7.009	6.265	6.631
HCM Lane V/C Ratio	0.724	0.163	0.832	0.216	0.164	0.774	0.261	1.02
HCM Control Delay	32.4	14.3	41.2	13.5	14.4	35.2	14.1	84.8
HCM Lane LOS	D	B	E	B	B	E	B	F
HCM 95th-tile Q	5.4	0.5	7.2	0.8	0.6	6	1	13.5

HCM 6th Signalized Intersection Summary
21: E 1st St/Huntington Dr & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	2	89	4	1	5	79	545	4	2	449	109
Future Volume (veh/h)	106	2	89	4	1	5	79	545	4	2	449	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	2	97	4	1	5	86	592	4	2	488	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	180	152	18	5	20	632	2527	17	628	2482	1107
Arrive On Green	0.10	0.10	0.10	0.01	0.01	0.01	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	1781	1870	1585	1439	360	1585	814	3618	24	822	3554	1585
Grp Volume(v), veh/h	115	2	97	5	0	5	86	291	305	2	488	118
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1798	0	1585	814	1777	1866	822	1777	1585
Q Serve(g_s), s	4.4	0.1	4.1	0.2	0.0	0.2	2.9	4.1	4.1	0.1	3.4	1.7
Cycle Q Clear(g_c), s	4.4	0.1	4.1	0.2	0.0	0.2	6.3	4.1	4.1	4.2	3.4	1.7
Prop In Lane	1.00		1.00	0.80		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	171	180	152	23	0	20	632	1241	1303	628	2482	1107
V/C Ratio(X)	0.67	0.01	0.64	0.22	0.00	0.25	0.14	0.23	0.23	0.00	0.20	0.11
Avail Cap(c_a), veh/h	461	484	410	462	0	408	632	1241	1303	628	2482	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	30.6	28.6	30.5	34.2	0.0	34.2	4.8	3.8	3.8	4.6	3.7	3.4
Incr Delay (d2), s/veh	4.5	0.0	4.3	4.8	0.0	6.4	0.4	0.4	0.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.7	0.1	0.0	0.1	0.4	1.0	1.1	0.0	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	28.6	34.8	39.0	0.0	40.6	5.2	4.3	4.2	4.6	3.8	3.6
LnGrp LOS	D	C	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	214			10			682			608		
Approach Delay, s/veh	34.9			39.8			4.4			3.8		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	53.4			11.2			53.4			5.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.4			18.1			20.4			18.0		
Max Q Clear Time (g_c+I1), s	8.3			6.4			6.2			2.2		
Green Ext Time (p_c), s	3.1			0.5			2.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary 21: E 1st St/Huntington Dr & Claremont Blvd

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	4	249	4	0	5	112	296	1	5	482	188
Future Volume (veh/h)	168	4	249	4	0	5	112	296	1	5	482	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	4	271	4	0	5	122	322	1	5	524	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	379	322	20	0	18	483	2154	7	687	2107	940
Arrive On Green	0.20	0.20	0.20	0.01	0.00	0.01	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	727	3634	11	1057	3554	1585
Grp Volume(v), veh/h	183	4	271	4	0	5	122	157	166	5	524	204
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	727	1777	1868	1057	1777	1585
Q Serve(g_s), s	6.4	0.1	11.5	0.2	0.0	0.2	6.7	2.8	2.8	0.1	4.9	4.2
Cycle Q Clear(g_c), s	6.4	0.1	11.5	0.2	0.0	0.2	11.7	2.8	2.8	2.9	4.9	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	361	379	322	20	0	18	483	1053	1108	687	2107	940
V/C Ratio(X)	0.51	0.01	0.84	0.20	0.00	0.28	0.25	0.15	0.15	0.01	0.25	0.22
Avail Cap(c_a), veh/h	458	481	408	458	0	408	483	1053	1108	687	2107	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	24.8	22.3	26.8	34.3	0.0	34.3	9.6	6.4	6.4	7.0	6.8	6.7
Incr Delay (d2), s/veh	1.1	0.0	12.2	4.6	0.0	7.9	1.3	0.3	0.3	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.1	5.2	0.1	0.0	0.1	1.0	0.9	0.9	0.0	1.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	22.3	39.0	38.9	0.0	42.2	10.9	6.7	6.7	7.0	7.0	7.1
LnGrp LOS	C	C	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h	458			9			445			733		
Approach Delay, s/veh	33.6			40.7			7.8			7.1		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	46.0			18.7			46.0			5.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			18.0			20.5			18.0		
Max Q Clear Time (g_c+I1), s	13.7			13.5			6.9			2.2		
Green Ext Time (p_c), s	1.4			0.7			3.4			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	14.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	224	628	222	141	486	197	187	869	357	257	746	189
Future Volume (veh/h)	224	628	222	141	486	197	187	869	357	257	746	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	683	241	153	528	214	203	945	388	279	811	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1096	489	229	1096	489	317	1925	859	343	1522	385
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	875	3554	1585	758	3554	1585	555	3554	1585	593	2809	710
Grp Volume(v), veh/h	243	683	241	153	528	214	203	945	388	279	513	503
Grp Sat Flow(s),veh/h/ln	875	1777	1585	758	1777	1585	555	1777	1585	593	1777	1743
Q Serve(g_s), s	11.3	9.9	7.4	8.6	7.2	6.5	21.3	10.0	8.9	22.5	11.2	11.2
Cycle Q Clear(g_c), s	18.5	9.9	7.4	18.5	7.2	6.5	32.5	10.0	8.9	32.5	11.2	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	284	1096	489	229	1096	489	317	1925	859	343	962	944
V/C Ratio(X)	0.86	0.62	0.49	0.67	0.48	0.44	0.64	0.49	0.45	0.81	0.53	0.53
Avail Cap(c_a), veh/h	284	1096	489	229	1096	489	317	1925	859	343	962	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	26.2	17.8	16.9	26.9	16.9	16.6	19.6	8.6	8.3	21.0	8.9	8.9
Incr Delay (d2), s/veh	21.7	1.1	0.8	6.4	0.3	0.5	9.5	0.9	1.7	10.6	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	3.8	2.6	2.5	2.7	2.2	3.4	3.3	2.8	4.8	3.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	18.9	17.7	33.3	17.1	17.1	29.1	9.5	10.1	31.6	10.0	10.0
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	A
Approach Vol, veh/h		1167			895			1536			1295	
Approach Delay, s/veh		24.7			19.9			12.2			14.6	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		23.0		37.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5				
Max Q Clear Time (g_c+I1), s		34.5		20.5		34.5		20.5				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				17.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

22: Indian Hill Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	1101	171	142	568	193	192	698	410	256	757	216
Future Volume (veh/h)	203	1101	171	142	568	193	192	698	410	256	757	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	1197	186	154	617	210	209	759	446	278	823	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	1421	634	205	1421	634	235	1421	634	327	1091	311
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	806	3554	1585	468	3554	1585	533	3554	1585	706	2728	779
Grp Volume(v), veh/h	221	1197	186	154	617	210	209	759	446	278	536	522
Grp Sat Flow(s),veh/h/ln	806	1777	1585	468	1777	1585	533	1777	1585	706	1777	1730
Q Serve(g_s), s	12.3	13.7	3.6	4.3	5.7	4.1	6.3	7.3	10.6	10.7	11.7	11.7
Cycle Q Clear(g_c), s	18.0	13.7	3.6	18.0	5.7	4.1	18.0	7.3	10.6	18.0	11.7	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	381	1421	634	205	1421	634	235	1421	634	327	711	692
V/C Ratio(X)	0.58	0.84	0.29	0.75	0.43	0.33	0.89	0.53	0.70	0.85	0.75	0.75
Avail Cap(c_a), veh/h	381	1421	634	205	1421	634	235	1421	634	327	711	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	16.3	12.2	9.2	21.9	9.8	9.3	21.4	10.3	11.3	19.3	11.6	11.6
Incr Delay (d2), s/veh	2.2	4.8	0.3	13.9	0.2	0.3	35.8	1.4	6.4	15.0	4.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.1	1.0	2.3	1.8	1.2	4.3	2.5	4.0	4.0	4.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	17.0	9.4	35.8	10.0	9.6	57.2	11.7	17.7	34.2	16.0	16.1
LnGrp LOS	B	B	A	D	B	A	E	B	B	C	B	B
Approach Vol, veh/h	1604			981			1414			1336		
Approach Delay, s/veh	16.3			14.0			20.3			19.8		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			22.5			22.5			22.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	20.0			20.0			20.0			20.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	17.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1105	51	27	733	98	48	51	42	95	57	79
Future Volume (veh/h)	71	1105	51	27	733	98	48	51	42	95	57	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	1201	55	29	797	107	52	55	46	103	62	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	1490	68	200	1356	182	264	272	189	676	728	617
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	617	3460	158	442	3148	423	430	698	485	1294	1870	1585
Grp Volume(v), veh/h	77	616	640	29	450	454	153	0	0	103	62	86
Grp Sat Flow(s),veh/h/ln	617	1777	1842	442	1777	1794	1613	0	0	1294	1870	1585
Q Serve(g_s), s	5.4	15.1	15.1	3.1	9.6	9.6	0.0	0.0	0.0	0.0	1.0	1.8
Cycle Q Clear(g_c), s	15.1	15.1	15.1	18.2	9.6	9.6	2.9	0.0	0.0	1.9	1.0	1.8
Prop In Lane	1.00		0.09	1.00		0.24	0.34		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	291	765	793	200	765	773	724	0	0	676	728	617
V/C Ratio(X)	0.26	0.81	0.81	0.14	0.59	0.59	0.21	0.00	0.00	0.15	0.09	0.14
Avail Cap(c_a), veh/h	302	800	829	209	800	807	724	0	0	676	728	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.74	0.74	0.74	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	12.4	12.4	20.4	10.8	10.8	10.2	0.0	0.0	9.9	9.6	9.9
Incr Delay (d2), s/veh	0.3	4.1	3.9	0.2	0.8	0.8	0.7	0.0	0.0	0.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.6	5.8	0.3	3.2	3.2	1.1	0.0	0.0	0.7	0.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	16.5	16.4	20.6	11.6	11.6	10.9	0.0	0.0	10.4	9.9	10.3
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h	1333			933			153			251		
Approach Delay, s/veh	16.4			11.9			10.9			10.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.0			26.0			24.0			26.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			22.5			18.5			22.5		
Max Q Clear Time (g_c+I1), s	4.9			17.1			3.9			20.2		
Green Ext Time (p_c), s	0.6			3.7			0.8			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	14.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

23: College Ave & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1612	56	43	767	82	43	50	44	119	75	69
Future Volume (veh/h)	57	1612	56	43	767	82	43	50	44	119	75	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1752	61	47	834	89	47	54	48	129	82	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	1898	66	140	1755	187	197	220	160	550	577	489
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	606	3504	121	258	3239	346	383	712	520	1293	1870	1585
Grp Volume(v), veh/h	62	885	928	47	457	466	149	0	0	129	82	75
Grp Sat Flow(s),veh/h/ln	606	1777	1848	258	1777	1808	1616	0	0	1293	1870	1585
Q Serve(g_s), s	4.2	27.3	27.7	4.8	9.5	9.5	0.0	0.0	0.0	0.0	1.9	2.1
Cycle Q Clear(g_c), s	13.8	27.3	27.7	32.5	9.5	9.5	3.8	0.0	0.0	3.2	1.9	2.1
Prop In Lane	1.00		0.07	1.00		0.19	0.32		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	352	962	1001	140	962	979	577	0	0	550	577	489
V/C Ratio(X)	0.18	0.92	0.93	0.33	0.48	0.48	0.26	0.00	0.00	0.23	0.14	0.15
Avail Cap(c_a), veh/h	352	962	1001	140	962	979	577	0	0	550	577	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.38	0.38	0.38	0.77	0.77	0.77	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	12.6	12.7	29.0	8.5	8.5	15.7	0.0	0.0	15.5	15.0	15.1
Incr Delay (d2), s/veh	0.1	6.0	6.4	1.1	0.3	0.3	1.1	0.0	0.0	1.0	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	10.0	10.6	0.7	3.0	3.0	1.6	0.0	0.0	1.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	18.6	19.1	30.0	8.8	8.8	16.8	0.0	0.0	16.5	15.5	15.7
LnGrp LOS	B	B	B	C	A	A	B	A	A	B	B	B
Approach Vol, veh/h	1875			970			149			286		
Approach Delay, s/veh	18.7			9.8			16.8			16.0		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	23.0			37.0			23.0			37.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			32.5			18.5			32.5		
Max Q Clear Time (g_c+I1), s	5.8			29.7			5.2			34.5		
Green Ext Time (p_c), s	0.6			2.5			0.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	15.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	632	49	59	585	94	80	289	45	88	202	240
Future Volume (veh/h)	276	632	49	59	585	94	80	289	45	88	202	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	687	53	64	636	102	87	314	49	96	220	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	1253	97	87	716	115	111	824	127	123	512	434
Arrive On Green	0.19	0.37	0.37	0.05	0.23	0.23	0.06	0.27	0.27	0.07	0.27	0.27
Sat Flow, veh/h	1781	3343	258	1781	3068	491	1781	3085	476	1781	1870	1585
Grp Volume(v), veh/h	300	365	375	64	368	370	87	179	184	96	220	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1824	1781	1777	1782	1781	1777	1785	1781	1870	1585
Q Serve(g_s), s	12.3	12.1	12.1	2.7	15.0	15.1	3.6	6.2	6.3	4.0	7.3	10.7
Cycle Q Clear(g_c), s	12.3	12.1	12.1	2.7	15.0	15.1	3.6	6.2	6.3	4.0	7.3	10.7
Prop In Lane	1.00		0.14	1.00		0.28	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	339	666	684	87	415	416	111	475	477	123	512	434
V/C Ratio(X)	0.88	0.55	0.55	0.73	0.89	0.89	0.78	0.38	0.38	0.78	0.43	0.60
Avail Cap(c_a), veh/h	344	666	684	166	426	428	131	475	477	131	512	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	18.4	18.5	35.2	27.8	27.8	34.6	22.4	22.4	34.4	22.4	23.7
Incr Delay (d2), s/veh	14.2	0.5	0.5	11.1	19.4	19.7	22.3	2.3	2.3	24.6	2.6	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	4.4	4.6	1.4	8.1	8.2	2.2	2.7	2.8	2.5	3.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	19.0	19.0	46.3	47.2	47.6	56.9	24.7	24.8	58.9	25.1	29.8
LnGrp LOS	D	B	B	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1040			802			450			577	
Approach Delay, s/veh		26.1			47.3			31.0			32.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	24.5	8.2	32.6	9.2	25.0	18.8	22.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.0	7.0	25.5	5.5	19.0	14.5	18.0				
Max Q Clear Time (g_c+I1), s	6.0	8.3	4.7	14.1	5.6	12.7	14.3	17.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	3.2	0.0	1.2	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			34.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 24: Mills Ave/Claremont Blvd & Arrow Hwy

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	260	204
Future Volume (veh/h)	151	867	30	46	575	113	61	186	47	191	260	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	942	33	50	625	123	66	202	51	208	283	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1075	38	75	700	137	86	812	200	247	707	599
Arrive On Green	0.11	0.31	0.31	0.04	0.24	0.24	0.05	0.29	0.29	0.14	0.38	0.38
Sat Flow, veh/h	1781	3502	123	1781	2961	582	1781	2825	697	1781	1870	1585
Grp Volume(v), veh/h	164	478	497	50	375	373	66	125	128	208	283	222
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1766	1781	1777	1745	1781	1870	1585
Q Serve(g_s), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	8.9	8.1
Cycle Q Clear(g_c), s	7.2	20.4	20.4	2.2	16.3	16.4	2.9	4.3	4.5	9.1	8.9	8.1
Prop In Lane	1.00		0.07	1.00		0.33	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	201	545	567	75	420	417	86	511	502	247	707	599
V/C Ratio(X)	0.82	0.88	0.88	0.67	0.89	0.89	0.77	0.25	0.25	0.84	0.40	0.37
Avail Cap(c_a), veh/h	234	553	575	114	433	430	160	511	502	278	707	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	26.3	26.3	37.8	29.6	29.6	37.6	21.8	21.9	33.6	18.2	18.0
Incr Delay (d2), s/veh	6.0	5.1	4.9	9.9	19.9	20.4	13.5	1.1	1.2	18.7	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.5	8.8	1.1	8.8	8.8	1.6	1.9	1.9	5.2	4.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	31.3	31.2	47.7	49.4	49.9	51.1	23.0	23.1	52.3	19.9	19.8
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	B	B
Approach Vol, veh/h	1139			798			319			713		
Approach Delay, s/veh	32.6			49.5			28.9			29.3		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	27.5	7.9	29.1	8.3	34.7	13.5	23.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	19.5	5.1	24.9	7.2	24.8	10.5	19.5				
Max Q Clear Time (g_c+I1), s	11.1	6.5	4.2	22.4	4.9	10.9	9.2	18.4				
Green Ext Time (p_c), s	0.1	1.1	0.0	1.4	0.0	2.2	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	36.0											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	11	68	6	1	4	67	383	65	98	354	35
Future Volume (veh/h)	28	11	68	6	1	4	67	383	65	98	354	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	12	74	7	1	4	73	416	71	107	385	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	24	146	16	18	72	94	2078	927	136	2162	965
Arrive On Green	0.06	0.10	0.10	0.01	0.06	0.06	0.05	0.58	0.58	0.08	0.61	0.61
Sat Flow, veh/h	1781	226	1394	1781	327	1308	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	30	0	86	7	0	5	73	416	71	107	385	38
Grp Sat Flow(s),veh/h/ln	1781	0	1620	1781	0	1635	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	0.0	4.0	0.3	0.0	0.2	3.2	4.4	1.6	4.7	3.8	0.8
Cycle Q Clear(g_c), s	1.3	0.0	4.0	0.3	0.0	0.2	3.2	4.4	1.6	4.7	3.8	0.8
Prop In Lane	1.00		0.86	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	0	170	16	0	91	94	2078	927	136	2162	965
V/C Ratio(X)	0.29	0.00	0.51	0.44	0.00	0.06	0.78	0.20	0.08	0.79	0.18	0.04
Avail Cap(c_a), veh/h	401	0	628	111	0	368	134	2078	927	169	2162	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	36.1	0.0	33.8	39.4	0.0	35.8	37.4	7.8	7.2	36.3	6.9	6.3
Incr Delay (d2), s/veh	1.5	0.0	2.3	17.6	0.0	0.3	16.7	0.2	0.2	15.6	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.7	0.2	0.0	0.1	1.8	1.5	0.5	2.5	1.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	36.2	57.0	0.0	36.0	54.1	8.0	7.4	51.9	7.0	6.3
LnGrp LOS	D	A	D	E	A	D	D	A	A	D	A	A
Approach Vol, veh/h	116			12			560			530		
Approach Delay, s/veh	36.5			48.3			14.0			16.0		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	51.3	5.2	12.9	8.7	53.2	9.2	8.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.6	18.4	5.0	31.0	6.0	20.0	18.0	18.0				
Max Q Clear Time (g_c+I1), s	6.7	6.4	2.3	6.0	5.2	5.8	3.3	2.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.5	0.0	2.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	17.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 25: Claremont Blvd & 9th St

04/17/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	65	95	16	63	53	379	2	3	337	37
Future Volume (veh/h)	30	0	65	95	16	63	53	379	2	3	337	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	0	71	103	17	68	58	412	2	3	366	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	0	113	132	27	110	81	2222	991	7	2075	926
Arrive On Green	0.06	0.00	0.07	0.07	0.08	0.08	0.05	0.63	0.63	0.00	0.58	0.58
Sat Flow, veh/h	1781	0	1585	1781	327	1308	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	0	71	103	0	85	58	412	2	3	366	40
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1635	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	0.0	3.5	4.5	0.0	4.0	2.6	3.9	0.0	0.1	3.8	0.9
Cycle Q Clear(g_c), s	1.4	0.0	3.5	4.5	0.0	4.0	2.6	3.9	0.0	0.1	3.8	0.9
Prop In Lane	1.00		1.00	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	0	113	132	0	137	81	2222	991	7	2075	926
V/C Ratio(X)	0.30	0.00	0.63	0.78	0.00	0.62	0.72	0.19	0.00	0.42	0.18	0.04
Avail Cap(c_a), veh/h	401	0	509	229	0	368	154	2222	991	111	2075	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	35.9	0.0	36.1	36.4	0.0	35.4	37.7	6.4	5.6	39.7	7.7	7.1
Incr Delay (d2), s/veh	1.5	0.0	5.6	9.4	0.0	4.5	11.3	0.2	0.0	33.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.5	2.3	0.0	1.7	1.3	1.2	0.0	0.1	1.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	41.7	45.8	0.0	39.9	49.0	6.5	5.6	72.9	7.9	7.2
LnGrp LOS	D	A	D	D	A	D	D	A	A	E	A	A
Approach Vol, veh/h		104			188			472			409	
Approach Delay, s/veh		40.3			43.1			11.8			8.3	
Approach LOS		D			D			B			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	54.5	10.4	10.2	8.1	51.2	9.4	11.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	21.0	10.3	25.7	6.9	19.1	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.1	5.9	6.5	5.5	4.6	5.8	3.4	6.0				
Green Ext Time (p_c), s	0.0	2.2	0.1	0.3	0.0	1.9	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	55	11	0	92	0	3
Future Vol, veh/h	55	11	0	92	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	12	0	100	0	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 36
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 1029
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 1029
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	1029	-	-	-
HCM Lane V/C Ratio	0.003	-	-	-
HCM Control Delay (s)	8.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	82	0	0	52	0	47
Future Vol, veh/h	82	0	0	52	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	0	57	0	51
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	45
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1015
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.7	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	1015	-	-	-		
HCM Lane V/C Ratio	0.05	-	-	-		
HCM Control Delay (s)	8.7	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0.2	-	-	-		

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/08/2024

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	102	0	0	46
Future Vol, veh/h	0	3	102	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	111	0	0	50

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	56	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	999	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	999	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 999	-
HCM Lane V/C Ratio	-	- 0.003	-
HCM Control Delay (s)	-	- 8.6	-
HCM Lane LOS	-	- A	-
HCM 95th %tile Q(veh)	-	- 0	-

HCM 6th TWSC
27: Project Dwy SW & Claremont Blvd

04/08/2024

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	47	40	0	0	127
Future Vol, veh/h	0	47	40	0	0	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	51	43	0	0	138

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	22	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	1050	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	1050	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 1050	-
HCM Lane V/C Ratio	-	- 0.049	-
HCM Control Delay (s)	-	- 8.6	-
HCM Lane LOS	-	- A	-
HCM 95th %tile Q(veh)	-	- 0.2	-

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	3	0	98	105	33
Future Vol, veh/h	0	3	0	98	105	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	0	103	111	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	73	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	827	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	827	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 827		-	-		
HCM Lane V/C Ratio	- 0.004		-	-		
HCM Control Delay (s)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0		-	-		

HCM 6th TWSC
28: Project Dwy SE & Monte Vista Ave

04/08/2024

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	47	0	130	104	1
Future Vol, veh/h	0	47	0	130	104	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	0	137	109	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	55	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	848	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	848	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	9.5	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	848	-	-		
HCM Lane V/C Ratio	-	0.058	-	-		
HCM Control Delay (s)	-	9.5	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	0.2	-	-		

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/08/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	44	0	40	2	935	42	27	933	0	
Future Volume (veh/h)	0	0	0	44	0	40	2	935	42	27	933	0	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	0	0	0	46	0	42	2	984	44	28	982	0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	0	163	0	398	163	138	539	2109	94	970	3108	0	
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.09	0.61	0.61	0.61	0.61	0.61	0.00	
Sat Flow, veh/h	0	1870	0	1781	1870	1585	573	3464	155	1064	5274	0	
Grp Volume(v), veh/h	0	0	0	46	0	42	2	505	523	28	982	0	
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	1870	1585	573	1777	1842	532	1702	0	
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.7	0.1	4.6	4.6	0.4	2.8	0.0	
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.7	0.0	0.7	2.8	4.6	4.6	5.0	2.8	0.0	
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.08	1.00		0.00	
Lane Grp Cap(c), veh/h	0	163	0	398	163	138	539	1081	1121	970	3108	0	
V/C Ratio(X)	0.00	0.00	0.00	0.12	0.00	0.30	0.00	0.47	0.47	0.03	0.32	0.00	
Avail Cap(c_a), veh/h	0	1138	0	1328	1138	965	539	1081	1121	970	3108	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.7	0.0	12.7	3.5	3.2	3.2	4.5	2.8	0.0	
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.2	0.0	1.4	1.4	0.1	0.3	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.7	0.7	0.0	0.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	0.0	0.0	0.0	12.8	0.0	13.9	3.5	4.6	4.6	4.6	3.1	0.0	
LnGrp LOS	A	A	A	B	A	B	A	A	A	A	A	A	
Approach Vol, veh/h	0			88			1030			1010			
Approach Delay, s/veh	0.0			13.3			4.6			3.1			
Approach LOS				B			A			A			
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	22.5			7.1			22.5			7.1			
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5			
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0			
Max Q Clear Time (g_c+I1), s	6.6			0.0			7.0			2.7			
Green Ext Time (p_c), s	5.1			0.0			5.3			0.2			
Intersection Summary													
HCM 6th Ctrl Delay				4.2									
HCM 6th LOS				A									

HCM 6th Signalized Intersection Summary

29: Richton St & Monte Vista Ave

04/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	83	1	79	0	851	49	22	920	0
Future Volume (veh/h)	0	1	0	83	1	79	0	851	49	22	920	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1	0	87	1	83	0	896	52	23	968	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	234	0	410	234	198	233	1991	116	966	2979	0
Arrive On Green	0.00	0.12	0.00	0.12	0.12	0.12	0.00	0.58	0.58	0.58	0.58	0.00
Sat Flow, veh/h	0	1870	0	1416	1870	1585	581	3413	198	1148	5274	0
Grp Volume(v), veh/h	0	1	0	87	1	83	0	466	482	23	968	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1416	1870	1585	581	1777	1835	574	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	1.5	0.0	4.6	4.6	0.4	3.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.8	0.0	1.5	0.0	4.6	4.6	4.9	3.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	0	234	0	410	234	198	233	1037	1070	966	2979	0
V/C Ratio(X)	0.00	0.00	0.00	0.21	0.00	0.42	0.00	0.45	0.45	0.02	0.32	0.00
Avail Cap(c_a), veh/h	0	1091	0	1059	1091	925	233	1037	1070	966	2979	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.8	0.0	12.6	11.8	12.5	0.0	3.6	3.6	5.0	3.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.4	0.0	1.4	1.4	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.8	0.8	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.8	0.0	12.9	11.8	13.9	0.0	5.0	5.0	5.1	3.6	0.0
LnGrp LOS	A	B	A	B	B	B	A	A	A	A	A	A
Approach Vol, veh/h	1			171			948			991		
Approach Delay, s/veh	11.8			13.3			5.0			3.6		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	22.5			8.4			22.5			8.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.0			18.0			18.0			18.0		
Max Q Clear Time (g_c+I1), s	6.6			2.0			6.9			3.8		
Green Ext Time (p_c), s	4.7			0.0			5.2			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	5.0											
HCM 6th LOS	A											

APPENDIX G

NON-CEQA MEASURES LEVEL-OF-SERVICE

WORKSHEET

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	630	571	29	1236	639	163	0	519	41	0	564
Future Volume (vph)	92	630	571	29	1236	639	163	0	519	41	0	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	685	621	32	1343	695	177	0	564	45	0	613
RTOR Reduction (vph)	0	0	304	0	0	396	0	0	407	0	0	338
Lane Group Flow (vph)	100	685	317	32	1343	299	177	0	157	45	0	275
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	10.8	46.0	46.0	3.5	38.7	38.7	27.0		19.5	3.0		10.8
Effective Green, g (s)	10.8	46.0	46.0	3.5	38.7	38.7	27.0		19.5	3.0		10.8
Actuated g/C Ratio	0.12	0.51	0.51	0.04	0.43	0.43	0.30		0.22	0.03		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	212	1808	809	68	1521	680	531		603	59		334
v/s Ratio Prot	0.06	0.19		0.02	c0.38		c0.10			c0.03		c0.10
v/s Ratio Perm			0.20			0.19			0.06			
v/c Ratio	0.47	0.38	0.39	0.47	0.88	0.44	0.33		0.26	0.76		0.82
Uniform Delay, d1	36.9	13.3	13.5	42.3	23.6	18.0	24.5		29.3	43.1		38.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	1.7	0.1	0.3	5.1	6.4	0.5	0.4		1.0	43.5		15.1
Delay (s)	38.6	13.5	13.8	47.4	30.0	18.5	24.9		30.3	86.6		53.7
Level of Service	D	B	B	D	C	B	C		C	F		D
Approach Delay (s)		15.4			26.4			29.0			56.0	
Approach LOS		B			C			C			E	
Intersection Summary												
HCM 2000 Control Delay			27.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			73.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	1129	487	32	924	428	123	0	821	77	0	591
Future Volume (vph)	149	1129	487	32	924	428	123	0	821	77	0	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	162	1227	529	35	1004	465	134	0	892	84	0	642
RTOR Reduction (vph)	0	0	296	0	0	298	0	0	263	0	0	564
Lane Group Flow (vph)	162	1227	233	35	1004	167	134	0	629	84	0	78
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	8.0	33.0	33.0	2.0	27.0	27.0	26.5		18.0	4.0		8.0
Effective Green, g (s)	8.0	33.0	33.0	2.0	27.0	27.0	26.5		18.0	4.0		8.0
Actuated g/C Ratio	0.11	0.44	0.44	0.03	0.36	0.36	0.35		0.24	0.05		0.11
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	188	1557	696	47	1274	569	625		668	94		297
v/s Ratio Prot	c0.09	c0.35		0.02	0.28		0.08			c0.05		0.03
v/s Ratio Perm			0.15			0.11			c0.23			
v/c Ratio	0.86	0.79	0.33	0.74	0.79	0.29	0.21		0.94	0.89		0.26
Uniform Delay, d1	33.0	18.0	13.8	36.2	21.4	17.2	17.0		28.0	35.3		30.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	30.9	2.7	0.3	47.2	3.3	0.3	0.2		23.1	59.2		0.5
Delay (s)	63.9	20.7	14.1	83.4	24.8	17.5	17.1		51.1	94.5		31.3
Level of Service	E	C	B	F	C	B	B		D	F		C
Approach Delay (s)		22.5			23.9			46.7			38.6	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			30.0									
HCM 2000 Level of Service										C		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			75.0							18.0		
Intersection Capacity Utilization			75.0%							D		
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	33.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Future Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	78	5	34	4	776	99	54	850	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1812	1842	851	1787	1744	776	852	0	0	875	0	0
Stage 1	959	959	-	784	784	-	-	-	-	-	-	-
Stage 2	853	883	-	1003	960	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	75	360	~ 63	86	397	787	-	-	771	-	-
Stage 1	309	335	-	386	404	-	-	-	-	-	-	-
Stage 2	354	364	-	292	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	50	69	360	~ 36	80	397	787	-	-	771	-	-
Mov Cap-2 Maneuver	50	69	-	~ 36	80	-	-	-	-	-	-	-
Stage 1	307	312	-	384	402	-	-	-	-	-	-	-
Stage 2	318	362	-	206	312	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	46		\$ 526.2		0		0.6					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	787	-	-	172 36 256	771	-	-					
HCM Lane V/C Ratio	0.006	-	-	0.512 2.174 0.153	0.07	-	-					
HCM Control Delay (s)	9.6	-	-	46\$ 778.5 21.6	10	-	-					
HCM Lane LOS	A	-	-	E F C	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	2.5 8.7 0.5	0.2	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	20.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	
Traffic Vol, veh/h	4	7	5	76	12	115	7	737	71	91	653	1
Future Vol, veh/h	4	7	5	76	12	115	7	737	71	91	653	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	83	13	125	8	801	77	99	710	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1834	1803	711	1732	1726	801	711	0	0	878	0	0
Stage 1	909	909	-	817	817	-	-	-	-	-	-	-
Stage 2	925	894	-	915	909	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	79	433	~ 69	89	384	888	-	-	769	-	-
Stage 1	329	354	-	370	390	-	-	-	-	-	-	-
Stage 2	323	360	-	327	354	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	31	68	433	~ 56	77	384	888	-	-	769	-	-
Mov Cap-2 Maneuver	31	68	-	~ 56	77	-	-	-	-	-	-	-
Stage 1	326	308	-	367	386	-	-	-	-	-	-	-
Stage 2	209	357	-	274	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	78	171.8	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	66 56 279 769	-	-	-
HCM Lane V/C Ratio	0.009	-	-	0.264 1.475 0.495 0.129	-	-	-
HCM Control Delay (s)	9.1	-	-	78 408.8 29.9 10.4	-	-	-
HCM Lane LOS	A	-	-	F F D B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9 7.5 2.6 0.4	-	-	-

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

Intersection	
Intersection Delay, s/veh	19.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Future Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	230	33	50	143	20	73	236	87	22	173	39
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	16.4	13.4	27.8	14.6
HCM LOS	C	B	D	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	18%	100%	0%	100%	0%	100%	0%
Vol Thru, %	60%	0%	88%	0%	88%	0%	82%
Vol Right, %	22%	0%	12%	0%	12%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	59	242	46	150	20	195
LT Vol	67	59	0	46	0	20	0
Through Vol	217	0	212	0	132	0	159
RT Vol	80	0	30	0	18	0	36
Lane Flow Rate	396	64	263	50	163	22	212
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.751	0.138	0.522	0.111	0.336	0.047	0.42
Departure Headway (Hd)	6.837	7.743	7.14	8.013	7.411	7.782	7.137
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	462	505	447	484	459	502
Service Time	4.89	5.5	4.897	5.778	5.176	5.545	4.9
HCM Lane V/C Ratio	0.747	0.139	0.521	0.112	0.337	0.048	0.422
HCM Control Delay	27.8	11.7	17.5	11.8	13.9	10.9	15
HCM Lane LOS	D	B	C	B	B	B	B
HCM 95th-tile Q	6.5	0.5	3	0.4	1.5	0.1	2.1

Intersection	
Intersection Delay, s/veh	27.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	208	57	99	274	23	72	155	74	21	222	59
Future Vol, veh/h	40	208	57	99	274	23	72	155	74	21	222	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	226	62	108	298	25	78	168	80	23	241	64
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	24.2	26.4	33.7	27
HCM LOS	C	D	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	24%	100%	0%	100%	0%	100%	0%
Vol Thru, %	51%	0%	78%	0%	92%	0%	79%
Vol Right, %	25%	0%	22%	0%	8%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	40	265	99	297	21	281
LT Vol	72	40	0	99	0	21	0
Through Vol	155	0	208	0	274	0	222
RT Vol	74	0	57	0	23	0	59
Lane Flow Rate	327	43	288	108	323	23	305
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.761	0.108	0.662	0.261	0.732	0.056	0.699
Departure Headway (Hd)	8.369	8.946	8.269	8.744	8.168	8.903	8.233
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	432	400	435	410	442	401	437
Service Time	6.447	6.723	6.046	6.522	5.946	6.678	6.007
HCM Lane V/C Ratio	0.757	0.107	0.662	0.263	0.731	0.057	0.698
HCM Control Delay	33.7	12.8	25.9	14.6	30.3	12.2	28.1
HCM Lane LOS	D	B	D	B	D	B	D
HCM 95th-tile Q	6.4	0.4	4.7	1	5.9	0.2	5.3

Intersection												
Intersection Delay, s/veh	16.3											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Future Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	200	52	49	324	149	33	255	30	46	183	20
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	15	19.7	14.3	13.2
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	74%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	26%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	157	106	55	184	48	45	298	137	42	112
LT Vol	30	0	0	55	0	0	45	0	0	42	0
Through Vol	0	157	78	0	184	0	0	298	0	0	112
RT Vol	0	0	28	0	0	48	0	0	137	0	0
Lane Flow Rate	33	170	116	60	200	52	49	324	149	46	122
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.077	0.377	0.25	0.14	0.44	0.105	0.108	0.673	0.28	0.11	0.276
Departure Headway (Hd)	8.475	7.975	7.79	8.418	7.918	7.218	7.98	7.48	6.78	8.654	8.154
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	451	460	426	454	495	449	483	529	414	439
Service Time	6.238	5.738	5.554	6.181	5.681	4.981	5.738	5.238	4.538	6.42	5.92
HCM Lane V/C Ratio	0.078	0.377	0.252	0.141	0.441	0.105	0.109	0.671	0.282	0.111	0.278
HCM Control Delay	11.9	15.5	13.2	12.6	16.8	10.8	11.7	24.4	12.2	12.5	14
HCM Lane LOS	B	C	B	B	C	B	B	C	B	B	B
HCM 95th-tile Q	0.2	1.7	1	0.5	2.2	0.3	0.4	4.9	1.1	0.4	1.1

Intersection												
Intersection Delay, s/veh	29.8											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	336	76	71	269	91	45	139	88	116	313	57
Future Vol, veh/h	49	336	76	71	269	91	45	139	88	116	313	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	365	83	77	292	99	49	151	96	126	340	62
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	48.5	28.1	16.9	20.7
HCM LOS	E	D	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	93	134	49	336	76	71	269	91	116	209
LT Vol	45	0	0	49	0	0	71	0	0	116	0
Through Vol	0	93	46	0	336	0	0	269	0	0	209
RT Vol	0	0	88	0	0	76	0	0	91	0	0
Lane Flow Rate	49	101	146	53	365	83	77	292	99	126	227
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.141	0.277	0.382	0.144	0.935	0.195	0.211	0.758	0.237	0.341	0.582
Departure Headway (Hd)	10.386	9.886	9.428	9.712	9.212	8.512	9.832	9.332	8.632	9.731	9.231
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	345	363	381	369	394	420	364	386	415	369	390
Service Time	8.167	7.667	7.209	7.483	6.983	6.283	7.605	7.105	6.405	7.502	7.002
HCM Lane V/C Ratio	0.142	0.278	0.383	0.144	0.926	0.198	0.212	0.756	0.239	0.341	0.582
HCM Control Delay	14.9	16.4	18	14.1	61.5	13.4	15.2	36.2	14.1	17.5	24.2
HCM Lane LOS	B	C	C	B	F	B	C	E	B	C	C
HCM 95th-tile Q	0.5	1.1	1.7	0.5	10.2	0.7	0.8	6.1	0.9	1.5	3.6

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	630	571	29	1236	639	163	0	519	41	0	564
Future Volume (vph)	92	630	571	29	1236	639	163	0	519	41	0	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	685	621	32	1343	695	177	0	564	45	0	613
RTOR Reduction (vph)	0	0	304	0	0	396	0	0	407	0	0	338
Lane Group Flow (vph)	100	685	317	32	1343	299	177	0	157	45	0	275
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	10.8	46.0	46.0	3.5	38.7	38.7	27.0		19.5	3.0		10.8
Effective Green, g (s)	10.8	46.0	46.0	3.5	38.7	38.7	27.0		19.5	3.0		10.8
Actuated g/C Ratio	0.12	0.51	0.51	0.04	0.43	0.43	0.30		0.22	0.03		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	212	1808	809	68	1521	680	531		603	59		334
v/s Ratio Prot	0.06	0.19		0.02	c0.38		c0.10			c0.03		c0.10
v/s Ratio Perm			0.20			0.19			0.06			
v/c Ratio	0.47	0.38	0.39	0.47	0.88	0.44	0.33		0.26	0.76		0.82
Uniform Delay, d1	36.9	13.3	13.5	42.3	23.6	18.0	24.5		29.3	43.1		38.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	1.7	0.1	0.3	5.1	6.4	0.5	0.4		1.0	43.5		15.1
Delay (s)	38.6	13.5	13.8	47.4	30.0	18.5	24.9		30.3	86.6		53.7
Level of Service	D	B	B	D	C	B	C		C	F		D
Approach Delay (s)		15.4			26.4			29.0			56.0	
Approach LOS		B			C			C			E	
Intersection Summary												
HCM 2000 Control Delay			27.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			73.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			 
Traffic Volume (vph)	154	1129	492	32	924	428	123	0	821	77	0	591
Future Volume (vph)	154	1129	492	32	924	428	123	0	821	77	0	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	1227	535	35	1004	465	134	0	892	84	0	642
RTOR Reduction (vph)	0	0	300	0	0	299	0	0	264	0	0	564
Lane Group Flow (vph)	167	1227	235	35	1004	166	134	0	628	84	0	78
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	8.2	33.0	33.0	2.0	26.8	26.8	26.5		18.0	4.0		8.2
Effective Green, g (s)	8.2	33.0	33.0	2.0	26.8	26.8	26.5		18.0	4.0		8.2
Actuated g/C Ratio	0.11	0.44	0.44	0.03	0.36	0.36	0.35		0.24	0.05		0.11
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	193	1557	696	47	1264	565	625		668	94		304
v/s Ratio Prot	c0.09	c0.35		0.02	0.28		0.08			c0.05		0.03
v/s Ratio Perm			0.15			0.10			c0.23			
v/c Ratio	0.87	0.79	0.34	0.74	0.79	0.29	0.21		0.94	0.89		0.26
Uniform Delay, d1	32.9	18.0	13.8	36.2	21.6	17.3	17.0		28.0	35.3		30.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	30.8	2.7	0.3	47.2	3.5	0.3	0.2		22.9	59.2		0.5
Delay (s)	63.7	20.7	14.1	83.4	25.2	17.6	17.1		50.9	94.5		31.1
Level of Service	E	C	B	F	C	B	B		D	F		C
Approach Delay (s)		22.6			24.2			46.5			38.4	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			30.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			75.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	33.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Future Vol, veh/h	0	21	60	72	5	31	4	714	91	50	782	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	78	5	34	4	776	99	54	850	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1812	1842	851	1787	1744	776	852	0	0	875	0	0
Stage 1	959	959	-	784	784	-	-	-	-	-	-	-
Stage 2	853	883	-	1003	960	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	75	360	~ 63	86	397	787	-	-	771	-	-
Stage 1	309	335	-	386	404	-	-	-	-	-	-	-
Stage 2	354	364	-	292	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	50	69	360	~ 36	80	397	787	-	-	771	-	-
Mov Cap-2 Maneuver	50	69	-	~ 36	80	-	-	-	-	-	-	-
Stage 1	307	312	-	384	402	-	-	-	-	-	-	-
Stage 2	318	362	-	206	312	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	46		\$ 526.2		0		0.6					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	787	-	-	172 36 256	771	-	-					
HCM Lane V/C Ratio	0.006	-	-	0.512 2.174 0.153	0.07	-	-					
HCM Control Delay (s)	9.6	-	-	46\$ 778.5 21.6	10	-	-					
HCM Lane LOS	A	-	-	E F C	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	2.5 8.7 0.5	0.2	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined			*: All major volume in platoon					

Intersection												
Int Delay, s/veh	20.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	
Traffic Vol, veh/h	4	7	5	76	12	115	7	737	71	91	653	1
Future Vol, veh/h	4	7	5	76	12	115	7	737	71	91	653	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	5	83	13	125	8	801	77	99	710	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1834	1803	711	1732	1726	801	711	0	0	878	0	0
Stage 1	909	909	-	817	817	-	-	-	-	-	-	-
Stage 2	925	894	-	915	909	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	79	433	~ 69	89	384	888	-	-	769	-	-
Stage 1	329	354	-	370	390	-	-	-	-	-	-	-
Stage 2	323	360	-	327	354	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	31	68	433	~ 56	77	384	888	-	-	769	-	-
Mov Cap-2 Maneuver	31	68	-	~ 56	77	-	-	-	-	-	-	-
Stage 1	326	308	-	367	386	-	-	-	-	-	-	-
Stage 2	209	357	-	274	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	78	171.8	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	66 56 279 769	-	-	-
HCM Lane V/C Ratio	0.009	-	-	0.264 1.475 0.495 0.129	-	-	-
HCM Control Delay (s)	9.1	-	-	78 408.8 29.9 10.4	-	-	-
HCM Lane LOS	A	-	-	F F D B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9 7.5 2.6 0.4	-	-	-

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

Intersection	
Intersection Delay, s/veh	19.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Future Vol, veh/h	59	212	30	46	132	18	67	217	80	20	159	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	230	33	50	143	20	73	236	87	22	173	39
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	16.4	13.4	27.8	14.6
HCM LOS	C	B	D	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	18%	100%	0%	100%	0%	100%	0%
Vol Thru, %	60%	0%	88%	0%	88%	0%	82%
Vol Right, %	22%	0%	12%	0%	12%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	59	242	46	150	20	195
LT Vol	67	59	0	46	0	20	0
Through Vol	217	0	212	0	132	0	159
RT Vol	80	0	30	0	18	0	36
Lane Flow Rate	396	64	263	50	163	22	212
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.751	0.138	0.522	0.111	0.336	0.047	0.42
Departure Headway (Hd)	6.837	7.743	7.14	8.013	7.411	7.782	7.137
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	462	505	447	484	459	502
Service Time	4.89	5.5	4.897	5.778	5.176	5.545	4.9
HCM Lane V/C Ratio	0.747	0.139	0.521	0.112	0.337	0.048	0.422
HCM Control Delay	27.8	11.7	17.5	11.8	13.9	10.9	15
HCM Lane LOS	D	B	C	B	B	B	B
HCM 95th-tile Q	6.5	0.5	3	0.4	1.5	0.1	2.1

Intersection	
Intersection Delay, s/veh	28.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	208	57	99	279	23	72	155	74	21	222	59
Future Vol, veh/h	40	208	57	99	279	23	72	155	74	21	222	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	226	62	108	303	25	78	168	80	23	241	64
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	24.4	27.3	34	27.3
HCM LOS	C	D	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	24%	100%	0%	100%	0%	100%	0%
Vol Thru, %	51%	0%	78%	0%	92%	0%	79%
Vol Right, %	25%	0%	22%	0%	8%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	40	265	99	302	21	281
LT Vol	72	40	0	99	0	21	0
Through Vol	155	0	208	0	279	0	222
RT Vol	74	0	57	0	23	0	59
Lane Flow Rate	327	43	288	108	328	23	305
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.763	0.108	0.664	0.262	0.746	0.057	0.701
Departure Headway (Hd)	8.399	8.974	8.297	8.757	8.182	8.933	8.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	429	398	435	409	440	400	437
Service Time	6.48	6.751	6.074	6.534	5.959	6.708	6.038
HCM Lane V/C Ratio	0.762	0.108	0.662	0.264	0.745	0.058	0.698
HCM Control Delay	34	12.8	26.1	14.6	31.5	12.3	28.4
HCM Lane LOS	D	B	D	B	D	B	D
HCM 95th-tile Q	6.4	0.4	4.7	1	6.1	0.2	5.3

Intersection												
Intersection Delay, s/veh	16.3											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Future Vol, veh/h	55	184	48	45	298	137	30	235	28	42	168	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	200	52	49	324	149	33	255	30	46	183	20
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	15	19.7	14.3	13.2
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	74%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	26%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	157	106	55	184	48	45	298	137	42	112
LT Vol	30	0	0	55	0	0	45	0	0	42	0
Through Vol	0	157	78	0	184	0	0	298	0	0	112
RT Vol	0	0	28	0	0	48	0	0	137	0	0
Lane Flow Rate	33	170	116	60	200	52	49	324	149	46	122
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.077	0.377	0.25	0.14	0.44	0.105	0.108	0.673	0.28	0.11	0.276
Departure Headway (Hd)	8.475	7.975	7.79	8.418	7.918	7.218	7.98	7.48	6.78	8.654	8.154
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	451	460	426	454	495	449	483	529	414	439
Service Time	6.238	5.738	5.554	6.181	5.681	4.981	5.738	5.238	4.538	6.42	5.92
HCM Lane V/C Ratio	0.078	0.377	0.252	0.141	0.441	0.105	0.109	0.671	0.282	0.111	0.278
HCM Control Delay	11.9	15.5	13.2	12.6	16.8	10.8	11.7	24.4	12.2	12.5	14
HCM Lane LOS	B	C	B	B	C	B	B	C	B	B	B
HCM 95th-tile Q	0.2	1.7	1	0.5	2.2	0.3	0.4	4.9	1.1	0.4	1.1

Intersection												
Intersection Delay, s/veh	30.2											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	336	76	71	274	91	45	139	88	116	313	57
Future Vol, veh/h	49	336	76	71	274	91	45	139	88	116	313	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	365	83	77	298	99	49	151	96	126	340	62
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	49	29.1	17	20.8
HCM LOS	E	D	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	93	134	49	336	76	71	274	91	116	209
LT Vol	45	0	0	49	0	0	71	0	0	116	0
Through Vol	0	93	46	0	336	0	0	274	0	0	209
RT Vol	0	0	88	0	0	76	0	0	91	0	0
Lane Flow Rate	49	101	146	53	365	83	77	298	99	126	227
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.142	0.277	0.384	0.144	0.937	0.196	0.211	0.773	0.238	0.342	0.583
Departure Headway (Hd)	10.417	9.917	9.459	9.741	9.241	8.541	9.845	9.345	8.645	9.761	9.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	344	362	380	368	391	420	364	387	414	368	390
Service Time	8.195	7.695	7.237	7.511	7.011	6.311	7.616	7.116	6.416	7.529	7.029
HCM Lane V/C Ratio	0.142	0.279	0.384	0.144	0.934	0.198	0.212	0.77	0.239	0.342	0.582
HCM Control Delay	14.9	16.5	18.1	14.2	62.1	13.4	15.2	37.7	14.1	17.6	24.3
HCM Lane LOS	B	C	C	B	F	B	C	E	B	C	C
HCM 95th-tile Q	0.5	1.1	1.8	0.5	10.2	0.7	0.8	6.4	0.9	1.5	3.6

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	777	490	77	717	505	179	0	626	107	0	561
Future Volume (vph)	146	777	490	77	717	505	179	0	626	107	0	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	845	533	84	779	549	195	0	680	116	0	610
RTOR Reduction (vph)	0	0	362	0	0	402	0	0	340	0	0	537
Lane Group Flow (vph)	159	845	171	84	779	147	195	0	340	116	0	73
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	8.4	22.4	22.4	4.8	18.8	18.8	29.3		19.0	5.8		8.4
Effective Green, g (s)	8.4	22.4	22.4	4.8	18.8	18.8	29.3		19.0	5.8		8.4
Actuated g/C Ratio	0.12	0.32	0.32	0.07	0.27	0.27	0.42		0.27	0.08		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	212	1132	506	121	950	425	740		756	146		334
v/s Ratio Prot	c0.09	c0.24		0.05	0.22		0.11			c0.07		0.03
v/s Ratio Perm			0.11			0.09			c0.12			
v/c Ratio	0.75	0.75	0.34	0.69	0.82	0.35	0.26		0.45	0.79		0.22
Uniform Delay, d1	29.8	21.3	18.1	31.9	24.0	20.6	13.3		21.2	31.5		27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	13.8	2.7	0.4	15.9	5.6	0.5	0.2		1.9	25.0		0.3
Delay (s)	43.6	24.0	18.5	47.7	29.6	21.1	13.5		23.1	56.5		28.2
Level of Service	D	C	B	D	C	C	B		C	E		C
Approach Delay (s)		24.1			27.4			21.0			32.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			60.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 				 				
Traffic Volume (vph)	186	889	549	46	810	375	122	0	663	73	0	524	
Future Volume (vph)	186	889	549	46	810	375	122	0	663	73	0	524	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	202	966	597	50	880	408	133	0	721	79	0	570	
RTOR Reduction (vph)	0	0	355	0	0	283	0	0	301	0	0	491	
Lane Group Flow (vph)	202	966	242	50	880	125	133	0	420	79	0	79	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over	
Protected Phases	7	4		3	8		5			1		7	
Permitted Phases			4			8			2				
Actuated Green, G (s)	10.4	30.4	30.4	3.0	23.0	23.0	28.1		19.2	4.4		10.4	
Effective Green, g (s)	10.4	30.4	30.4	3.0	23.0	23.0	28.1		19.2	4.4		10.4	
Actuated g/C Ratio	0.14	0.41	0.41	0.04	0.31	0.31	0.37		0.26	0.06		0.14	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	245	1434	641	70	1085	485	663		713	103		386	
v/s Ratio Prot	c0.11	0.27		0.03	c0.25		0.08			c0.04		0.03	
v/s Ratio Perm			0.15			0.08			c0.15				
v/c Ratio	0.82	0.67	0.38	0.71	0.81	0.26	0.20		0.59	0.77		0.20	
Uniform Delay, d1	31.4	18.2	15.7	35.6	24.0	19.6	15.9		24.4	34.8		28.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	19.7	1.3	0.4	29.1	4.7	0.3	0.1		3.6	28.3		0.3	
Delay (s)	51.1	19.5	16.0	64.6	28.7	19.9	16.0		28.0	63.1		28.9	
Level of Service	D	B	B	E	C	B	B		C	E		C	
Approach Delay (s)		21.9			27.3			26.1			33.1		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			25.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73										
Actuated Cycle Length (s)			75.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			62.6%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

Intersection												
Int Delay, s/veh	19.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	70	4	136	86	38	7	396	149	36	402	8
Future Vol, veh/h	9	70	4	136	86	38	7	396	149	36	402	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	76	4	148	93	41	8	430	162	39	437	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1114	1128	442	1006	970	430	446	0	0	592	0	0
Stage 1	520	520	-	446	446	-	-	-	-	-	-	-
Stage 2	594	608	-	560	524	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	185	204	615	220	253	625	1114	-	-	984	-	-
Stage 1	539	532	-	591	574	-	-	-	-	-	-	-
Stage 2	491	486	-	513	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	117	194	615	~ 147	241	625	1114	-	-	984	-	-
Mov Cap-2 Maneuver	117	194	-	~ 147	241	-	-	-	-	-	-	-
Stage 1	535	511	-	587	570	-	-	-	-	-	-	-
Stage 2	381	483	-	416	509	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	41		83.9		0.1		0.7					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1114	-	-	187 147 297	984	-	-					
HCM Lane V/C Ratio	0.007	-	-	0.482 1.006 0.454	0.04	-	-					
HCM Control Delay (s)	8.3	-	-	41 136 26.8	8.8	-	-					
HCM Lane LOS	A	-	-	E F D	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	2.3 7.5 2.2	0.1	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection												
Int Delay, s/veh	31.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Future Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	89	11	124	7	900	117	105	791	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2041	2032	791	1917	1915	900	791	0	0	1017	0	0
Stage 1	1001	1001	-	914	914	-	-	-	-	-	-	-
Stage 2	1040	1031	-	1003	1001	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	57	390	~ 51	68	337	829	-	-	682	-	-
Stage 1	293	321	-	327	352	-	-	-	-	-	-	-
Stage 2	278	310	-	292	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	20	48	390	~ 44	57	337	829	-	-	682	-	-
Mov Cap-2 Maneuver	20	48	-	~ 44	57	-	-	-	-	-	-	-
Stage 1	291	272	-	324	349	-	-	-	-	-	-	-
Stage 2	169	308	-	245	272	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	182.7		291.2		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	829	-	-	29 44 241	682	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.337 2.026 0.559	0.155	-	-					
HCM Control Delay (s)	9.4	-	-	182.7\$ 675.1 37.4	11.2	-	-					
HCM Lane LOS	A	-	-	F F E	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.1 9.3 3.1	0.5	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Intersection Delay, s/veh	21											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	281	6	68	269	14	8	173	71	17	172	58
Future Vol, veh/h	58	281	6	68	269	14	8	173	71	17	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	305	7	74	292	15	9	188	77	18	187	63
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	21.9	21.2	21.8	18.8
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	3%	100%	0%	100%	0%	100%	0%
Vol Thru, %	69%	0%	98%	0%	95%	0%	75%
Vol Right, %	28%	0%	2%	0%	5%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	58	287	68	283	17	230
LT Vol	8	58	0	68	0	17	0
Through Vol	173	0	281	0	269	0	172
RT Vol	71	0	6	0	14	0	58
Lane Flow Rate	274	63	312	74	308	18	250
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.595	0.142	0.659	0.167	0.648	0.043	0.54
Departure Headway (Hd)	7.826	8.137	7.606	8.133	7.581	8.474	7.776
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	442	477	442	477	423	465
Service Time	5.877	5.865	5.334	5.861	5.31	6.211	5.514
HCM Lane V/C Ratio	0.596	0.143	0.654	0.167	0.646	0.043	0.538
HCM Control Delay	21.8	12.2	23.9	12.5	23.3	11.6	19.3
HCM Lane LOS	C	B	C	B	C	B	C
HCM 95th-tile Q	3.8	0.5	4.7	0.6	4.5	0.1	3.1

Intersection	
Intersection Delay, s/veh	29.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	282	65	89	260	15	83	177	57	12	150	56
Future Vol, veh/h	61	282	65	89	260	15	83	177	57	12	150	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	307	71	97	283	16	90	192	62	13	163	61
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	35.2	23.6	36.7	20
HCM LOS	E	C	E	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	100%	0%	100%	0%	100%	0%
Vol Thru, %	56%	0%	81%	0%	95%	0%	73%
Vol Right, %	18%	0%	19%	0%	5%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	61	347	89	275	12	206
LT Vol	83	61	0	89	0	12	0
Through Vol	177	0	282	0	260	0	150
RT Vol	57	0	65	0	15	0	56
Lane Flow Rate	345	66	377	97	299	13	224
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.794	0.158	0.83	0.235	0.679	0.033	0.528
Departure Headway (Hd)	8.299	8.577	7.923	8.734	8.175	9.197	8.481
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	434	418	456	410	442	388	423
Service Time	6.369	6.345	5.69	6.505	5.946	6.972	6.254
HCM Lane V/C Ratio	0.795	0.158	0.827	0.237	0.676	0.034	0.53
HCM Control Delay	36.7	13	39.1	14.2	26.7	12.3	20.4
HCM Lane LOS	E	B	E	B	D	B	C
HCM 95th-tile Q	7.1	0.6	8	0.9	4.9	0.1	3

Intersection												
Intersection Delay, s/veh	11.9											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	155	57	17	151	40	62	148	36	31	151	85
Future Vol, veh/h	94	155	57	17	151	40	62	148	36	31	151	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	168	62	18	164	43	67	161	39	34	164	92
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.1	12.4	11.4	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	58%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	42%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	99	85	94	155	57	17	151	40	31	101
LT Vol	62	0	0	94	0	0	17	0	0	31	0
Through Vol	0	99	49	0	155	0	0	151	0	0	101
RT Vol	0	0	36	0	0	57	0	0	40	0	0
Lane Flow Rate	67	107	93	102	168	62	18	164	43	34	109
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.14	0.209	0.173	0.209	0.321	0.106	0.039	0.323	0.077	0.07	0.212
Departure Headway (Hd)	7.504	7.004	6.709	7.358	6.858	6.158	7.584	7.084	6.384	7.469	6.969
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	508	531	485	521	577	469	504	556	476	511
Service Time	5.3	4.8	4.504	5.149	4.649	3.949	5.382	4.882	4.182	5.262	4.762
HCM Lane V/C Ratio	0.141	0.211	0.175	0.21	0.322	0.107	0.038	0.325	0.077	0.071	0.213
HCM Control Delay	11.5	11.7	10.9	12.1	12.9	9.7	10.7	13.3	9.7	10.8	11.7
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	B
HCM 95th-tile Q	0.5	0.8	0.6	0.8	1.4	0.4	0.1	1.4	0.2	0.2	0.8

Intersection												
Intersection Delay, s/veh	23.1											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↕		↰	↕	
Traffic Vol, veh/h	55	302	85	55	288	101	50	156	52	120	218	45
Future Vol, veh/h	55	302	85	55	288	101	50	156	52	120	218	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	328	92	60	313	110	54	170	57	130	237	49
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	29.7	26.7	15.3	16.6
HCM LOS	D	D	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	50%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	104	104	55	302	85	55	288	101	120	145
LT Vol	50	0	0	55	0	0	55	0	0	120	0
Through Vol	0	104	52	0	302	0	0	288	0	0	145
RT Vol	0	0	52	0	0	85	0	0	101	0	0
Lane Flow Rate	54	113	113	60	328	92	60	313	110	130	158
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.148	0.292	0.281	0.152	0.792	0.205	0.153	0.756	0.244	0.341	0.391
Departure Headway (Hd)	9.801	9.301	8.951	9.182	8.682	7.982	9.19	8.69	7.99	9.414	8.914
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	366	387	401	391	417	450	390	416	450	382	404
Service Time	7.555	7.055	6.705	6.931	6.431	5.731	6.937	6.437	5.737	7.165	6.665
HCM Lane V/C Ratio	0.148	0.292	0.282	0.153	0.787	0.204	0.154	0.752	0.244	0.34	0.391
HCM Control Delay	14.3	15.9	15.2	13.6	37.4	12.8	13.6	33.9	13.3	17	17.3
HCM Lane LOS	B	C	C	B	E	B	B	D	B	C	C
HCM 95th-tile Q	0.5	1.2	1.1	0.5	6.9	0.8	0.5	6.2	0.9	1.5	1.8

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	777	490	77	717	505	172	0	626	107	0	547
Future Volume (vph)	146	777	490	77	717	505	172	0	626	107	0	547
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	845	533	84	779	549	187	0	680	116	0	595
RTOR Reduction (vph)	0	0	362	0	0	402	0	0	340	0	0	524
Lane Group Flow (vph)	159	845	171	84	779	147	187	0	340	116	0	71
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	8.4	22.4	22.4	4.8	18.8	18.8	29.3		19.0	5.8		8.4
Effective Green, g (s)	8.4	22.4	22.4	4.8	18.8	18.8	29.3		19.0	5.8		8.4
Actuated g/C Ratio	0.12	0.32	0.32	0.07	0.27	0.27	0.42		0.27	0.08		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	212	1132	506	121	950	425	740		756	146		334
v/s Ratio Prot	c0.09	c0.24		0.05	0.22		0.11			c0.07		0.03
v/s Ratio Perm			0.11			0.09			c0.12			
v/c Ratio	0.75	0.75	0.34	0.69	0.82	0.35	0.25		0.45	0.79		0.21
Uniform Delay, d1	29.8	21.3	18.1	31.9	24.0	20.6	13.2		21.2	31.5		27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	13.8	2.7	0.4	15.9	5.6	0.5	0.2		1.9	25.0		0.3
Delay (s)	43.6	24.0	18.5	47.7	29.6	21.1	13.4		23.1	56.5		28.1
Level of Service	D	C	B	D	C	C	B		C	E		C
Approach Delay (s)		24.1			27.4			21.0			32.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			60.1%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Baseline Rd & SR-210 Ramp

05/01/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	889	539	46	810	375	122	0	663	73	0	524
Future Volume (vph)	176	889	539	46	810	375	122	0	663	73	0	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.88	1.00		0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770		2787	1770		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	966	586	50	880	408	133	0	721	79	0	570
RTOR Reduction (vph)	0	0	349	0	0	282	0	0	300	0	0	492
Lane Group Flow (vph)	191	966	237	50	880	126	133	0	421	79	0	78
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5			1		7
Permitted Phases			4			8			2			
Actuated Green, G (s)	10.2	30.3	30.3	3.0	23.1	23.1	28.2		19.3	4.4		10.2
Effective Green, g (s)	10.2	30.3	30.3	3.0	23.1	23.1	28.2		19.3	4.4		10.2
Actuated g/C Ratio	0.14	0.40	0.40	0.04	0.31	0.31	0.38		0.26	0.06		0.14
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	240	1429	639	70	1090	487	665		717	103		379
v/s Ratio Prot	c0.11	0.27		0.03	c0.25		0.08			c0.04		0.03
v/s Ratio Perm			0.15			0.08			c0.15			
v/c Ratio	0.80	0.68	0.37	0.71	0.81	0.26	0.20		0.59	0.77		0.20
Uniform Delay, d1	31.4	18.3	15.7	35.6	23.9	19.5	15.8		24.4	34.8		28.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	16.5	1.3	0.4	29.1	4.5	0.3	0.1		3.5	28.3		0.3
Delay (s)	47.9	19.6	16.0	64.6	28.4	19.8	15.9		27.9	63.1		29.1
Level of Service	D	B	B	E	C	B	B		C	E		C
Approach Delay (s)		21.5			27.1			26.0			33.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			62.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	18.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	
Traffic Vol, veh/h	9	70	4	136	86	38	7	396	142	36	402	8
Future Vol, veh/h	9	70	4	136	86	38	7	396	142	36	402	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	76	4	148	93	41	8	430	154	39	437	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1110	1120	442	1006	970	430	446	0	0	584	0	0
Stage 1	520	520	-	446	446	-	-	-	-	-	-	-
Stage 2	590	600	-	560	524	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	187	206	615	220	253	625	1114	-	-	991	-	-
Stage 1	539	532	-	591	574	-	-	-	-	-	-	-
Stage 2	494	490	-	513	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	118	197	615	148	241	625	1114	-	-	991	-	-
Mov Cap-2 Maneuver	118	197	-	148	241	-	-	-	-	-	-	-
Stage 1	535	511	-	587	570	-	-	-	-	-	-	-
Stage 2	383	487	-	416	509	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	40.3		82.7		0.1		0.7	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1114	-	-	189 148 297	991	-	-
HCM Lane V/C Ratio	0.007	-	-	0.477 0.999 0.454	0.039	-	-
HCM Control Delay (s)	8.3	-	-	40.3 133.6 26.8	8.8	-	-
HCM Lane LOS	A	-	-	E F D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3 7.4 2.2	0.1	-	-

Intersection												
Int Delay, s/veh	31.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Future Vol, veh/h	6	0	3	82	10	114	6	828	108	97	728	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	55	-	55	135	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	89	11	124	7	900	117	105	791	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2041	2032	791	1917	1915	900	791	0	0	1017	0	0
Stage 1	1001	1001	-	914	914	-	-	-	-	-	-	-
Stage 2	1040	1031	-	1003	1001	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	57	390	~ 51	68	337	829	-	-	682	-	-
Stage 1	293	321	-	327	352	-	-	-	-	-	-	-
Stage 2	278	310	-	292	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	20	48	390	~ 44	57	337	829	-	-	682	-	-
Mov Cap-2 Maneuver	20	48	-	~ 44	57	-	-	-	-	-	-	-
Stage 1	291	272	-	324	349	-	-	-	-	-	-	-
Stage 2	169	308	-	245	272	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	182.7		291.2		0.1		1.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	829	-	-	29 44 241	682	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.337 2.026 0.559	0.155	-	-					
HCM Control Delay (s)	9.4	-	-	182.7\$ 675.1 37.4	11.2	-	-					
HCM Lane LOS	A	-	-	F F E	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.1 9.3 3.1	0.5	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection	
Intersection Delay, s/veh	20.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	274	6	68	269	14	8	173	71	17	172	58
Future Vol, veh/h	58	274	6	68	269	14	8	173	71	17	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	298	7	74	292	15	9	188	77	18	187	63
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	20.6	20.5	21.2	18.3
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	3%	100%	0%	100%	0%	100%	0%
Vol Thru, %	69%	0%	98%	0%	95%	0%	75%
Vol Right, %	28%	0%	2%	0%	5%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	58	280	68	283	17	230
LT Vol	8	58	0	68	0	17	0
Through Vol	173	0	274	0	269	0	172
RT Vol	71	0	6	0	14	0	58
Lane Flow Rate	274	63	304	74	308	18	250
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.585	0.14	0.633	0.164	0.636	0.043	0.53
Departure Headway (Hd)	7.689	8.012	7.482	7.991	7.44	8.33	7.634
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	445	481	446	483	428	470
Service Time	5.787	5.806	5.275	5.784	5.233	6.125	5.428
HCM Lane V/C Ratio	0.588	0.142	0.632	0.166	0.638	0.042	0.532
HCM Control Delay	21.2	12.1	22.4	12.4	22.5	11.5	18.8
HCM Lane LOS	C	B	C	B	C	B	C
HCM 95th-tile Q	3.7	0.5	4.3	0.6	4.4	0.1	3

Intersection	
Intersection Delay, s/veh	29.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	282	65	89	250	15	83	177	57	12	150	56
Future Vol, veh/h	61	282	65	89	250	15	83	177	57	12	150	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	307	71	97	272	16	90	192	62	13	163	61
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	34.5	22.3	36	19.8
HCM LOS	D	C	E	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	100%	0%	100%	0%	100%	0%
Vol Thru, %	56%	0%	81%	0%	94%	0%	73%
Vol Right, %	18%	0%	19%	0%	6%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	61	347	89	265	12	206
LT Vol	83	61	0	89	0	12	0
Through Vol	177	0	282	0	250	0	150
RT Vol	57	0	65	0	15	0	56
Lane Flow Rate	345	66	377	97	288	13	224
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.789	0.157	0.825	0.234	0.652	0.033	0.524
Departure Headway (Hd)	8.242	8.526	7.873	8.709	8.149	9.136	8.42
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	420	460	411	444	391	428
Service Time	6.308	6.291	5.636	6.478	5.918	6.909	6.192
HCM Lane V/C Ratio	0.788	0.157	0.82	0.236	0.649	0.033	0.523
HCM Control Delay	36	12.9	38.3	14.1	25	12.2	20.2
HCM Lane LOS	E	B	E	B	C	B	C
HCM 95th-tile Q	7	0.6	7.9	0.9	4.5	0.1	3

Intersection												
Intersection Delay, s/veh	11.8											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	148	57	17	151	40	62	148	36	31	151	85
Future Vol, veh/h	94	148	57	17	151	40	62	148	36	31	151	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	161	62	18	164	43	67	161	39	34	164	92
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.9	12.3	11.3	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	58%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	42%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	99	85	94	148	57	17	151	40	31	101
LT Vol	62	0	0	94	0	0	17	0	0	31	0
Through Vol	0	99	49	0	148	0	0	151	0	0	101
RT Vol	0	0	36	0	0	57	0	0	40	0	0
Lane Flow Rate	67	107	93	102	161	62	18	164	43	34	109
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.14	0.208	0.172	0.209	0.306	0.106	0.039	0.322	0.077	0.07	0.211
Departure Headway (Hd)	7.481	6.981	6.685	7.354	6.854	6.154	7.563	7.063	6.363	7.446	6.946
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	510	532	485	521	577	470	506	558	478	513
Service Time	5.274	4.774	4.478	5.142	4.642	3.942	5.357	4.857	4.157	5.236	4.736
HCM Lane V/C Ratio	0.141	0.21	0.175	0.21	0.309	0.107	0.038	0.324	0.077	0.071	0.212
HCM Control Delay	11.5	11.6	10.9	12.1	12.7	9.7	10.7	13.2	9.7	10.8	11.6
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	B
HCM 95th-tile Q	0.5	0.8	0.6	0.8	1.3	0.4	0.1	1.4	0.2	0.2	0.8

Intersection												
Intersection Delay, s/veh	22.4											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	302	85	55	278	101	50	156	52	120	218	45
Future Vol, veh/h	55	302	85	55	278	101	50	156	52	120	218	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	328	92	60	302	110	54	170	57	130	237	49
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	29.2	25	15.2	16.5
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	50%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	104	104	55	302	85	55	278	101	120	145
LT Vol	50	0	0	55	0	0	55	0	0	120	0
Through Vol	0	104	52	0	302	0	0	278	0	0	145
RT Vol	0	0	52	0	0	85	0	0	101	0	0
Lane Flow Rate	54	113	113	60	328	92	60	302	110	130	158
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.147	0.29	0.279	0.152	0.787	0.204	0.152	0.728	0.243	0.339	0.389
Departure Headway (Hd)	9.747	9.247	8.897	9.132	8.632	7.932	9.168	8.668	7.968	9.362	8.862
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	389	404	393	420	453	392	417	451	385	406
Service Time	7.5	7	6.65	6.879	6.379	5.679	6.916	6.416	5.716	7.112	6.612
HCM Lane V/C Ratio	0.147	0.29	0.28	0.153	0.781	0.203	0.153	0.724	0.244	0.338	0.389
HCM Control Delay	14.2	15.8	15.1	13.5	36.7	12.7	13.6	31.5	13.3	16.9	17.2
HCM Lane LOS	B	C	C	B	E	B	B	D	B	C	C
HCM 95th-tile Q	0.5	1.2	1.1	0.5	6.8	0.8	0.5	5.7	0.9	1.5	1.8

APPENDIX H

SGVCOG VMT EVALUATION TOOL SCREENING RESULTS

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: May 22, 2023, 05:16:53 PM

Project Name: CMC East Campus

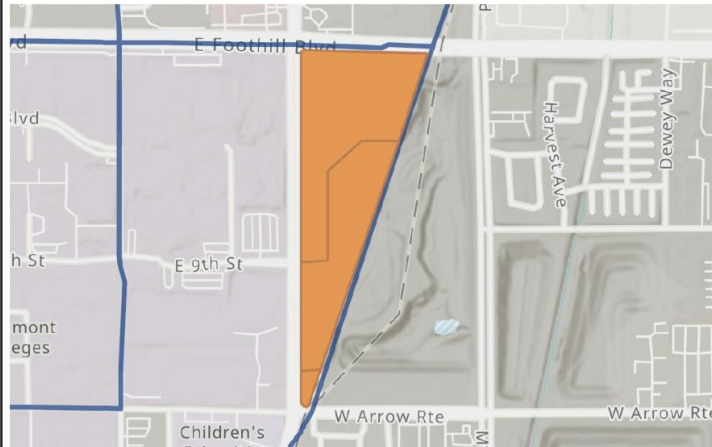
Project Description: Proposed uses: fields for baseball, softball, soccer, three multi-purpose fields, football/track, and golf practice, all to be used solely by CMC

Project Location

Jurisdiction:
Claremont

apn	TAZ
8308-025-014	22453100
8308-025-015	22453100
8308-025-016	22453100

Inside a TPA?
No (Fail)



Analysis Details

Data Version: SCAG Regional Travel Demand Model
2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2023

Project Land Use

Residential:

Single Family DU:

Multifamily DU:

Total DUs: 0

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

Parking:

Motor Vehicle Parking:

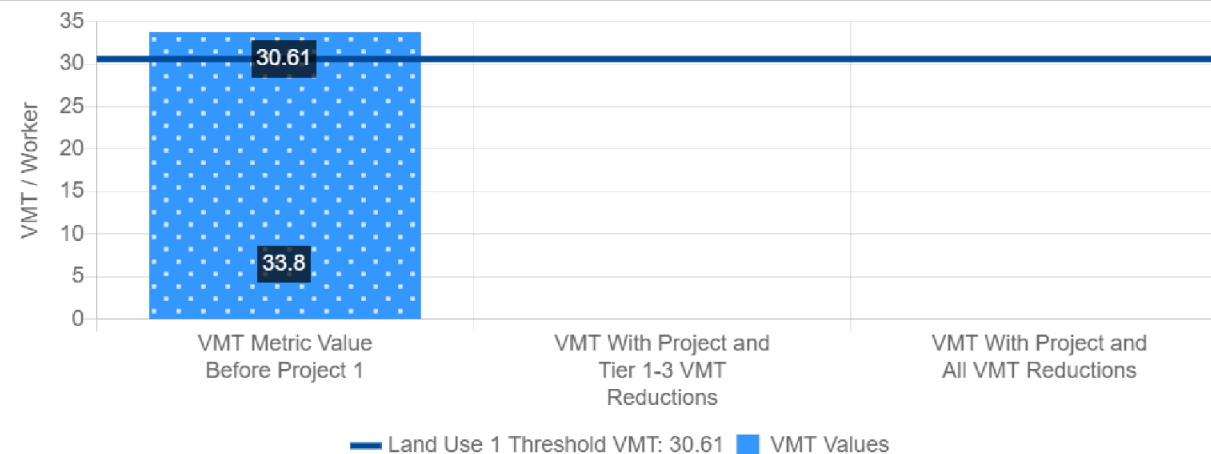
Bicycle Parking:

SGVCOG VMT Evaluation Tool Report

Commercial Vehicle Miles Traveled (VMT) Screening Results

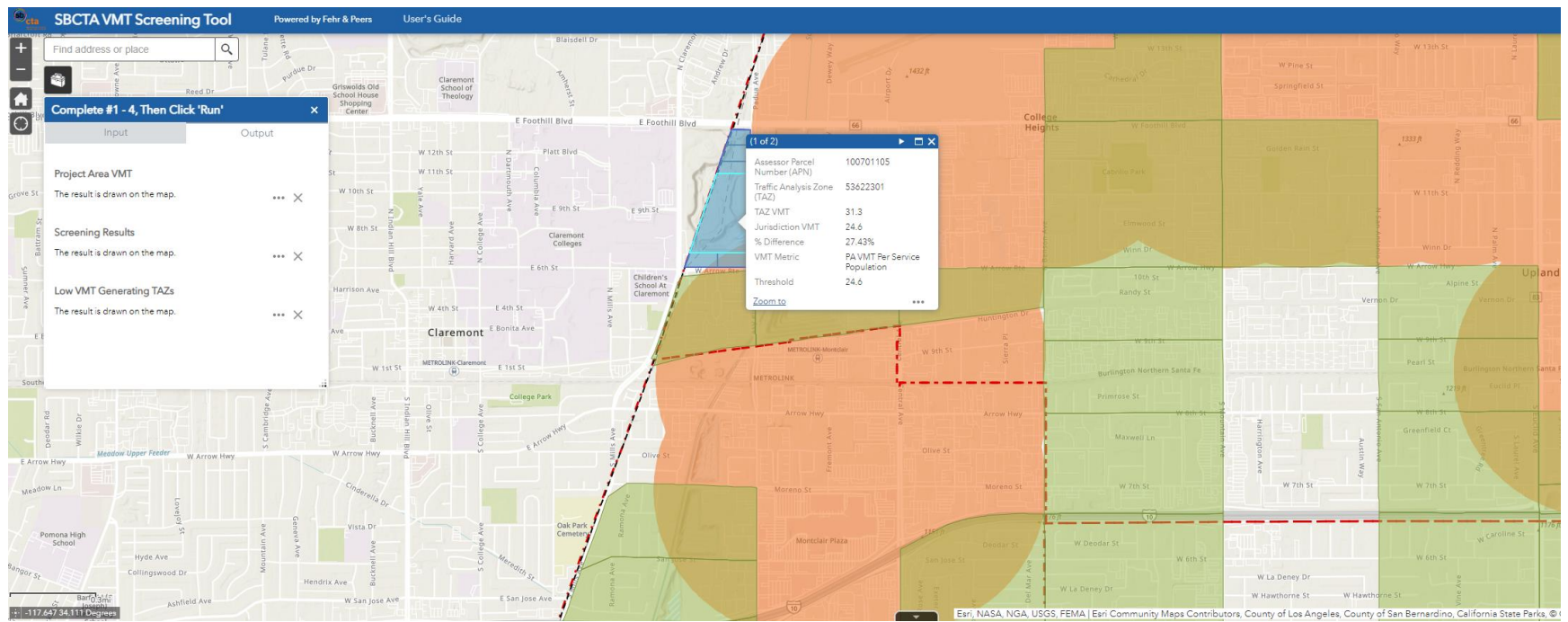
Land Use Type 1:	Commercial
VMT Without Project 1:	Total VMT per Service Population
VMT Baseline Description 1:	Subarea Average
VMT Baseline Value 1:	36.02
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	33.8	null	null
Low VMT Screening Analysis	No (Fail)	null	null



APPENDIX I

SBCTA VMT SCREENING TOOL SCREENING RESULTS



APPENDIX J

CITIES OF CLAREMONT & UPLAND MOUs

TRAFFIC ANALYSIS - MEMORANDUM OF UNDERSTANDING (MOU) Revised February 14, 2024

This MOU acknowledges that the traffic analysis for the following project will be prepared in accordance with the latest traffic study policies and guidelines of the Cities of Claremont and Upland. There will be one traffic study for the entire Project which will cover both jurisdictions.

A. Project Information:

Project Name: Claremont-McKenna College Roberts Campus East (East Campus Update): Traffic Impact Study and VMT Analysis

Project Address: NE Corner of W Arrow Route and Claremont Boulevard

Project Description: Claremont McKenna College plans to modify and refine the site plan and entitlements for the Roberts Campus East, which is an existing inert debris landfill. The site has existing entitlements approved by the cities of Upland and Claremont in 2016. The proposed modification will include fields for baseball, softball, soccer, three multi-purpose fields, football/track, and golf practice, all to be used solely by CMC and it does not propose changes in the type of use or increase the intensity or density. The City of Upland served as the lead agency in 2016 and will continue to do so for this Project. CMC proposes two alternative site plans (Scenario 2, and Scenario 2B), each of which are provided in Attachment A. Each alternative site plan contains the same uses and programming, but the layout and vehicular access and circulation differ among the three scenarios.

B. Geographic Distribution: N 25 % S 25 % E 15 % W 35 %

Attachment B provides a graphic illustrating the overall project trip distribution. Trip distribution is similar across the two scenarios.

Trip Generation Rate(s): Soccer Complex (Land Use Code #488, ITE 11th Edition), Multi-Purpose Fields, Baseball Field, Softball Field, Football/Track & Field/Lacrosse, and Rugby/Soccer. The College provides the spectator and participant numbers, which are utilized to identify the number of trips. The trip generation table in Attachment C provides a description of the proposed land uses, ITE rates, estimated morning, and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. The project trip generation is summarized in the table below:

Day	Activity	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Weekday	Practice Day	1	0	1	11	149	160
	Game Day	1	0	1	11	249	260
Weekend	Game Day (Fall)	358	19	377	6	529	535
	Game Day (Spring)	218	19	237	6	315	321

C. Analysis Scenarios:

- Existing Year (2023) Conditions
- Opening Year (2027) Conditions
 - Opening Year Without Project Conditions
 - Opening Year Plus Project Conditions
- Future/Horizon Year (2045) Conditions
 - Future/Horizon Year Without Project Conditions
 - Future/Horizon Year Plus Project Conditions

Related Projects List attached?

☐ No ☒ Yes

[See attachment]

Capacity Analysis Methodologies: Signalized and unsignalized intersections will be analyzed using the latest HCM operational analysis methodologies and present the analysis results in Level-of-Service (LOS) and Delay, as per the City of Claremont's *Draft Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (August 2020).

Study Intersections:

Study Intersection ID, Location and Jurisdiction*					
1.) Base Line Rd. & Indian Hill Blvd.	C	11.) Foothill Blvd. & Monte Vista Ave.	U	21.) 1st St. & Claremont Blvd.	C
2.) Base Line Rd. & Mills Ave	C	12.) Foothill Blvd. & Central Ave.	U	22.) Arrow Hwy. & Indian Hill Blvd.	C
3.) Base Line Rd. & Monte Vista Ave./Padua Ave.	C	13.) 6th St. & Indian Hill Blvd.	C	23.) Arrow Hwy. & College Ave.	C
4.) Base Line Rd. & I-210 Ramps	C	14.) 6th St. & College Ave.	C	24.) Arrow Hwy. & Claremont Blvd./Mills Ave.	C
5.) Claremont Blvd. & Monte Vista Ave.	C	15.) 6th St. & Mills Ave.	C	25.) Claremont Blvd. & 9th St.	C
6.) Foothill Blvd. & Indian Hill Blvd.	C	16.) 6th St./Arrow Rte. & Claremont Blvd.	U	26.) Foothill Blvd. & Project Dwy. N	C
7.) Foothill Blvd. & College Ave.	C	17.) Arrow Rte. & Monte Vista Ave.	U	27.) Claremont Blvd. & Project Dwy. SW	C
8.) Foothill Blvd. & Dartmouth Ave.	C	18.) Harrison Ave./5th St. & Indian Hill Blvd.	C	28.) Monte Vista Ave. & Project Dwy. SE	U
9.) Foothill Blvd. & Mills Ave.	C	19.) 1st St. & Indian Hill Blvd.	C	29.) (Ex. three-way & Future four-way intersection)	U
10.) Foothill Blvd. & Claremont Blvd.	C	20.) 1st St. & College Ave.	C		

* C = City of Claremont; U = City of Upland

Highlighted intersections are located within the jurisdiction of the City of Claremont

Study Roadways:

Study Roadway Segment ID, Location and Local Jurisdiction*					
A.) Foothill Boulevard east of Monte Vista Avenue	U	E.) 9th Street west of Claremont Boulevard	C	I.) Arrow Route between College Park Dr. & Monte Vista Ave.	U
B.) Monte Vista Ave between Foothill Boulevard & 11th Street	U	F.) Claremont Boulevard between 9th Street & 6th St./Arrow Rt.	C	J.) Claremont Boulevard south of 6th Street / Arrow Route	C
C.) Claremont Boulevard between Foothill Boulevard & 9th Street	C	G.) 6th Street west of Mills Avenue	C	K.) 1st Street between Claremont Blvd. & Monte Vista Ave. (future segment)	U
D.) 9th Street east of Mills Avenue	C	H.) Arrow Route between Claremont Bl. & College Park Dr.	U		

* C = City of Claremont; U = City of Upland

Highlighted Roadway segments are located within the jurisdiction of the City of Claremont

	Yes	No
Transit Usage		X
Transportation Demand Management		X
Existing Active Land Use		X ¹
Previous Land Use		X

¹ Existing site is currently vacant land. All proposed athletics facilities, fields, and programs, however, are existing and will be relocated from the adjacent CMC Campus (located just to the west of Claremont Blvd.) to the subject project site.

Additional Sections: Other project-related analyses will be provided in the traffic study, such as event traffic control, ingress, egress, accessibility, public and emergency access, and on-site parking.

D. Vehicle Miles Travelled (VMT) Assessment

As outlined in the City's guidelines, a VMT screening will be conducted to determine whether the project will need to provide further detailed VMT analyses.

VMT Screening Analysis – KOA will prepare a VMT screening assessment for the project based on both the City of Claremont's *Transportation Study Guidelines* and the City of Upland's *Traffic Impact Analysis Guidelines*. Current VMT guidelines allow for projects that are local-serving in nature and presumed to have a less-than-significant VMT impact, including, without limitation, local-serving parks, community colleges, and university student housing projects. While the proposed project does not explicitly match any of the above-listed project types, the proposed project uses are:

- 1) Currently existing and do not include any expanded programs; and
- 2) Can be considered as local serving, as they will primarily cater to the students and faculty of Claremont McKenna College and potentially Pitzer College.

As most of the proposed project facilities will serve as relocations from the existing campus, and all facilities will accommodate uses that currently exist on the campus, the Project will likely generate a relatively low number of "new" trips. KOA will prepare a technical memorandum providing a qualitative screening analysis discussing the local-serving nature of the project uses, and the application of the presumed less-than-significant VMT impact.

Quantitative VMT Analysis – Notwithstanding the findings and conclusions of the VMT screening analysis described above, KOA proposes to conduct a quantitative VMT analysis for the proposed project. Most of the facilities proposed as part of the project may be considered local serving uses in accordance with each agency's adopted VMT guidelines as discussed above. However, as a conservative measure, KOA will also prepare a quantitative VMT analysis for the project. This analysis will include the calculation of the VMT per service population (students, faculty, spectators, etc.) metric for the project, as well as the calculation of the cumulative link-level boundary Citywide VMT per service population under Without Project and Plus Project conditions. The SGVCOG VMT Evaluation Tool and SBCTA VMT Screening Tool will be used for the Project's VMT screening evaluation and the quantitative VMT analysis.

E. Traffic Data

KOA has collected traffic volume counts for the majority the locations identified in Section C, above. New traffic counts will be collected for the additional locations requested by the Cities of Claremont and Upland, based on recent correspondences. In order to provide a consistent and correlative traffic engineering/planning study effort, it is assumed that no further traffic count locations will be added to this scope. Any potential additional study locations shall require collaborative discussion with the Project Team and Agency(ies).

F. Signature

Consultant

Name: Greg Garces, KOA | Lochner

Address: 333 S. Anita Drive, Suite 800
Orange, CA 92868

Phone: (714) 573-0317

E-Mail: ggarces@hwlochner.com

Responsible Agency

Maria B. Tipping, P.E.

City Engineer, City of Claremont

Community Development Department

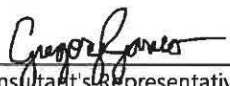
207 Harvard Avenue,

Claremont, CA 91711

(909) 399-5474

mtipping@ci.claremont.ca.us

Approved by:



Consultant's Representative 2/14/24
Date



City of Claremont Representative 3/7/24
Date

TRAFFIC ANALYSIS - MEMORANDUM OF UNDERSTANDING (MOU)

Revised February 14, 2024

This MOU acknowledges that the traffic analysis for the following project will be prepared in accordance with the latest traffic study policies and guidelines of the Cities of Claremont and Upland. There will be one traffic study for the entire Project which will cover both jurisdictions.

A. Project Information:

Project Name: Claremont-McKenna College Roberts Campus East (East Campus Update): Traffic Impact Study and VMT Analysis

Project Address: NE Corner of W Arrow Route and Claremont Boulevard

Project Description: Claremont McKenna College plans to modify and refine the site plan and entitlements for the Roberts Campus East, which is an existing inert debris landfill. The site has existing entitlements approved by the cities of Upland and Claremont in 2016. The proposed modification will include fields for baseball, softball, soccer, three multi-purpose fields, football/track, and golf practice, all to be used solely by CMC and it does not propose changes in the type of use or increase the intensity or density. The City of Upland served as the lead agency in 2016 and will continue to do so for this Project. CMC proposes two alternative site plans (Scenario 2, and Scenario 2B), each of which are provided in Attachment A. Each alternative site plan contains the same uses and programming, but the layout and vehicular access and circulation differ among the three scenarios.

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Related Projects List attached?

☐ No

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[See attachment]

Capacity Analysis Methodologies: Signalized and unsignalized intersections will be analyzed using the latest HCM operational analysis methodologies and present the analysis results in Level-of-Service (LOS) and Delay, as per the City of Claremont's *Draft Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (August 2020).

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4.) Base Line Rd. & I-210 Ramps	C	14.) 6th St. & College Ave.	C	24.) Arrow Hwy. & Claremont Blvd./Mills Ave.	C
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Transit Usage		X
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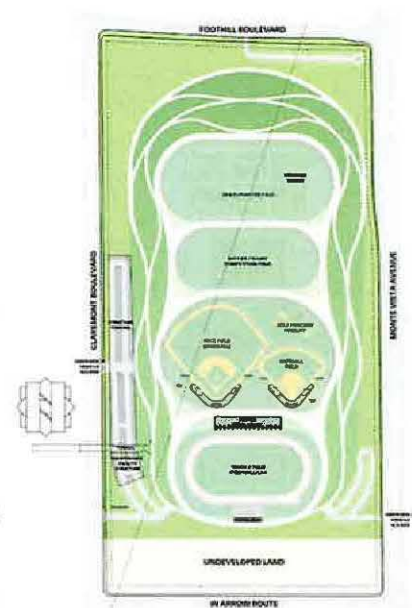
ATTACHMENT A
PROJECT SITE DIAGRAM (PLAN COMPARISON)



2016 MASTER PLAN



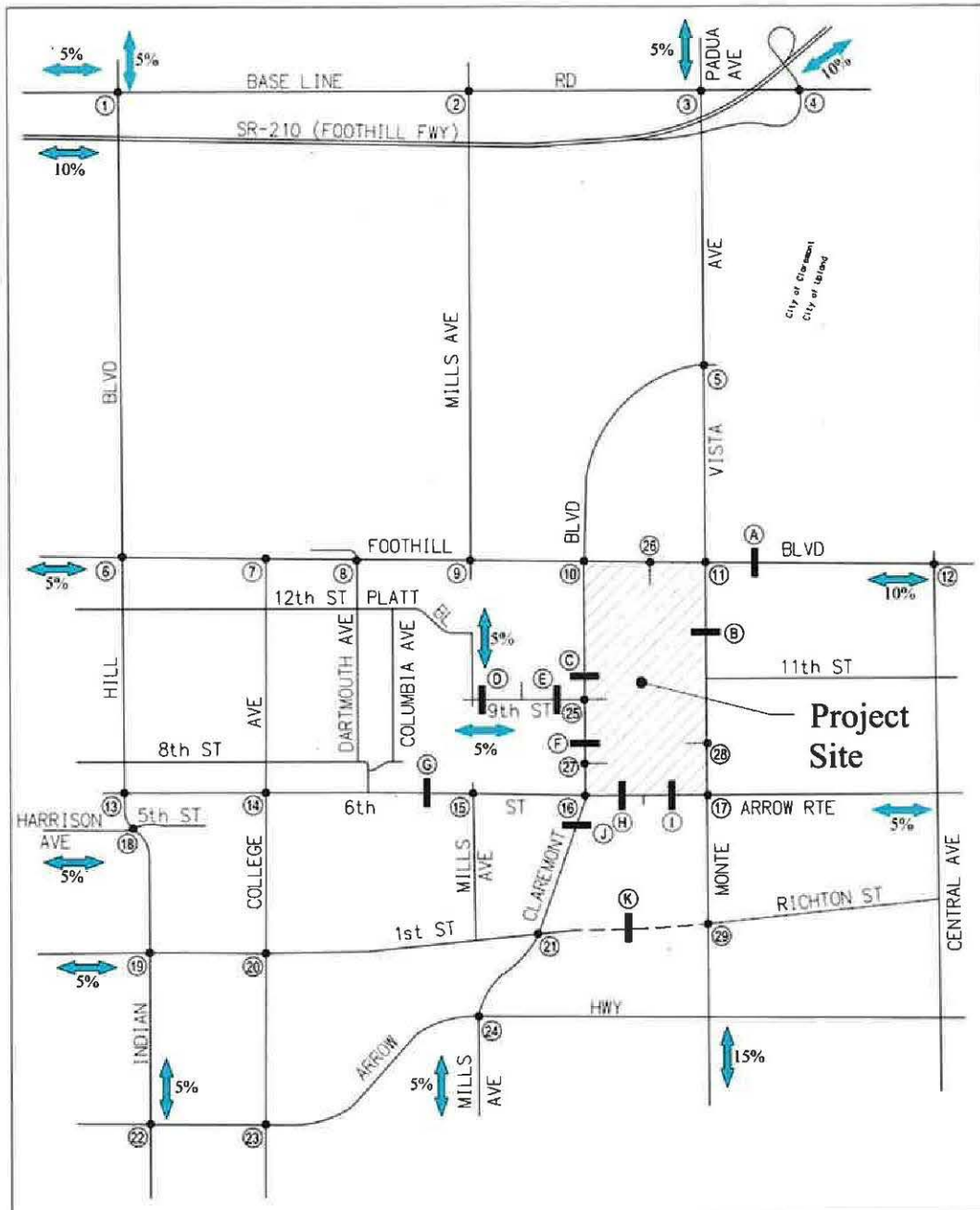
SCENARIO 2



SCENARIO 2B

ATTACHMENT B

PROJECT STUDY AREA, INTERSECTIONS, ROADWAY, AND PROJECT TRIP DISTRIBUTION



ATTACHMENT C
PROJECT TRIP GENERATION TABLE

Claremont McKenna College Robert Campus East

Project Trip Generation

Description	Unit	ITE Land Use Code*	Daily 2-way	Weekday						Daily 2-way	Weekend					
				AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour		
				Trip Rates			Trip Rates				Trip Rates			Trip Rates		
				Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
				Weekday						Weekend						
Soccer Complex	Fields	488	71.33	0.99	1	0	16.43	11	5	109.17	37.48	18	19	37.48	6	31

*Source: Institute of Transportation Engineers Trip Generation, 11th Edition

Estimated 15% Inbound, 85% Outbound for PM peak hour (Weekend)

Description	Qty	Daily 2-way	Weekday						Daily 2-way	Weekend						Notes						
			AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour									
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out							
Weekday Practice Day																						
Multi-Purpose Field (Participants)	1	71	1	1	0	16	11	5	Not Applicable	ITE Land Use Code 456: Soccer Complex, Weekday						- Team size (including coaches): Baseball @ 100, Softball @ 100, Football (for Track and Field) @ 250; - 50% walk-in; 50% Drive-in @ 2.5/car						
Baseball Field (Participants)	100	50	-	-	-	25	-	25														
Softball Field (Participants)	100	50	-	-	-	25	-	25														
Football Track and Field (Participants)	250	125	-	-	-	63	-	63														
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25														
Golf Practice (Participants)	25	13	-	-	-	6	-	6														
Weekday Practice Day Total			359	1	1	0	160	11	149													
Weekday Game Day																						
Multi-Purpose Field (Participants)	1	71	1	1	0	16	11	5	Not Applicable	ITE Land Use Code 456: Soccer Complex, Weekday						- 500 maximum weekday spectators per Baseball and/or Softball (could all be at one field, or split among fields, 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger)+2.5 PCE, Visiting team traffic = 2.5 cars)						
Baseball (250 Spectators)	250	125	-	-	-	78	-	78														
Softball (250 Spectators)	250	125	-	-	-	78	-	78														
Football Track and Field (Participants)	250	126	-	-	-	63	-	63														
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25														
Weekday Game Day Total			559	1	1	0	260	11	249													
Weekend Game Day (Fall)																						
Multi-Purpose Field (Participants)	1		Not Applicable						126	37	18	19	37	6	31	ITE Land Use Code 456: Soccer Complex, Weekend						
Football (1,600 Spectators)	1,600								610	240	240	-	370	-	370							
Soccer/Rugby (Spectators)	500								226	100	100	-	126	-	126							
Weekend Game Day (Fall) Total									962	377	358	19	525	6	529							
Weekend Game Day (Spring)																						
Multi-Purpose Field (Participants)	1		Not Applicable						126	37	18	19	37	6	31	ITE Land Use Code 456: Soccer Complex, Weekend						
Baseball (250 Spectators)	250								126	50	50	-	78	-	78							
Softball (250 Spectators)	250								126	50	50	-	78	-	78							
Rugby Field (500 Spectators)/1 Field	500								226	100	100	-	126	-	126							
Weekend Game Day (Spring) Total									588	217	218	19	321	6	325	- 500 weekend spectator/field, 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger)+2.5 PCE, Visiting team traffic = 2.5 cars						

1. Based on maximum spectator occupancy of 1,600 seats

2. Based on maximum spectator occupancy of 250 seats per field

[1] Based on maximum spectator occupancy of 1,600 seats
[2] Based on maximum spectator occupancy of 250 seats per field

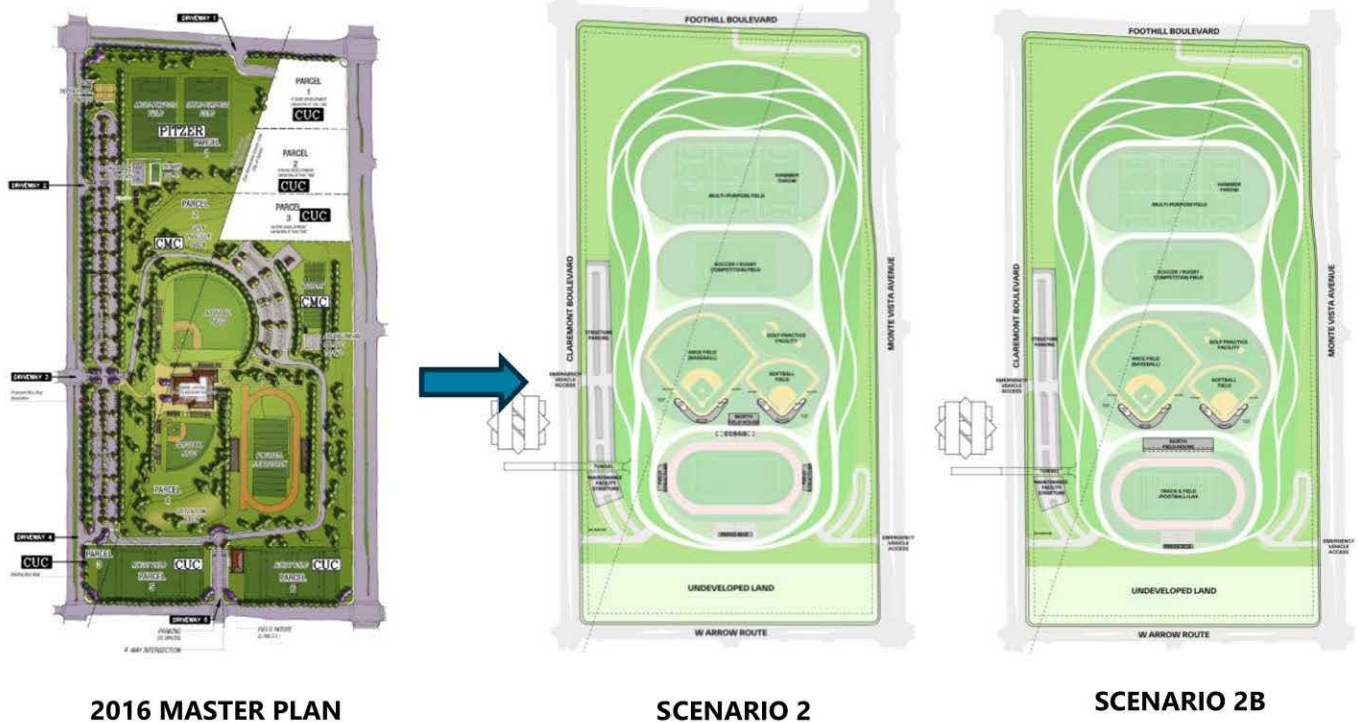
Cumulative Development Projects List						
No.	Project Name or Firm	Address	City	Description	City Project Planner	Project Status
1	Arbor Pointe SFRs	210 @ Monte Vista (SWC)	Claremont	Tentative Tract Map and Design Review for 13 lot subdivision consisting of 13 SFRs, 13 JADUs, and 11 detached ADUs.	CP	No activity since July 2022. Project inquiry email sent 1/3/23.
2	CGU Master Plan	Generally bounded by Foothill Blvd, Dartmouth Avenue, Seventh Street, and College Avenue	Claremont	Potential addition of up to 475 regularly enrolled students, and 39 faculty and staff, and expansion, remodeling, and replacement of campus facilities, resulting in a potential increase in building area of approximately 170,000 assignable square feet	JD	No activity on this project since early 2017.
3	Doubletree Hotel/Old School House Specific Plan	North of Foothill Blvd. and west of Indian Hill Blvd.	Claremont	126-unit residential condominiums/townhomes (30 in building with new 240-space parking structure and 96 on Colby Circle)	CV/NH	30 units and parking structure completed March 2023. Substantial progress on 96 units currently under construction with all slated for completion over next 4-6 months.
4	Harvey Mudd College 2015 Master Plan Amendment	South of E. Foothill Blvd. and north of Platt Blvd, between N. Dartmouth Avenue and N. Claremont Blvd.	Claremont	Proposed HMC 2015 Master Plan Amendment includes increasing current building floor area from 738,079 GSF to 902,411 903,911 GSF, and increasing HMC enrollment entitlement from 800 students to 900 students.	CV	70,000 square foot academic building (Shanahan Learning Center) completed and occupied Sept. 2013 (net 50K) 48,550 sq.ft. dormitory (Drinkwater Dormitory) Completed 2015. 33,000 square foot academic building (McGregor Computer Science) completed and occupied Mar 2021. Approx 35,000 square feet remaining in plan for future academic building to be constructed at SEC of Dartmouth Road South Hill of
5	Keck Science Center Expansion	925 N Mills Avenue (to the west of existing KSC at NW intersection of Ninth Ave and Mills on Scripps campus)	Claremont	70,000-square foot, three-story, semi detached ground up building for Keck Science Center labs and classrooms. Located on existing surface level parking lot. Connected to existing KSC.	NH/CV	Construction nearly complete occupancy anticipated for Spring 2024
6	Knight's Inn Redevelopment (formerly proposed as new Hampton Inn & Suites)	701 S Indian Hill Blvd	Claremont	Originally proposed to include renovation of the two-story, 65-unit motel and construction of a four-story, 121-unit hotel. Specific Plan has been adopted.	CV	Plans for new 120-room Residence Inn by Marriott approved March 2023. Final entitlements granted by AC 3/29/23. Demo of Knights Inn completed Dec 2023. Construction expected to begin in early 2024.
7	La Popular Restaurant & Drezner Lofts	235 N Yale Ave	Claremont	New 3,000-SF restaurant with 850-SF new outdoor dining area. The Mexican restaurant would occupy the former Rhino Records space. 1,660 s.f. Coffee Shop to occupy rear ground floor tenant space. 5 new studio apts to be constructed through conversion of existing mezzanine and two new stories above rear tenant space. Total	NH	CUP for restaurant with alcohol approved in Sept 2022. Design Review approved in November 2022. Construction commenced March 2023. Restaurant completed and opened October 23,2023.
8	Med Density Housing Per Gen Plan Housing Element Update.	Citywide	Claremont	1,711 New Housing Units Planned for through Oct 15, 2029		Final approval of Housing Element Update adopted in July 2023. Rezoning of housing element opportunity sites to follow in January and February 2022.
9	Olson 56 Unit Townhomes	1030 W Foothill Blvd.	Claremont	56 Attached Townhomes with 12 Live work units 350 sf each work live		Entitlements approved in Sept and Oct 2023. Submittal of construction documents in early 2023. Construction anticipated to commence in 2023 and to be
10	Pomona College 2015 Master Plan	Campus-Wide	Claremont	Includes increase of 50 students, 60 staff and faculty, and 205,400 new square feet of campus	CV	No projects currently proposed.
11	Senior Low Income Housing	956 W. Base Line Road	Claremont	15 unit low income senior housing project	JD	Application submitted in Dec 2020. Project approved by AC Feb 2021. Project currently awaiting funding sources to proceed.

12	South Village Development Project	Indian Hill to Bucknell, Rail ROW to Arrow Highway.	Claremont	Mixed-Use, Transit-oriented Development designed to expand the Claremont Village. Project plans include: 610 Residential Apartments in Mixed-use buildings 103 Flat-style Residential condos 21 Townhome residences 34,000 sq.ft. restaurants 52,000 sq.ft. retail 26,000 sq.ft. office space 1,195 parking spaces in structures or garages.	CV	Preliminary review of Architecture reviewed by AC in 3 phases Dec 2021 - May 2022. Two Tentative Tract Maps currently being reviewed by City and LA Co Fire. (TTM83439 & TTM83463). Construction to begin late 2024 and end late 2029. Final VTTM and Entitlements completed Dec 2022 and Jan 2023. Project awaiting investor funding.
13	Trumark Homes	2323 Forbes Ave	Claremont	56 SFR detached Units with 6 internal ADUs	EN	Draft EIR complete April 2023. Construction commences Q4 2024
14	City Ventures Townhomes	840 S Indian Hill Blvd	Claremont	65 townhomes. Proposed total Net SF is 92,880-SF	NH	Preliminary plans submitted for 65-unit townhome development at tennis courts near NE intersection of Indian Hill Boulevard and American Avenue. 2.67-acre site. Site needs to be rezoned as Housing Element. Project requires Parcel Map, Tract Map and Architectural and Site Plan Approval. AC Preliminary review to take
15	Larkin Place - Jamboree Permanent Supportive	731 Harrison Ave	Claremont	33-unit permanent supportive housing development.	CV	Project entitled June 1, 2023. Building permits expected to be issued by Jan 2024.
16	TCCS Student Services Building	800 N Dartmouth Ave	Claremont	New Student Services Building for Claremont Colleges students. Located at Mudd Quadrangle on Dartmouth south of 10th Street. Approx 30,000-SF	NH	Preliminary plans submitted for new Student Services Building. Preliminary Architectural Commission review completed in Nov 2023. Approvals anticipated in Spring 2024.
17	Mercy Housing Affordable Housing	1364 N Towne Avenue	Claremont	74-unit 100% Affordable Housing Development (Veteran Housing)	BJ/NH	100% Affordable Housing Development to reviewed in streamlined process pursuant to SB 35. Currently in community outreach stage.
18	TTM62814	365 San Jose Ave	Claremont	13 new residential townhomes at 365 W. San Jose	LC/CV	AC approved final design on December 11, 2019. Plans submitted for plan check, approvable pending approval/recording of Inclusionary Housing Agreement. After period of downtime, building permit application resubmitted in spring 2023. Building permit plan check is
19	Wendy's Remodel	187 S. Mountain Avenue	Upland	Facade and interior remodel of existing Wendy's restaurant		-Entitlement application was approved on July 3, 2023 -Construction plans for interior and exterior remodel have been submitted and are under review
20	Quick Quak Car Wash	950 Monte Vista Avenue	Upland	2,596 square foot automated drive-thru car wash with ancillary vacuum stations		Entitlement application and associated technical studies are currently under review
21	Bridge Point Upland Project	NEC of Central/Foothill	Upland	A 201,096 square foot warehouse/parcel delivery service building		-Pending outcome of appeal in California Courts of appeal - Construction documents are currently under review
22	Lennar at the Enclave	W. Foothill Boulevard	Upland	Development of 192 residential units comprised of 116 detached condominium units and 76 attached condominium units on 15.6 acres		-Entitlement application were approved by the planning commission on February 24, 2021 -Project is under construction
23	Mixed Commercial/Industrial Development	1750-1780 W. Foothill Blvd	Upland	A 3,570 square foot retail building and four industrial condominium units within two multi-tenant industrial buildings 45,476 square feet and 55,616 square feet in size on 6.05 acres		Application is currently under review
24	T & T Industrial	1701 W. 11th Street	Upland	2 office and warehouse buildings totaling 56,000 square feet		Construction documents are approved
25	Yellow Iron	2068 W. 11th Street	Upland	5 building light industrial park totaling approximately 77,000 square feet, including a 6-lot subdivision		-Entitlement application were approved by the planning commission on February 23, 2022 -Development is currently under construction

26	Rose Glen Specific Plan	1400 E. Arrow Hwy	Upland	64 two-story single family detached residential homes	-Entitlement applications were approved by the City council on October 10, 2022 -Construction plans are currently under review
27	Bullwinkle's Family Fun Center	1500 W. 7th Street	Upland	Remodel of existing amusement park, including facade, parking lot, and interior improvements.	-Entitlement application were approved by the planning commission on August 23, 2023 -Construction plans are currently under review
28	Citrus Village Senior Living	911 W. Arrow Highway	Upland	Potential senior housing development with 42 affordable housing units, 98 independent living units, 74 assisted living units, and a 30-bed facility for memory care residents.	A preliminary review application was submitted for feedback and guidance on January 19, 2023. Awaiting submittal formal entitlement applications.
29	The Courtyard at Upland	1968 W. 7th Street	Upland	The partial reconstruction of 36 apartment units within an existing legally non-conforming multi-family apartment complex, damaged by fire	-Entitlement application were approved by the planning commission on May 24, 2023 -Construction plans are currently under review.
30	Huntington Drive Apartments	1910 Huntington Drive	Upland	An 84-unit, 3-story, multi-family residential apartment development on 1.38 acres. The developer proposes that 14 units are to be designated at the low-income affordability level	Applications are currently under review
31	Upland Reliability Project	1975 N. Benson Ave	Upland	Construction and operation of a new battery energy storage system facility. The project includes the placement of battery energy storage enclosures and associated electrical equipment on concrete foundations, including medium voltage transformers and power conversion system, on an area approximately 12 acres in size	Applications have been submitted and are currently under review
32	9th Street Apartments	1739 9th Street	Upland	A request to construct a 19-unit, 2-story apartment complex, with a density bonus, and 2 units made available at the low-income	Entitlement applications are under review
33	McDonalds	1590 W. Foothill Boulevard	Upland	Demolition of an existing 1,471 square foot McDonald's restaurant and construction of a new 4,266 square foot McDonald's restaurant with indoor dining and dual order point drive-through	-Entitlement application was approved by the planning commission on October 25, 2023 -Pending submittal of construction plans

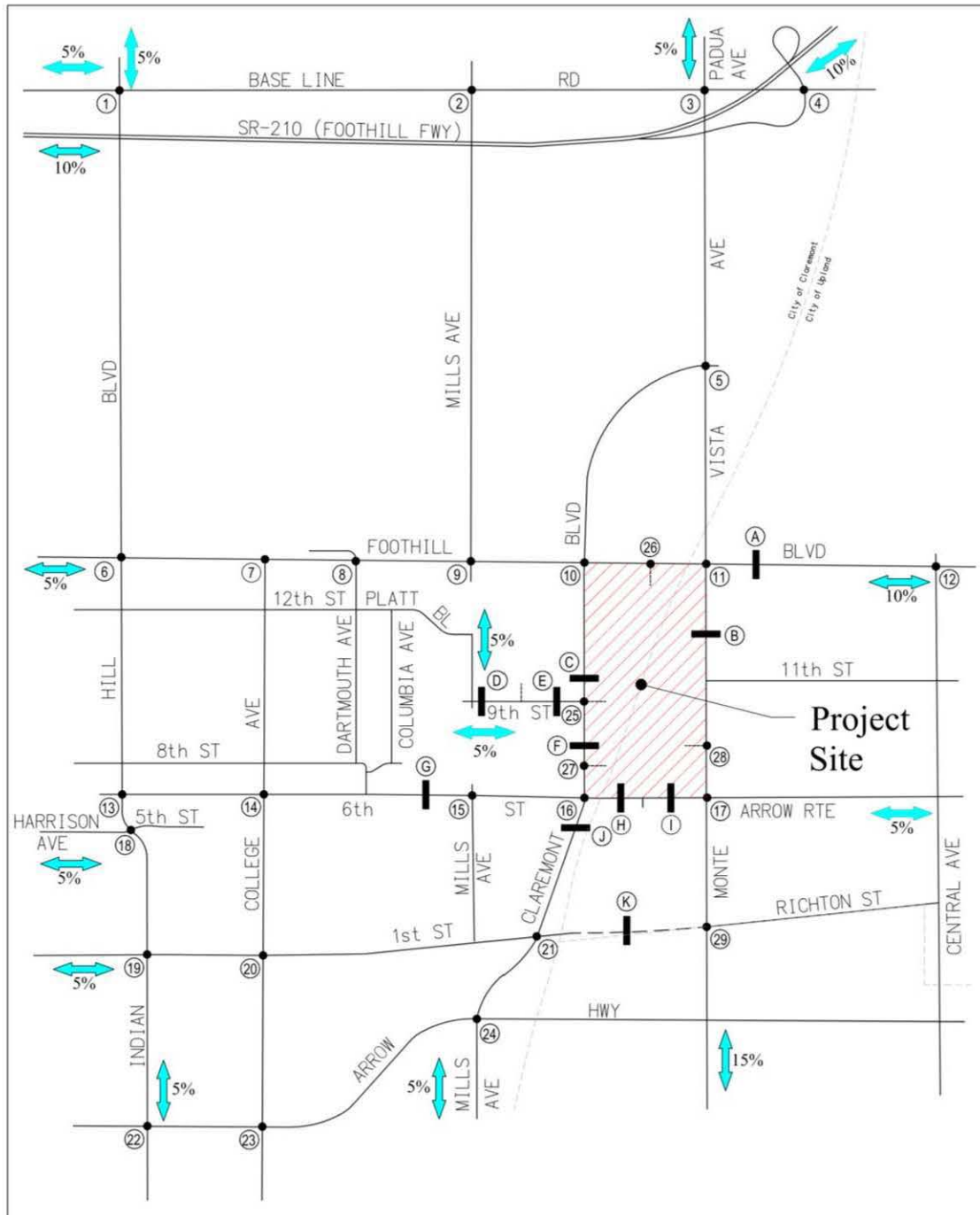
ATTACHMENT A

PROJECT SITE DIAGRAM (PLAN COMPARISON)



ATTACHMENT B

PROJECT STUDY AREA, INTERSECTIONS, ROADWAY, AND PROJECT TRIP DISTRIBUTION



ATTACHMENT C

PROJECT TRIP GENERATION TABLE

Claremont McKenna College Robert Campus East																
Project Trip Generation																
			Weekday							Weekend						
Description	Unit	ITE Land Use Code*	Daily 2-way	AM Peak Hour			PM Peak Hour			Daily 2-way	AM Peak Hour			PM Peak Hour		
				Trip Rates			Trip Rates				Trip Rates			Trip Rates		
				Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
			Weekday							Weekend						
Soccer Complex	Fields	488	71.33	0.99	1	0	16.43	11	5	109.17	37.48	18	19	37.48	6	31

*Source: Institute of Transportation Engineers Trip Generation, 11th Edition

Estimated 15% Inbound, 85% Outbound for PM peak hour (Weekend)

Description	Qty	Daily 2-way	Weekday						Daily 2-way	Weekend						Notes
			AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out	
Weekday: Practice Day																
Multi-Purpose Field	1	71	1	1	0	16	11	5	Not Applicable	ITE Land use code 488: Soccer Complex, Weekday						-Team size (including coaches): Baseball @100, Softball @ 100, Football (or Track and Field) @ 250; - 50% walk-in, 50% Drive-in @ 2.0/car -Team size (including coaches): Soccer/Rugby @ 100; - 50% walk-in, 50% Drive-in @ 2.0/car -Team size (including coaches): Golf Practice @ 25; - 50% walk-in, 50% Drive-in @ 2.0/car
Baseball Field (Participants)	100	50	-	-	-	25	-	25								
Softball Field (Participants)	100	50	-	-	-	25	-	25								
Football/Track and Field/Lacrosse (Participants)	250	126	-	-	-	63	-	63								
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25								
Golf Practice (Participants)	25	12	-	-	-	6	-	6								
Weekday: Practice Day Total		359	1	1	0	160	11	149								
Weekday: Game Day																
Multi-Purpose Field (Participants)	1	71	1	1	0	16	11	5	Not Applicable	ITE Land use code 488: Soccer Complex, Weekday						- 500 maximum weekday spectators for Baseball and/or Softball (could all be at one-field, or split among fields), 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 2.5 cars) - Football (or Track and Field) @ 250; - 50% walk-in and 50% Drive-in @ 2.0/car -Team size (including coaches): Soccer/Rugby @ 100; - 50% walk-in, 50% Drive-in @ 2.0/car
Baseball (250 Spectators)	250	156	-	-	-	78	-	78								
Softball (250 Spectators)	250	156	-	-	-	78	-	78								
Football/Track and Field/Lacrosse (Participants)	250	126	-	-	-	63	-	63								
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25								
Weekday: Game Day Total		559	1	1	0	260	11	249								
Weekend: Game Day (Fall)																
Multi-Purpose Field (Participants)	1	[1]	Not Applicable						109	37	18	19	37	6	31	ITE Land use code 488: Soccer Complex, Weekend - Weekend at full stadium capacity (1,800 seats), 50% walk-in, 50% drive-in @ 3.0/car, 80% arrive in hour before, 20% arrive 1-2 hours before, 100% depart the end of game, 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 3*2.5=7.5 cars) -500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger=2.5 PCE, Visiting team traffic = 2.5 cars)
Football (1,800 Spectators)	1800								610	240	240	-	370	-	370	
Soccer/Rugby (Spectators)	500								228	100	100	-	128	-	128	
Weekend: Game Day (Fall) Total									947	377	358	19	535	6	529	
Weekend: Game Day (Spring)																
Multi-Purpose Field (Participants)	1	250 [2]	Not Applicable						109	37	18	19	37	6	31	ITE Land use code 488: Soccer Complex, Weekend -500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger=2.5 PCE) Visiting team traffic = 2.5 cars - 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.5/car, 1 bus (40 passenger=2.5 PCE) Visiting team traffic = 2.5 cars
Baseball (250 Spectators)									128	50	50	-	78	-	78	
Softball (250 Spectators)									128	50	50	-	78	-	78	
Rugby Field (500 spectatorsx1 Field)	500								228	100	100	-	128	-	128	
Weekend: Game Day (Spring) Total									593	237	218	19	321	6	315	

[1] Based on maximum spectator occupancy of 1,800 seats

[2] Based on maximum spectator occupancy of 250 seats per field

Cumulative Development Projects List						
No.	Project Name or Firm	Address	City	Description	City Project Planner	Project Status
1	Arbor Pointe SFRs	210 @ Monte Vista (SWC)	Claremont	Tentative Tract Map and Design Review for 13 lot subdivision consisting of 13 SFRs, 13 JADUs, and 11 detached ADUs.	CP	No activity since July 2022. Project inquiry email sent 1/3/23.
2	CGU Master Plan	Generally bounded by Foothill Blvd., Dartmouth Avenue, Seventh Street, and College Avenue	Claremont	Potential addition of up to 475 regularly enrolled students, and 99 faculty and staff, and expansion, remodeling, and replacement of campus facilities, resulting in a potential increase in building area of approximately 170,000 assignable square feet	JD	No activity on this project since early 2017.
3	Doubletree Hotel/Old School House Specific Plan	North of Foothill Blvd. and west of Indian Hill Blvd.	Claremont	126-unit residential condominiums/townhomes (30 in building with new 240-space parking structure and 96 on Colby Circle)	CV/NH	30 units and parking structure completed March 2023. Substantial progress on 96 units currently under construction with all slated for completion over next 4-6 months
4	Harvey Mudd College 2015 Master Plan Amendment	South of E. Foothill Blvd. and north of Platt Blvd, between N. Dartmouth Avenue and N. Claremont Blvd.	Claremont	Proposed HMC 2015 Master Plan Amendment includes increasing current building floor area from 738,079 GSF to 902,411 903,911 GSF, and increasing HMC enrollment entitlement from 800 students to 900 students.	CV	70,000 square foot academic building (Shanahan Learning Center) completed and occupied Sept. 2013.(net 50K) 48,550 sq.ft. dormitory (Drinkward Dormitory) Completed 2015. 33,000 square foot academic building (McGregor Computer Science) completed and occupied Mar 2021. Approx 35,000 square feet remaining in plan for future academic building to be constructed at SEC of Dartmouth and Foothill Blvd.
5	Keck Science Center Expansion	925 N Mills Avenue (to the west of existing KSC at NW intersection of Ninth Ave and Mills on Scripps campus	Claremont	70,000-square foot, three-story, semi detached ground up building for Keck Science Center labs and classrooms. Located on existing surface level parking lot. Connected to existing KSC.	NH/CV	Construction nearly complete occupancy anticipated for Spring 2024
6	Knight's Inn Redevelopment (formerly proposed as new Hampton Inn & Suites)	701 S Indian Hill Blvd	Claremont	Originally proposed to include renovation of the two-story, 65-unit motel and construction of a four-story, 121-unit hotel. Specific Plan has been adopted.	CV	Plans for new 120-room Residence Inn by Marriott approved March 2023. Final entitlements granted by AC 3/29/23. Demo of Knights Inn completed Dec 2023. Construction expected to begin in early 2024.
7	La Popular Restaurant & Drezner Lofts	235 N Yale Ave	Claremont	New 3,000-SF restaurant with 850-SF new outdoor dining area. The mexican restaurant would occupy the former Rhino Records space. 1,660 s.f. Coffee Shop to occupy rear groundfloor tenant space. 5 new studio apts to be constructed through conversion of existing mezzanine and two new stories above rear tenant space. Total	NH	CUP for restaurant with alcohol approved in Sept 2022. Design Review approved in November 2022. Construction commenced March 2023. Restaurant completed and opened October 23,2023.
8	Med Density Housing Per Gen Plan Housing Element Update.	Citywide	Claremont	1,711 New Housing Units Planned for through Oct 15, 2029		Final approval of Housing Element Update adopted in July 2023. Rezoning of housing element opportunity sites to follow in January and February 2022.
9	Olson 56 Unit Townhomes	1030 W Foothill Blvd.	Claremont	56 Attached Townhomes with 12 Live work units 350 sf each work live		Entitlements approved in Sept and Oct 2023. Submittal of construction documents in early 2023. Construcion anticipated to commence in 2023 and to be
10	Pomona College 2015 Master Plan	Campus-Wide	Claremont	Includes increase of 50 students, 60 staff and faculty, and 205,400 new square feet of campus	CV	No projects currently proposed.
11	Senior Low Income Housing	956 W. Base Line Road	Claremont	15 unit low income senior housing project	JD	Application submitted in Dec 2020. Project approved by AC Feb 2021. Project currently awaiting funding sources to proceed.

12	South Village Development Project	Indian Hill to Bucknell, Rail ROW to Arrow Highway.	Claremont	Mixed-Use, Transit-oriented Development designed to expand the Claremont Village. Project plans include: 610 Residential Apartments in Mixed-use buildings 103 Flat-style Residential condos 21 Townhome residences 34,000 sq.ft. restaurants 52,000 sq.ft. retail 26,000 sq.ft. office space 1,195 parking spaces in structures or garages.	CV	Preliminary review of Architecture reviewed by AC in 3 phases Dec 2021 - May 2022. Two Tentative Tract Maps currently being reviewed by City and LA Co Fire. (TTM83439 & TTM83463). Construction to begin late 2024 and end late 2029. Final VTTM and Entitlements completed Dec 2022 and Jan 2023. Project awaiting investor funding.
13	Trumark Homes	2323 Forbes Ave	Claremont	56 SFR detached Units with 6 internal ADUs	EN	Draft EIR complete April 2023. Construction commences Q4 2024
14	City Ventures Townhomes	840 S Indian Hill Blvd	Claremont	65 townhomes. Proposed total Net SF is 92,880-SF	NH	Preliminary plans submitted for 65-unit townhome development at tennis courts near NE intersection of Indian Hill Boulevard and American Avenue. 2.67-acre site. Site needs to be rezoned as Housing Element. Project requires Parcel Map, Tract Map and Architectural and Site Plan Approval. AC Preliminary review to take
15	Larkin Place - Jamboree Permanent Supportive	731 Harrison Ave	Claremont	33-unit permanent supportive housing development.	CV	Project entitled June 1, 2023. Building permits expected to be issued by Jan 2024.
16	TCCS Student Services Building	800 N Dartmouth Ave	Claremont	New Student Services Building for Claremont Colleges students. Located at Mudd Quadrangle on Dartmouth south of 10th Street. Approx 30,000-SF	NH	Preliminary plans submitted for new Student Services Building. Preliminary Architectural Commission review completed in Nov 2023. Approvals anticipated in Spring 2024.
17	Mercy Housing Affordable Housing	1364 N Towne Avenue	Claremont	74-unit 100% Affordable Housing Development (Veteran Housing)	BJ/NH	100% Affordable Housing Development to reviewed in streamlined process pursuant to SB 35. Currently in community outreach stage.
18	TTM62814	365 San Jose Ave	Claremont	13 new residential townhomes at 365 W. San Jose	LC/CV	AC approved final design on December 11, 2019. Plans submitted for plan check, approvable pending approval/recording of Inclusionary Housing Agreement. After period of downtime, building permit application resubmitted in spring 2023. Building permit plan check is
19	Wendy's Remodel	187 S. Mountain Avenue	Upland	Façade and interior remodel of existing Wendy's restaurant		-Entitlement application was approved on July 3, 2023 -Construction plans for interior and exterior remodel have been submitted and are under review
20	Quick Quak Car Wash	950 Monte Vista Avenue	Upland	2,596 square foot automated drive-thru car wash with ancillary vacuum stations		Entitlement application and associated technical studies are currently under review
21	Bridge Point Upland Project	NEC of Central/Foothill	Upland	A 201,096 square foot warehouse/parcel delivery service building		-Pending outcome of appeal in California Courts of appeal - Construction documents are currently under review
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32	9th Street Apartments	1739 9th Street	Upland	A request to construct a 19-unit, 2-story apartment complex, with a density bonus, and 2 units made available at the low-income		Entitlement applications are under review
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TRAFFIC ANALYSIS - MEMORANDUM OF UNDERSTANDING (MOU) Revised February 14, 2024

This MOU acknowledges that the traffic analysis for the following project will be prepared in accordance with the latest traffic study policies and guidelines of the Cities of Claremont and Upland. There will be one traffic study for the entire Project which will cover both jurisdictions.

A. Project Information:

Project Name: Claremont-McKenna College Roberts Campus East (East Campus Update): Traffic Impact Study and VMT Analysis

Project Address: NE Corner of W Arrow Route and Claremont Boulevard

Project Description: Claremont McKenna College plans to modify and refine the site plan and entitlements for the Roberts Campus East, which is an existing inert debris landfill. The site has existing entitlements approved by the cities of Upland and Claremont in 2016. The proposed modification will include fields for baseball, softball, soccer, three multi-purpose fields, football/track, and golf practice, all to be used solely by CMC and it does not propose changes in the type of use or increase the intensity or density. The City of Upland served as the lead agency in 2016 and will continue to do so for this Project. CMC proposes two alternative site plans (Scenario 2 and Scenario 2B), each of which are provided in Attachment A. Each alternative site plan contains the same uses and programming, but the layout and vehicular access and circulation differ among the three scenarios.

B. Geographic Distribution: N 25 % S 25 % E 15 % W 35 %

Attachment B provides a graphic illustrating the overall project trip distribution. Trip distribution is similar across the two scenarios.

Trip Generation Rate(s): Soccer Complex (Land Use Code #488, ITE 11th Edition), Multi-Purpose Fields, Baseball Field, Softball Field, Football/Track & Field/Lacrosse, and Rugby/Soccer. The College provides the spectator and participant numbers, which are utilized to identify the number of trips. The trip generation table in Attachment C provides a description of the proposed land uses, ITE rates, estimated morning, and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. The project trip generation is summarized in the table below:

Day	Activity	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Weekday	Practice Day	1	0	1	11	149	160
	Game Day	1	0	1	11	249	260
Weekend	Game Day (Fall)	358	19	377	6	529	535
	Game Day (Spring)	218	19	237	6	315	321

C. Analysis Scenarios:

- Existing Year (2023) Conditions
- Opening Year (2027) Conditions
 - Opening Year Without Project Conditions
 - Opening Year Plus Project Conditions
- Future/Horizon Year (2045) Conditions
 - Future/Horizon Year Without Project Conditions
 - Future/Horizon Year Plus Project Conditions

Related Projects List attached?

☐ No ☒ Yes

[See attachment]

Capacity Analysis Methodologies: Signalized and unsignalized intersections will be analyzed using the latest HCM operational analysis methodologies and present the analysis results in Level-of-Service (LOS) and Delay, as per the City of Upland's *Traffic Impact Analysis Guidelines* (July 2020).

Study Intersections:

Study Intersection ID, Location and Jurisdiction*					
1.) Base Line Rd. & Indian Hill Blvd.	C	11.) Foothill Blvd. & Monte Vista Ave.	U	21.) 1st St./Huntington Dr. & Claremont Blvd.	C
2.) Base Line Rd. & Mills Ave	C	12.) Foothill Blvd. & Central Ave.	U	22.) Arrow Hwy. & Indian Hill Blvd.	C
3.) Base Line Rd. & Monte Vista Ave./Padua Ave.	C	13.) 6th St. & Indian Hill Blvd.	C	23.) Arrow Hwy. & College Ave.	C
4.) Base Line Rd. & I-210 Ramps	C	14.) 6th St. & College Ave.	C	24.) Arrow Hwy. & Claremont Blvd./Mills Ave.	C
5.) Claremont Blvd. & Monte Vista Ave	C	15.) 6th St. & Mills Ave.	C	25.) Claremont Blvd. & 9th St.	C
6.) Foothill Blvd. & Indian Hill Blvd.	C	16.) 6th St./Arrow Rte. & Claremont Blvd.	U	26.) Foothill Blvd. & Project Dwy. N	C
7.) Foothill Blvd. & College Ave	C	17.) Arrow Rte. & Monte Vista Ave.	U	27.) Claremont Blvd. & Project Dwy. SW	C
8.) Foothill Blvd. & Dartmouth Ave.	C	18.) Harrison Ave./5th St. & Indian Hill Blvd.	C	28.) Monte Vista Ave. & Project Dwy. SE	U
9.) Foothill Blvd. & Mills Ave.	C	19.) 1st St. & Indian Hill Blvd.	C	29.) Monte Vista Ave. & 1st St./Richton St. (Ex. three-way & Future four-way intersection)	U
10.) Foothill Blvd. & Claremont Blvd.	C	20.) 1st St. & College Ave.	C		

* C = City of Claremont; U = City of Upland

Highlighted Roadway segments are located within the jurisdiction of the City of Upland

Study Roadways:

Study Roadway Segment ID, Location and Local Jurisdiction*					
A.) Foothill Boulevard east of Monte Vista Avenue	U	E.) 9th Street west of Claremont Boulevard	C	I.) Arrow Route between College Park Dr. & Monte Vista Ave.	U
B.) Monte Vista Ave between Foothill Boulevard & 11th Street	U	F.) Claremont Boulevard between 9th Street & 6th St/Arrow Rt.	C	J.) Claremont Boulevard south of 6th Street / Arrow Route	C
C.) Claremont Boulevard between Foothill Boulevard & 9th Street	C	G.) 6th Street west of Mills Avenue	C	K.) 1st Street between Claremont Blvd. & Monte Vista Ave. (future segment)	U
D.) 9th Street east of Mills Avenue	C	H.) Arrow Route between Claremont Bl. & College Park Dr.	U		

* C = City of Claremont; U = City of Upland

Highlighted Roadway segments are located within the jurisdiction of the City of Upland

	Yes	No
Transit Usage		X
Transportation Demand Management		X
Existing Active Land Use		X ¹
Previous Land Use		X

¹ Existing site is currently vacant land. All proposed athletics facilities, fields, and programs, however, are existing and will be relocated from the adjacent CMC Campus (located just to the west of Claremont Blvd.) to the subject project site.

Additional Sections: Other project-related analyses will be provided in the traffic study, such as event traffic control, ingress, egress, accessibility, public and emergency access, and on-site parking.

D. Vehicle Miles Travelled (VMT) Assessment

As outlined in the City's guidelines, a VMT screening will be conducted to determine whether the project will need to provide further detailed VMT analyses.

VMT Screening Analysis – KOA will prepare a VMT screening assessment for the project based on both the City of Claremont's *Transportation Study Guidelines* and the City of Upland's *Traffic Impact Analysis Guidelines*. Current VMT guidelines allow for projects that are local-serving in nature and presumed to have a less-than-significant VMT impact, including, without limitation, local-serving parks, community colleges, and university student housing projects. While the proposed project does not explicitly match any of the above-listed project types, the proposed project uses are:

- 1) Currently existing and do not include any expanded programs; and
- 2) Can be considered as local serving, as they will primarily cater to the students and faculty of Claremont McKenna College and potentially Pitzer College.

As most of the proposed project facilities will serve as relocations from the existing campus, and all facilities will accommodate uses that currently exist on the campus, the Project will likely generate a relatively low number of "new" trips. KOA will prepare a technical memorandum providing a qualitative screening analysis discussing the local-serving nature of the project uses, and the application of the presumed less-than-significant VMT impact.

Quantitative VMT Analysis – Notwithstanding the findings and conclusions of the VMT screening analysis described above, KOA proposes to conduct a quantitative VMT analysis for the proposed project. Most of the facilities proposed as part of the project may be considered local serving uses in accordance with each agency's adopted VMT guidelines as discussed above. However, as a conservative measure, KOA will also prepare a quantitative VMT analysis for the project. This analysis will include the calculation of the VMT per service population (students, faculty, spectators, etc.) metric for the project, as well as the calculation of the cumulative link-level boundary Citywide VMT per service population under Without Project and Plus Project conditions. The SGVCOG VMT Evaluation Tool and SBCTA VMT Screening Tool will be used for the Project's VMT screening evaluation and the quantitative VMT analysis.

E. Traffic Data

KOA has collected traffic volume counts for the majority of the locations identified in Section C, above. New traffic counts will be collected for the additional locations requested by the Cities of Claremont and Upland, based on recent correspondence. In order to provide a consistent and correlative traffic engineering/planning study effort, it is assumed that no further traffic count locations will be added to this scope. Any potential additional study locations shall require collaborative discussion with the Project Team and Agency(ies).

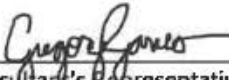
F. Signature

Consultant

Name: Greg Garces, KOA | Lochner
Address: 333 S. Anita Drive, Suite 800
Orange, CA 92868
Phone: (714) 573-0317
E-Mail: ggarces@hwlochner.com

Lead Agency

Approved by:



Consultant's Representative Date 2/14/24



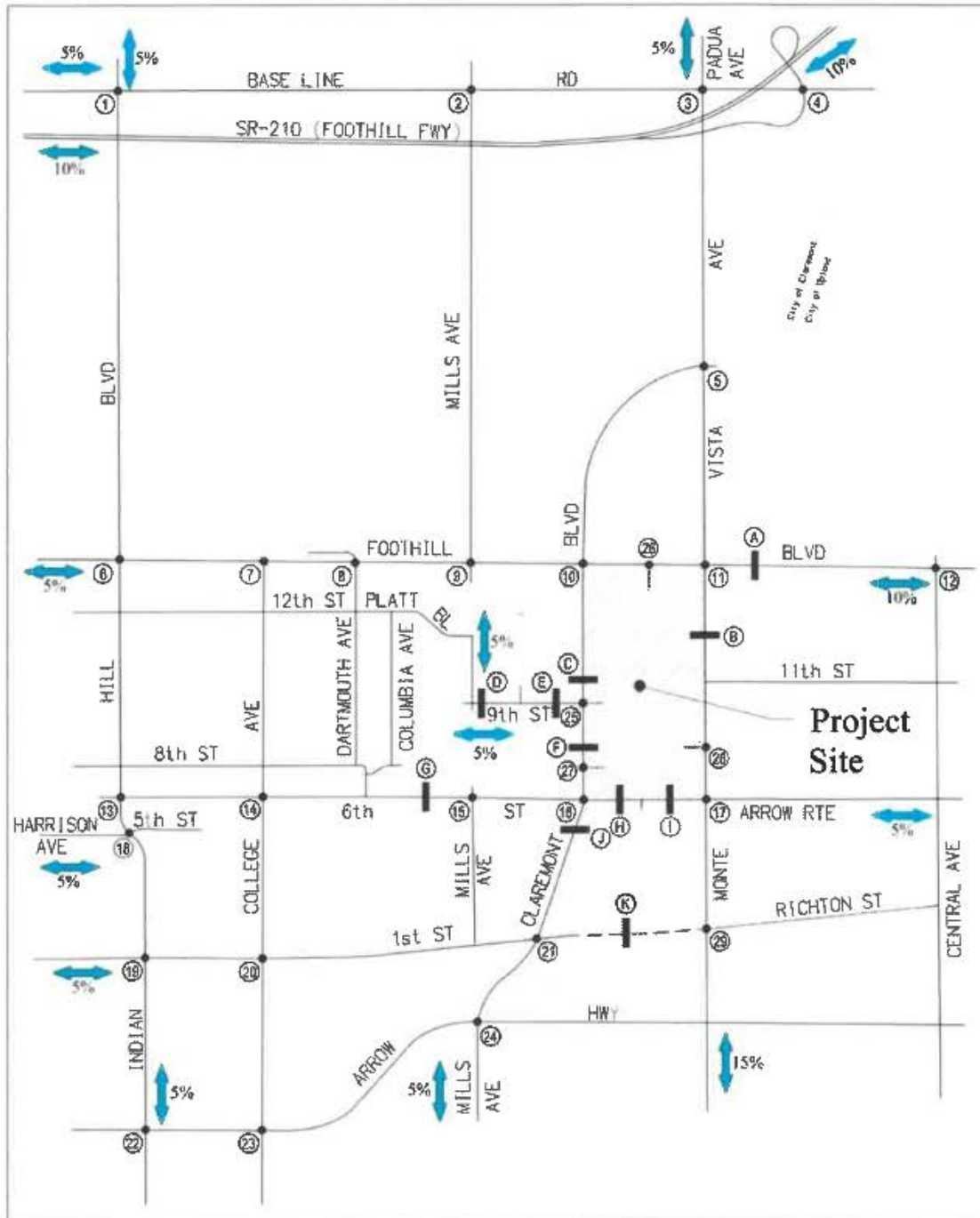
City of Upland Representative Date

ATTACHMENT A PROJECT SITE DIAGRAM (PLAN COMPARISON)



ATTACHMENT B

PROJECT STUDY AREA, INTERSECTIONS, ROADWAY, AND PROJECT TRIP DISTRIBUTION



ATTACHMENT C
PROJECT TRIP GENERATION TABLE

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Project Trip Generation																
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				Trip Rates			Trip Rates				Trip Rates			Trip Rates		
				Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
Weekday																
Weekend																
Soccer Complex	Fields	488	71.33	0.99	1	0	16.43	11	5	109.17	37.48	18	19	37.48	6	31

*Source: Institute of Transportation Engineers Trip Generation, 11th Edition
Estimated 15% Inbound, 85% Outbound for PM peak hour (Weekend)

Description	Qty	Daily 2-way	Weekday						Daily 2-way	Weekend						Notes
			AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out	
			Weekday Practice Day Total													
Weekday Practice Day																
Multi-Purpose Field	1	71	1	1	0	16	11	5								ITE Land use code 488: Soccer Complex, Weekday - Team size (including coaches) Soccer @ 100, Soccer @ 100; - Football (or Track and Field) @ 250; - 50% walk-in, 50% drive-in @ 2.0/car - Team size (including coaches) Soccer/Rugby @ 100; - 50% walk-in, 50% drive-in @ 2.0/car - Team size (including coaches) Golf Practice @ 25; - 50% walk-in, 50% drive-in @ 2.0/car
Baseball Field (Participants)	100	50	-	-	-	25	-	25								
Softball Field (Participants)	100	50	-	-	-	25	-	25								
Football Field and Field/Lacrosse (Participants)	250	125	-	-	-	63	-	63								
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25								
Golf Practice (Participants)	25	12	-	-	-	6	-	6								
Weekday Practice Day Total			339	1	1	6	16	11	149							
Weekend Game Day																
Multi-Purpose Field (Participants)	1	71	1	1	0	16	11	5								ITE Land use code 488: Soccer Complex, Weekend - 500 maximum weekend spectators for Baseball and/or Softball (could all be at one field, or split among fields, 50% walk-in, 50% drive-in @ 2.0/car, 1 bus (40 passengers)=2.5 PCE, visiting team traffic = 2.5 cars) - Football (or Track and Field) @ 250; - 50% walk-in and 50% drive-in @ 2.0/car - Team size (including coaches) Soccer/Rugby @ 100; - 50% walk-in, 50% drive-in @ 2.0/car
Baseball (250 Spectators)	250	125	-	-	-	78	-	78								
Softball (250 Spectators)	250	125	-	-	-	78	-	78								
Football (Track and Field/Lacrosse) (Participants)	250	125	-	-	-	63	-	63								
Soccer/Rugby (Participants)	100	50	-	-	-	25	-	25								
Weekend Game Day Total			339	1	1	6	16	11	149							
Weekend Game Day (Bus)																
Multi-Purpose Field (Participants)	1								100	37	18	19	37	6	31	ITE Land use code 488: Soccer Complex, Weekend - Weekend at full stadium capacity (1,800 seats), 50% walk-in, 50% drive-in @ 2.0/car, 50% drive-in bus traffic, 20% arrive 1-2 hours before, 100% depart the end of game, 1 bus (40 passengers)=2.5 PCE, visiting team traffic = 2.5 cars - 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.0/car, 1 bus (40 passengers)=2.5 PCE, visiting team traffic = 2.5 cars
Baseball (1,800 Spectators)	1,800								810	340	340	-	370	-	370	
Soccer/Rugby (Spectators)	800								220	100	100	-	128	-	128	
Weekend Game Day (Bus) Total									947	377	350	19	523	6	319	
Weekend Game Day (Spectator)																
Weekend Game Day (Spectator)																
Multi-Purpose Field (Participants)	1								100	37	18	19	37	6	31	ITE Land use code 488: Soccer Complex, Weekend - 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.0/car, 1 bus (40 passengers)=2.5 PCE, visiting team traffic = 2.5 cars - 500 weekend spectators/field, 50% walk-in, 50% drive-in @ 2.0/car, 1 bus (40 passengers)=2.5 PCE, visiting team traffic = 2.5 cars
Baseball (250 Spectators)	250								128	60	60	-	78	-	78	
Softball (250 Spectators)	250								128	60	60	-	78	-	78	
Rugby Field (500 Spectators)	500								220	100	100	-	128	-	128	
Weekend Game Day (Spectator) Total									588	237	218	19	323	6	319	
Weekend Game Day (Spectator) Total																

1) Based on maximum spectator occupancy of 1,800 seats
2) Based on maximum spectator occupancy of 250 seats per field

Cumulative Development Projects List						
#	Project Name or Item	Address	City	Description	City Planning Process	Project Status
1	Arbor Pointe SFRs	216 @ Monte Vista (SWC)	Claremont	Tentative Tract Map and Design Review for 13 lot subdivision consisting of 13 SFRs, 13 JADUs, and 11 detached ADUs.	CP	No activity since July 2022. Project inquiry email sent 1/3/23.
2	CGU Master Plan	Generally bounded by Foothill Blvd., Dartmouth Avenue, Seventh Street, and College Avenue	Claremont	Potential addition of up to 475 regularly enrolled students, and 99 faculty and staff, and expansion, remodeling, and replacement of campus facilities, resulting in a potential increase in building area of approximately 170,000 assignable square foot	JD	No activity on this project since early 2017.
3	Doubletree Hotel/Old School House Specific Plan	North of Foothill Blvd. and west of Indian Hill Blvd.	Claremont	126-unit residential condominiums/townhomes (30 in building with new 240-space parking structure and 96 on Colby Circle)	CV/NH	30 units and parking structure completed March 2023. Substantial progress on 96 units currently under construction with all slated for completion over next 4-6 months.
4	Harvey Mudd College 2015 Master Plan Amendment	South of E. Foothill Blvd. and north of Plant Blvd. between N. Dartmouth Avenue and N. Claremont Blvd.	Claremont	Proposed HMC 2015 Master Plan Amendment includes increasing current building floor area from 738,079 GSF to 962,411 903,911 GSF, and increasing HMC enrollment entitlement from 800 students to 900 students.	CV	70,000 square foot academic building (Shanahan Learning Center) completed and occupied Sept. 2013 (net 50K) 48,550 sq.ft. dormitory (Drinkwater Dormitory) Completed 2015. 35,000 square foot academic building (McGregor Computer Science) completed and occupied Mar 2021 Approx 35,000 square feet remaining in plan for future academic building to be constructed at SEC of Dartmouth
5	Keck Science Center Expansion	925 N Mills Avenue (to the west of existing KSC at NW intersection of Ninth Ave and Mills on Scripps campus)	Claremont	70,000-square foot, three-story, semi-detached ground up building for Keck Science Center labs and classrooms. Located on existing surface level parking lot. Connected to existing KSC.	NH/CV	Construction nearly complete occupancy anticipated for Spring 2024
6	Knight's Inn Redevelopment (formerly proposed as new Hampton Inn & Suites)	701 S Indian Hill Blvd	Claremont	Originally proposed to include renovation of the two-story, 65-unit motel and construction of a four-story, 121-unit hotel. Specific Plan has been adopted.	CV	Plans for new 120-room Residence Inn by Marriott approved March 2023. Final entitlements granted by AC 3/25/23. Demo of Knight's Inn completed Dec 2023. Construction expected to begin in early 2024.
7	La Popalar Restaurant & Dreamer Lofts	295 N Yale Ave	Claremont	New 3,000-SF restaurant with 850-SF new outdoor dining area. The Mexican restaurant would occupy the former Rhino Records space. 1,660 s.f. Coffee Shop to occupy rear ground floor tenant space. 5 new studio apts to be constructed through conversion of existing mezzanine and two new stories above rear tenant space. Total	NH	CUP for restaurant with alcohol approved in Sept 2022. Design Review approved in November 2022. Construction commenced March 2023. Restaurant completed and opened October 23, 2023.
8	Med Density Housing Per Gen Plan Housing Element Update.	Citywide	Claremont	1,711 New Housing Units Planned for through Oct 15, 2022		Final approval of Housing Element Update adopted in July 2023. Rezoning of housing element opportunity sites to follow in January and February 2022.
9	Olson 56 Unit Townhomes	1030 W Foothill Blvd.	Claremont	56 Attached Townhomes with 12 Live work units 350 sf each work live		Entitlements approved in Sept and Oct 2023. Submittal of construction documents in early 2023. Construction anticipated to commence in 2023 and to be
10	Pomona College 2015 Master Plan	Campus-Wide	Claremont	Includes increase of 50 students, 60 staff and faculty, and 205,400 new square feet of campus	CV	No projects currently proposed.
11	Senior Low Income Housing	956 W. Base Line Road	Claremont	15 unit low income senior housing project	JD	Application submitted in Dec 2020. Project approved by AC Feb 2021. Project currently awaiting funding sources to proceed.

12	South Village Development Project	Indian Hill to Bucknell, Rail ROW to Arrow Highway.	Claremont	Mixed-Use, Transit-oriented Development designed to expand the Claremont Village. Project plans include: 610 Residential Apartments in Mixed-use buildings 103 Flat-style Residential condos 21 Townhome residences 34,000 sq ft restaurants 52,000 sq ft retail 26,000 sq ft office space 1,155 parking spaces in structures or garages.	CV	Preliminary review of Architecture reviewed by AC in 5 phases Dec 2021 - May 2022. Two Tentative Tract Maps currently being reviewed by City and LA Co Plr. (TTM/83439 & TTM/83463). Construction to begin late 2024 and end late 2029. Final VTTM and Entitlements completed Dec 2022 and Jan 2023. Project awaiting investor funding.
13	Trumark Homes	2323 Forbes Ave	Claremont	56 SFR detached Units with 6 internal ADUs	EN	Draft EIR complete April 2023. Construction commences Q4 2024
14	City Ventures Townhomes	840 S Indian Hill Blvd	Claremont	65 townhomes. Proposed total Net SF is 92,880-SF	NH	Preliminary plans submitted for 65-unit townhome development at Kern's courts near NE Intersection of Indian Hill Boulevard and American Avenue. 2.67-acre site. Site needs to be rezoned as Housing Element. Project requires Parcel Map, Tract Map and Architectural and Site Plan Approval. AC Preliminary review to take
15	Larkin Place - Jamboree Permanent Supportive	731 Harrison Ave	Claremont	35-unit permanent supportive housing development.	CV	Project entitled June 1, 2023. Building permits expected to be issued by Jan 2024
16	TCCS Student Services Building	800 N Dartmouth Ave	Claremont	New Student Services Building for Claremont Colleges students. Located at Mudd Quadrangle on Dartmouth south of 10th Street. Approx 30,000-SF	NH	Preliminary plans submitted for new Student Services Building. Preliminary Architectural Commission review completed in Nov 2023. Approvals anticipated in Spring 2024
17	Mercy Housing Affordable Housing	1364 N Towne Avenue	Claremont	74-unit 100% Affordable Housing Development (Veteran Housing).	BL/NH	100% Affordable Housing Development to reviewed in streamlined process pursuant to SB 35. Currently in community outreach stage.
18	TTM62814	365 San Jose Ave	Claremont	13 new residential townhomes at 365 W. San Jose	LC/CV	AC approved final design on December 11, 2019. Plans submitted for plan check, approvable pending approval/recording of Indemnity Housing Agreement. After period of downtime, building permit application resubmitted in spring 2023. Building permit plan check is
19	Wendy's Remodel	187 S. Mountain Avenue	Upland	Facade and interior remodel of existing Wendy's restaurant		-Entitlement application was approved on July 3, 2023 -Construction plans for interior and exterior remodel have been submitted and are under review
20	Quick Quik Car Wash	950 Monte Vista Avenue	Upland	2,595 square foot automated drive-thru car wash with ancillary vacuum stations		Entitlement application and associated technical studies are currently under review
21	Bridge Point Upland Project	NEC of Centre/Foothill	Upland	A 201,096 square foot warehouse/parcel delivery service building		-Pending outcome of appeal in California Courts of appeal - Construction documents are currently under review
22	Lennox at the Enclave	W. Foothill Boulevard	Upland	Development of 192 residential units comprised of 115 detached condominium units and 76 attached condominium units on 15.5 acres		-Entitlement application were approved by the planning commission on February 24, 2021 -Project is under construction
23	Mixed Commercial/Industrial Development	1750-1760 W. Foothill Blvd	Upland	A 3,570 square foot retail building and four industrial condominium units within two multi-tenure industrial buildings 45,476 square feet and 55,616 square feet in size on 6.05 acres.		Application is currently under review
24	I & T Industrial	1701 W. 11th Street	Upland	2 office and warehouse buildings totaling 56,000 square feet		Construction documents are approved
25	Yellow Iron	2068 W. 11th Street	Upland	5 building light industrial park totaling approximately 77,000 square feet, including a 6 lot subdivision		Entitlement application were approved by the planning commission on February 23, 2022 -Development is currently under construction

26	Rose Glen Specific Plan	1400 E. Arrow Hwy	Upland	54 two-story single family detached residential homes	Entitlement applications were approved by the City Council on October 10, 2022. -Construction plans are currently under review.
27	Bullwinkle's Family Fun Co	1500 W. 7th Street	Upland	Remodel of existing amusement park, including facade, parking lot, and interior improvements.	-Entitlement application were approved by the planning commission on August 23, 2022. -Construction plans are currently under review.
28	Citrus Village Senior Living	311 W. Arrow Highway	Upland	Potential senior housing development with 62 affordable housing units, 58 independent living units, 74 assisted living units, and a 30-bed facility for memory care residents.	A preliminary review application was submitted for feedback and guidance on January 19, 2023. Awaiting submittal formal entitlement applications.
29	The Courtyard at Upland	1968 W. 7th Street	Upland	The partial reconstruction of 36 apartment units within an existing legally non-conforming multi-family apartment complex, damaged by fire.	-Entitlement application were approved by the planning commission on May 24, 2023. -Construction plans are currently under review.
30	Huntington Drive Apartments	1910 Huntington Drive	Upland	An 84-unit, 3-story, multi-family residential apartment development on 1.38 acres. The developer proposes that 14 units are to be designated at the low-income affordability level.	Applications are currently under review.
31	Upland Reliability Project	1975 N. Benson Ave	Upland	Construction and operation of a new battery energy storage system facility. The project includes the placement of battery energy storage enclosures and associated electrical equipment on concrete foundations, including medium voltage transformers and power conversion system, on an area approximately 12 acres in size.	Applications have been submitted and are currently under review.
32	9th Street Apartments	1739 9th Street	Upland	A request to construct a 19-unit, 2-story apartment complex, with a density bonus, and 2 units made available at the low-income.	Entitlement applications are under review.
33	McDonalds	1580 W. Foothill Boulevard	Upland	Demolition of an existing 1,471 square foot McDonald's restaurant and construction of a new 4,266 square foot McDonald's restaurant with indoor dining and dual order point drive-through.	Entitlement application was approved by the planning commission on October 25, 2023. -Pending submittal of construction plans.

To: City of Claremont, City of Upland
From: Greg Garces, Project Manager – KOA, A Lochner Company
Date: June 11, 2024
Subject: Queuing Analysis for Claremont McKenna College Roberts Campus Sports Bowl/Roberts Campus East: Base Line Road at SR-210 (Caltrans intersection), and at Project driveways

INTRODUCTION

The following technical memorandum has been prepared to document the queuing analysis conducted for the Claremont-McKenna College Roberts Campus Sports Bowl/Roberts Campus East Project. Peak hour vehicle queuing was analyzed for the signalized Caltrans intersection of Base Line Road at the SR-210 On/Off-Ramps, as well as for the proposed Project driveways along the perimeter of the project site. Intersection queuing was evaluated using Synchro and SimTraffic (version 11) traffic modeling and simulation software. The 95th percentile queues under the “With Project” condition were compared with the available storage for each respective movement to evaluate if the provided lane storage will be adequate.

CALTRANS INTERSECTION: BASE LINE ROAD AT SR-210 RAMP QUEUING ANALYSIS

Opening Year (2027) With Project Vehicle Queuing Analysis

A queuing analysis was conducted for the study intersection at Base Line Road and the SR-210 East/West Ramps, to determine if traffic queues generated on the off-ramps during the peak hour period would exceed the available capacity in the Project’s Opening Year (OY 2027). The intersection was modeled in Synchro, using the existing lane geometrics and OY 2027 With Project traffic volumes (which considers baseline existing traffic, ambient growth to the Year 2027, related/cumulative project traffic, plus site traffic derived from the Roberts Campus Sports Bowl project). The 95th percentile queue, which represents the maximum back of the queue with 95th percentile traffic volumes during the peak hour, was evaluated for the purposes of determining the necessary traffic lane storage lengths. The 95th percentile queue is based on statistical calculations and was verified in the SimTraffic analysis. The results of the queuing analysis were used to confirm the storage capacity and adequacy of the existing off-ramp lanes.

The vehicle queuing analysis was conducted for the four different scenarios: Practice Day (Weekday), Game Day (Weekday), Game Day [Fall] (Weekend), and Game Day [Spring] (Weekend). The northbound and southbound turn pocket are summarized in **Table 1**. Based on the findings of the Synchro/Sim Traffic analysis, the average and 95th percentile queues for the SR-210 off-ramp at Base Line Road would be shorter than the lengths of the available vehicle storage capacities, and no spillback of off-ramp traffic would occur upstream onto the freeway mainline. **Figure 1** illustrates the results of the queuing analysis during the Opening Year 2027 With Project conditions.

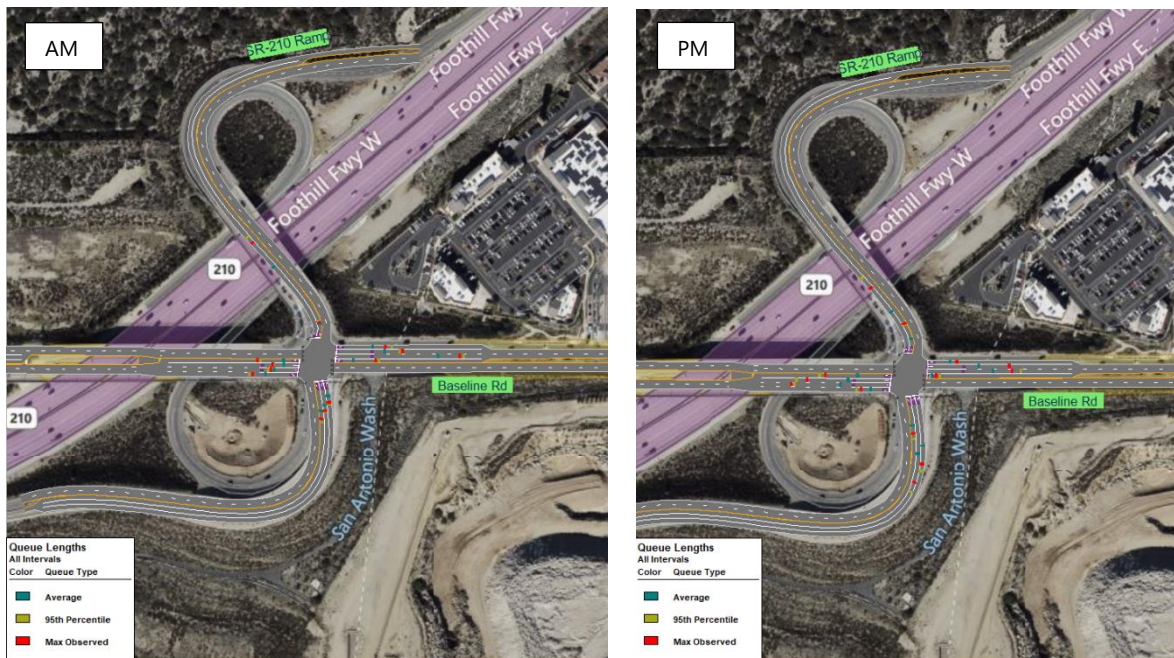
Detailed vehicle queuing analysis worksheets are provided in **Appendix A**.

TABLE 1 QUEUING ANALYSIS – OPENING YEAR 2027 WITH PROJECT

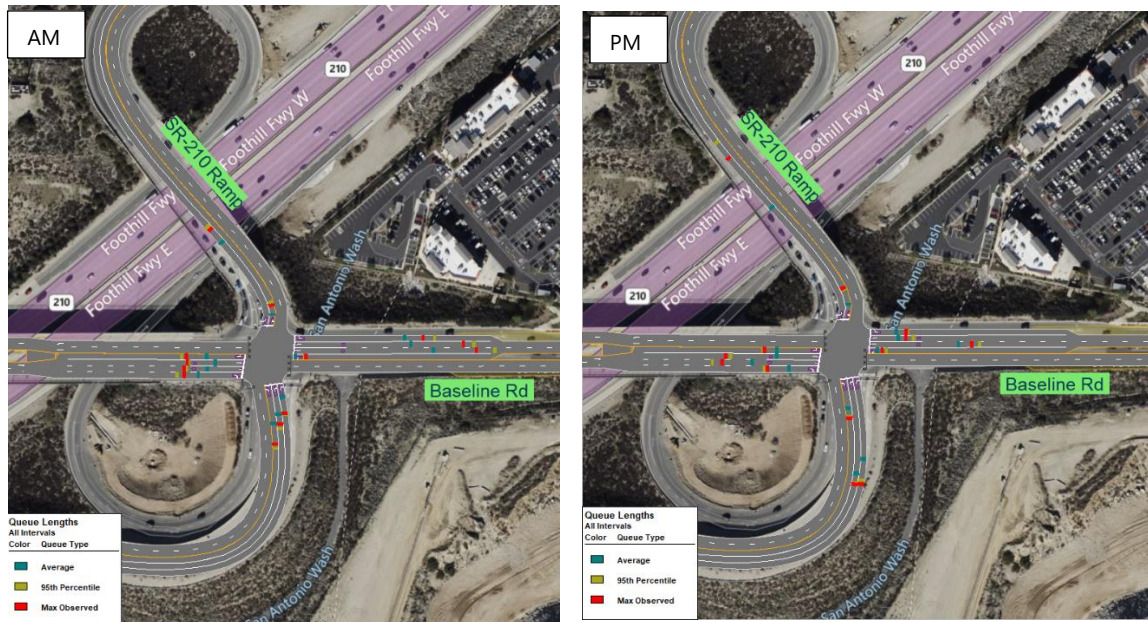
Opening Year With Project – 95 th Percentile Queue (ft)									
Direction	Storage length (ft)	Practice Day		Game Day		Game Day [Fall]		Game Day [Spring]	
		AM	PM	AM	PM	AM	PM	AM	PM
NBL	1,365	104	110	121	70	164	164	170	133
NBR	1,890	59	190	56	191	151	150	49	189
SBL	1,600	45	80	47	61	125	80	88	98
SBR	1,600	330	245	238	429	216	169	206	168
Opening Year With Project – Average Queue (ft)									
NBL	1,365	72	72	70	54	101	110	116	91
NBR	1,890	39	130	26	156	79	74	35	104
SBL	1,600	37	39	19	29	62	35	46	51
SBR	1,600	230	129	197	270	151	113	134	106

FIGURE 1 QUEUING ANALYSIS – OPENING YEAR 2027 WITH PROJECT

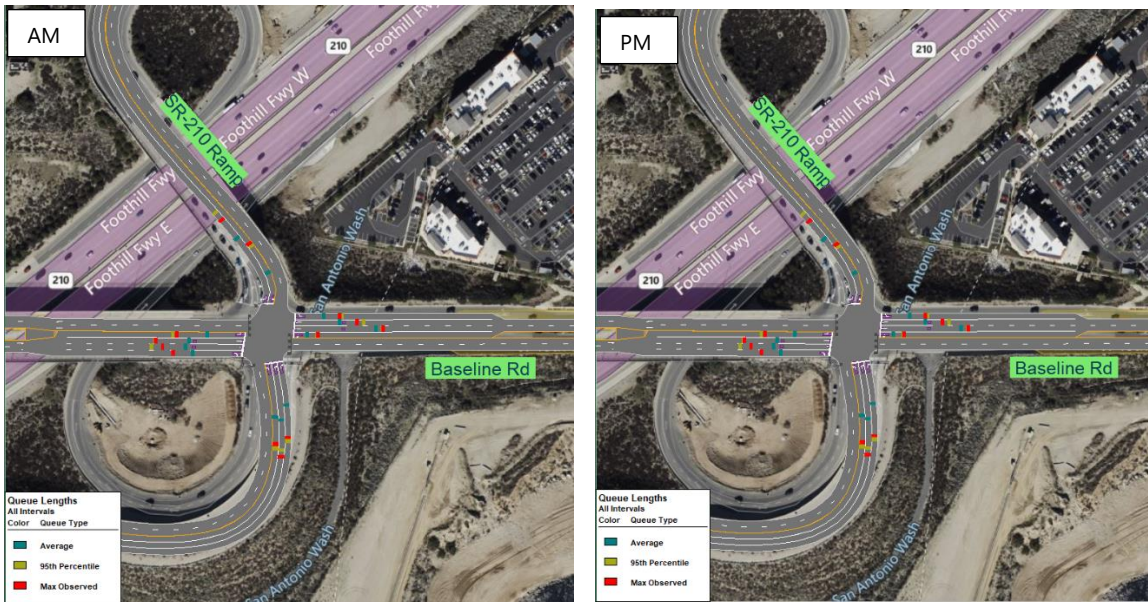
Practice Day



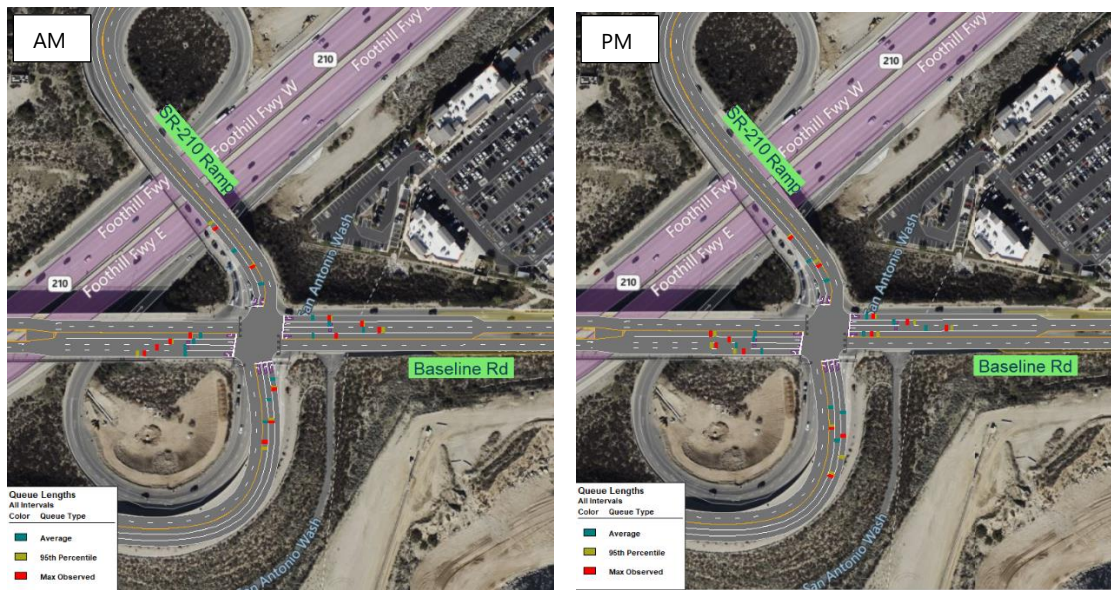
Game Day



Game Day [Fall]



Game Day [Spring]



Horizon Year (2045) With Project Vehicle Queuing Analysis

A vehicle queuing analysis for the SR-210 Ramps at Base Line Road was also conducted for the Horizon Year (2045) With Project conditions, during the AM and PM peak hours for each the Practice Day, Game Day, Game Day [Fall] and Game Day [Spring] scenarios. The queue lengths illustrated in **Figure 2** represent the average and 95th percentile queue lengths. Queuing analysis worksheets are provided in **Appendix B**. The vehicle queuing results are summarized in **Table 2**.

TABLE 2 QUEUING ANALYSIS – HORIZON YEAR 2045 WITH PROJECT

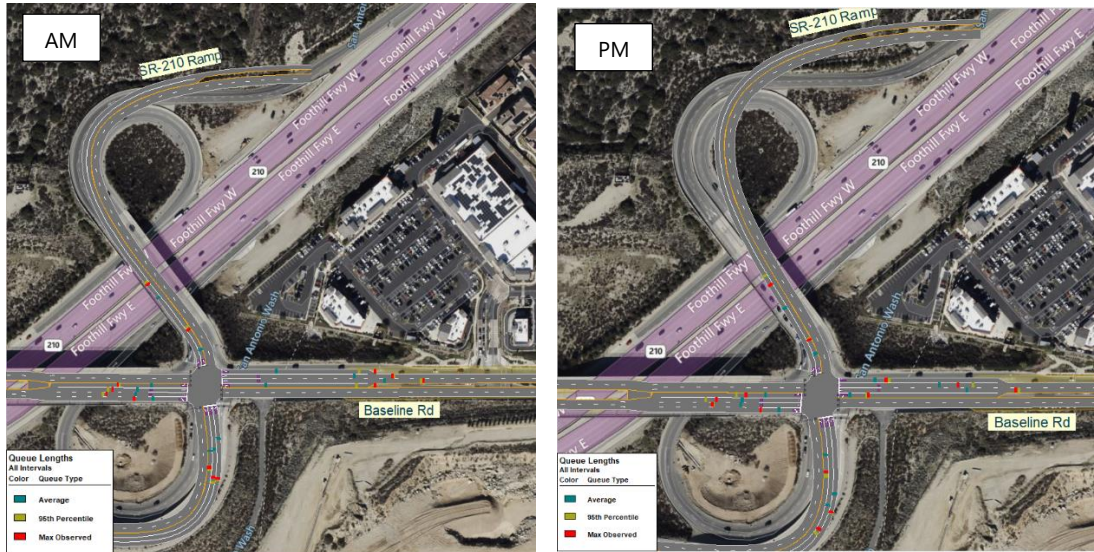
Horizon Year 2045 With Project – 95 th Percentile Queue (ft)									
Direction	Storage length (ft)	Practice Day		Game Day		Game Day [Fall]		Game Day [Spring]	
		AM	PM	AM	PM	AM	PM	AM	PM
NBL	1,365	166	143	430	218	188	208	232	110
NBR	1,890	187	222	122	211	109	172	132	138
SBL	1,600	114	88	63	84	108	92	71	82
SBR	1,600	266	269	535	215	228	344	233	198
Horizon Year 2045 With Project – Average Queue (ft)									
NBL	1,365	118	88	324	120	120	122	148	64
NBR	1,890	85	178	50	185	54	172	58	53
SBL	1,600	44	49	23	47	83	92	38	38
SBR	1,600	218	179	414	174	158	231	150	156

Table 2 shows that the 95th percentile and average queues for the eastbound and westbound off-ramp travel lanes would be significantly shorter than the available vehicle queuing capacities, and no spillback of off-ramp traffic would occur upstream onto the freeway mainline.

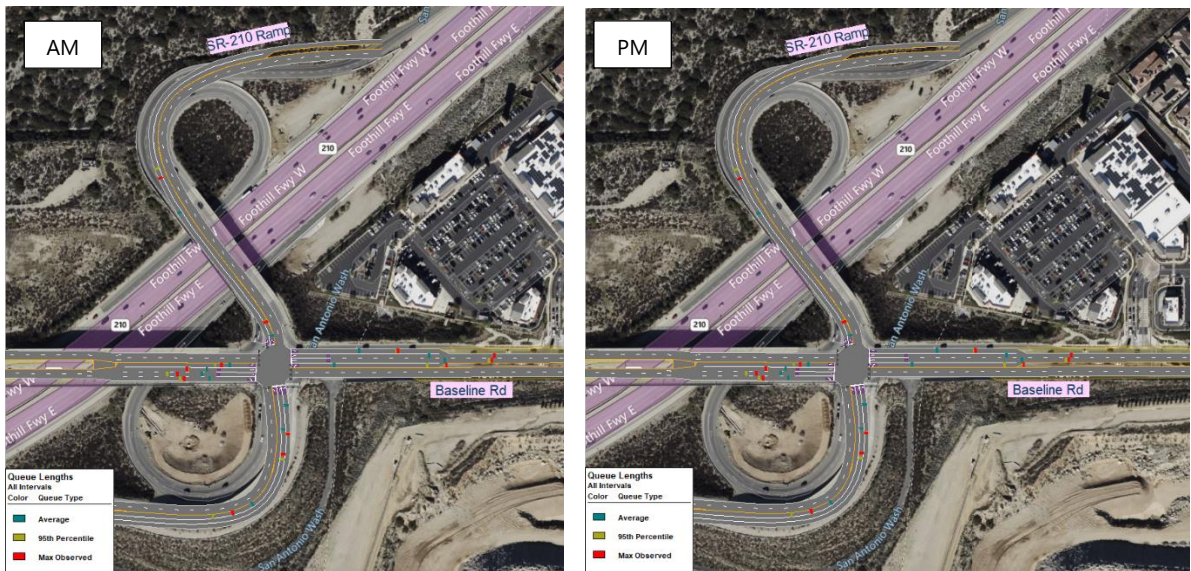
Figure 2 shows the result of the queuing analysis during the Horizon Year 2045 with project conditions.

FIGURE 2 QUEUING ANALYSIS – HORIZON YEAR 2045 WITH PROJECT

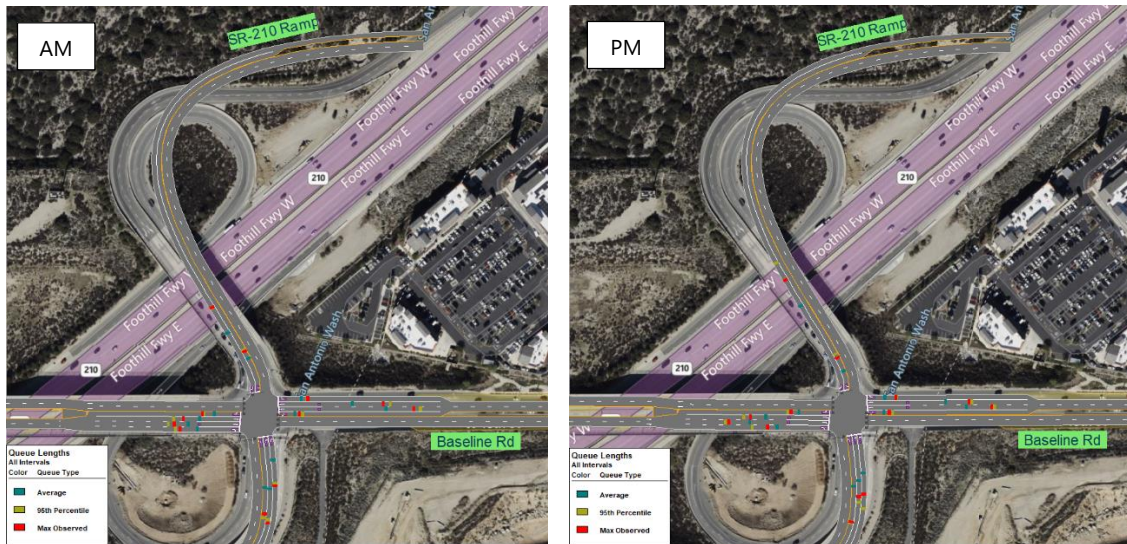
Practice Day



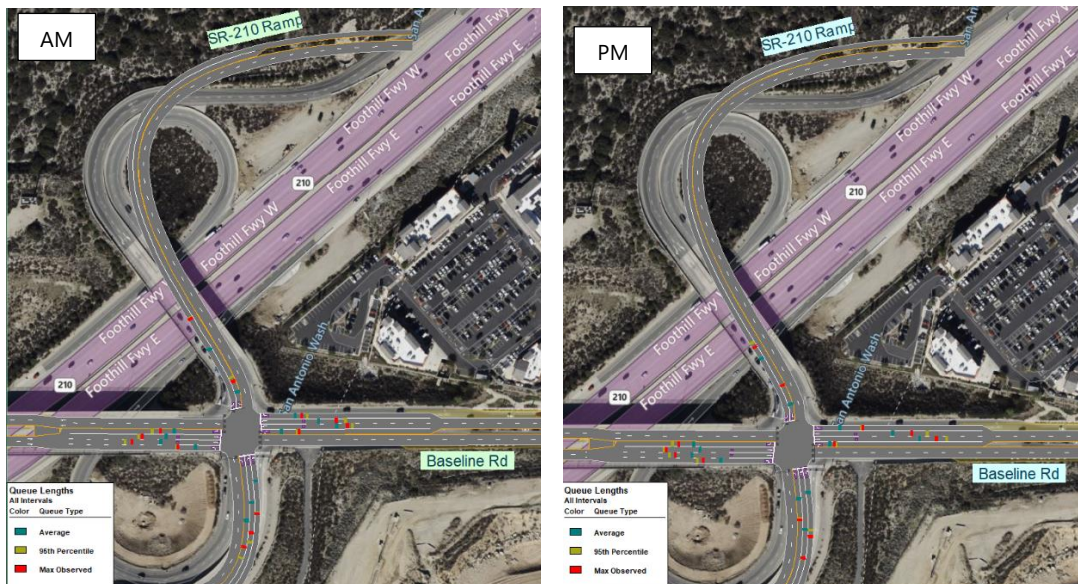
Game Day



Game Day [Fall]



Game Day [Spring]



VEHICLE QUEUING ANALYSIS AT PROJECT DRIVEWAYS

A vehicle queuing analysis was conducted for the four (4) proposed project driveway intersections—including one proposed signalized and one uncontrolled driveway on Claremont Boulevard (i.e., intersections #25 & #27), one uncontrolled driveway on Foothill Boulevard (i.e., intersection #26), and one uncontrolled driveway on Monte Vista Avenue (i.e., intersection #28)—which provide direct access to the CMC East Roberts Campus site:

- #25 Claremont Boulevard and 9th Street = 9th Street Dwy
- #26 Foothill Boulevard and Project Driveway N = N- Dwy
- #27 Claremont Boulevard and Project Driveway SW = SW-Dwy
- #28 Monte Vista Avenue and Project Driveway SE = SE-Dwy

The analysis assesses whether the inbound traffic movements entering the site driveways would result in traffic queuing that could interfere with adjacent traffic on the public roadway. The vehicle queuing analysis was conducted using traffic volume data for the Opening Year With Project and Horizon Year With Project scenarios, during Practice Day, Game Day, Game Day [Fall], and Game Day [Spring] events for both AM and PM peak periods. These scenarios were selected due to their representation of the highest traffic volumes among all evaluated conditions.

Table 3 summarizes the vehicle queuing analysis results. The vehicle queues are based on the average queues and 95th percentile queues. Synchro reports the 95th percentile queue length in feet, which can be compared against the available lane storage lengths at driveway intersections, or be used as a basis to determine the required storage length for planned intersection improvements. The table shows that the 95th percentile vehicle queues for all key turning movements at the proposed project site access points would be shorter than the vehicle queuing capacities at those locations, provided that 125 feet of storage length is provided at the proposed Intersection #25 (Claremont Boulevard at 9th Street) for the southbound left-turn inbound movement during the AM peak hour, and the westbound left-turn outbound movement during the PM peak hour.

Appendix C shows the result of the queuing analysis of project driveways during the Opening Year with the project and Horizon Year with project conditions.

Detailed vehicle queuing analysis worksheets are available in **Appendix D**.

Based on the results from Table 3, the critical 95th percentile queue lengths at the proposed signalized intersection of Claremont Boulevard and 9th Street are as follows:

Westbound Left Turn (site exiting traffic)

- *Opening Year 2027*
 - Game Day – PM peak hour = 117-ft queue
 - Game Day [Fall] – PM peak hour = 121-ft queue
- *Horizon Year 2045*
 - Practice Day – PM peak hour = 99-ft queue
 - Game Day – PM peak hour = 71-ft queue

Southbound Left Turn (site entering traffic)

- *Opening Year 2027*
 - Game Day [Fall] – AM peak hour = 106-ft queue
- *Horizon Year 2045*
 - Game Day [Fall] – AM peak hour = 106-ft queue

The analysis shows that lane capacities for the above two left-turning movements (i.e., southbound and westbound) at the proposed signalized intersection of Claremont Boulevard and 9th Street, at the Project's main entrance driveway, should be designed with a minimum storage of 125 feet. The initial concept design plan for this intersection previously provided 60 and 100-foot turn pockets, respectively, but the proposed design plan will be updated to propose the 125-foot turn pockets identified in this analysis. The 125-foot turn pockets will provide adequate storage capacity to accommodate queue lengths for each turning movement.

TABLE 3 QUEUING ANALYSIS FOR PROJECT DRIVEWAYS

Opening Year with Project – 95 th Percentile Queue (ft)										
Driveways	Direction ¹	Storage length (ft)	Practice Day		Game Day		Game Day [Fall]		Game Day [Spring]	
			AM	PM	AM	PM	AM	PM	AM	PM
9 th St Dwy	NBR	100	-	-	-	-	32	-	-	-
	SBL	125	-	23	-	36	106	-	82	-
	WBL	125	-	54	-	81	-	121	-	89
N-Dwy	EBR	630 ²	-	-	-	-	-	-	-	-
SW-Dwy	NBR	360 ²	-	-	-	-	-	-	-	-
SE-Dwy	SBR	850 ²	-	-	-	-	-	-	-	-
Opening Year with Project – Average Queue (ft)										
9 th St Dwy	NBR	100	-	-	-	-	26	-	-	-
	SBL	125	-	5	-	15	60	-	50	-
	WBL	125	-	41	-	54	-	81	-	66
N-Dwy	EBR	630 ²	-	-	-	-	-	-	-	-
SW-Dwy	NBR	360 ²	-	-	-	-	-	-	-	-
SE-Dwy	SBR	850 ²	-	-	-	-	-	-	-	-
Horizon Year with Project – 95 th Percentile Queue (ft)										
9 th St Dwy	NBR	100	-	-	-	-	31	-	-	-
	SBL	125	-	22	-	-	106	-	101	24
	WBL	125	-	81	-	62	-	91	22	94
N-Dwy	EBR	630 ²	-	-	-	-	-	-	-	-
SW-Dwy	NBR	360 ²	-	-	-	-	-	-	-	-
SE-Dwy	SBR	850 ²	-	-	-	-	-	-	-	-
Horizon Year with Project – Average Queue (ft)										
9 th St Dwy	NBR	100	-	-	-	-	10	-	-	-
	SBL	125	-	5	-	-	73	-	52	6
	WBL	125	-	42	-	37	-	70	5	73
N-Dwy	EBR	630 ²	-	-	-	-	-	-	-	-
SW-Dwy	NBR	360 ²	-	-	-	-	-	-	-	-
SE-Dwy	SBR	850 ²	-	-	-	-	-	-	-	-

¹ Storage lengths at driveway intersections shown in the table above are conceptual. Ultimate storage lengths will be specified under the final design

² Assumed storage length is calculated based on the available stacking distance along the adjacent curb/bike lane, approaching the driveway, to the nearest upstream intersection.

APPENDIX A

O.Y QUEUING WORKSHEETS FOR BASE LINE ROAD AT SR-210 RAMP

Queuing and Blocking Report

Baseline

06/03/2024

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	108	67	72	121	108	329	178	134	95	74	54	42
Average Queue (ft)	40	39	63	87	48	272	132	100	72	61	39	37
95th Queue (ft)	100	66	81	129	117	338	170	149	104	76	59	45
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	311
Average Queue (ft)	230
95th Queue (ft)	330
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	172	219	261	77	26	228	219	81	95	220	174	83
Average Queue (ft)	86	112	131	52	15	176	138	63	72	151	130	39
95th Queue (ft)	187	248	254	89	36	249	218	82	110	248	190	80
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	211
Average Queue (ft)	129
95th Queue (ft)	245
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	112	109	116	115	26	357	332	254	112	73	55	41
Average Queue (ft)	72	55	71	88	5	274	230	218	70	55	26	19
95th Queue (ft)	121	107	111	129	23	393	352	276	121	82	56	47
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	230
Average Queue (ft)	197
95th Queue (ft)	238
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	108	182	189	101	27	201	73	74	73	200	197	63
Average Queue (ft)	83	83	130	60	18	175	58	54	54	180	156	29
95th Queue (ft)	110	173	209	107	35	216	87	76	70	197	191	61
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	393
Average Queue (ft)	270
95th Queue (ft)	429
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	129	170	157	136	49	174	124	90	157	177	144	131
Average Queue (ft)	70	105	112	98	27	160	90	60	101	108	79	62
95th Queue (ft)	137	172	179	136	47	173	136	95	164	166	151	125
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	198
Average Queue (ft)	151
95th Queue (ft)	216
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

06/03/2024

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	110	150	171	97	48	211	155	124	159	198	134	82
Average Queue (ft)	84	98	121	63	28	140	60	78	110	116	74	35
95th Queue (ft)	110	169	195	91	58	227	147	131	164	196	150	80
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	178
Average Queue (ft)	113
95th Queue (ft)	169
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

06/03/2024

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	90	130	157	183	110	196	162	96	159	117	53	86
Average Queue (ft)	69	83	101	100	63	165	96	62	116	71	35	46
95th Queue (ft)	88	127	158	197	110	206	165	100	170	111	49	88
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	191
Average Queue (ft)	134
95th Queue (ft)	206
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	185	147	174	119	48	200	122	51	139	230	154	86
Average Queue (ft)	95	98	133	81	31	159	93	38	91	162	104	51
95th Queue (ft)	177	147	184	136	61	211	136	55	133	224	189	98
Link Distance (ft)		363	363	363		718	718			1032		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	164
Average Queue (ft)	106
95th Queue (ft)	168
Link Distance (ft)	1297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

APPENDIX B

H.Y QUEUING WORKSHEETS FOR BASE LINE ROAD AT SR-210 RAMP

Queuing and Blocking Report

Baseline

06/03/2024

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	184	198	214	140	404	531	450	405	161	183	184	105
Average Queue (ft)	96	132	137	92	117	428	349	145	118	113	85	44
95th Queue (ft)	180	209	223	141	356	525	454	362	166	196	187	114
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)						15	4					
Queuing Penalty (veh)						4	25					

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	260
Average Queue (ft)	218
95th Queue (ft)	266
Link Distance (ft)	1296
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

06/03/2024

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	135	206	216	99	73	428	289	116	132	265	220	86
Average Queue (ft)	87	144	148	55	29	310	245	89	88	206	178	49
95th Queue (ft)	158	232	213	98	69	436	325	124	143	276	222	88
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)						4						
Queuing Penalty (veh)						1						

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	244
Average Queue (ft)	179
95th Queue (ft)	269
Link Distance (ft)	1347
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	90	179	204	186	403	520	526	279	379	174	125	61
Average Queue (ft)	69	127	141	120	113	399	358	179	324	112	50	23
95th Queue (ft)	107	177	230	197	353	513	527	275	430	184	122	63
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)						13	1					
Queuing Penalty (veh)						4	5					

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	512
Average Queue (ft)	414
95th Queue (ft)	535
Link Distance (ft)	1296
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	92	358	357	95	72	445	404	197	202	251	213	64
Average Queue (ft)	66	170	204	57	35	378	321	130	120	216	185	47
95th Queue (ft)	109	345	351	92	76	520	476	200	218	250	211	84
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	2									
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)		0				14	2					
Queuing Penalty (veh)		0				5	7					

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	206
Average Queue (ft)	174
95th Queue (ft)	215
Link Distance (ft)	1296
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	90	135	156	143	51	321	250	72	179	199	115	104
Average Queue (ft)	62	97	124	102	41	256	177	56	120	123	54	83
95th Queue (ft)	87	158	171	154	60	337	266	69	188	191	109	108
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	229
Average Queue (ft)	158
95th Queue (ft)	228
Link Distance (ft)	1347
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	92	189	240	148	55	298	245	71	204	148	143	81
Average Queue (ft)	74	152	190	125	43	239	189	44	122	109	90	48
95th Queue (ft)	100	205	248	184	63	306	252	72	208	159	172	92
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	299
Average Queue (ft)	231
95th Queue (ft)	344
Link Distance (ft)	1347
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	137	177	201	98	89	198	172	95	203	171	134	61
Average Queue (ft)	105	123	136	57	49	174	132	80	148	104	58	38
95th Queue (ft)	155	186	216	100	85	209	193	107	232	191	132	71
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	231
Average Queue (ft)	150
95th Queue (ft)	233
Link Distance (ft)	1347
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	R	R	L
Maximum Queue (ft)	217	245	225	162	49	280	224	113	114	193	150	82
Average Queue (ft)	183	169	187	122	39	242	181	62	64	136	53	38
95th Queue (ft)	231	249	238	175	52	304	260	110	110	194	138	82
Link Distance (ft)		362	362	362		928	928			1068		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	370				380			380	1000		1000	1000
Storage Blk Time (%)												
Queuing Penalty (veh)												

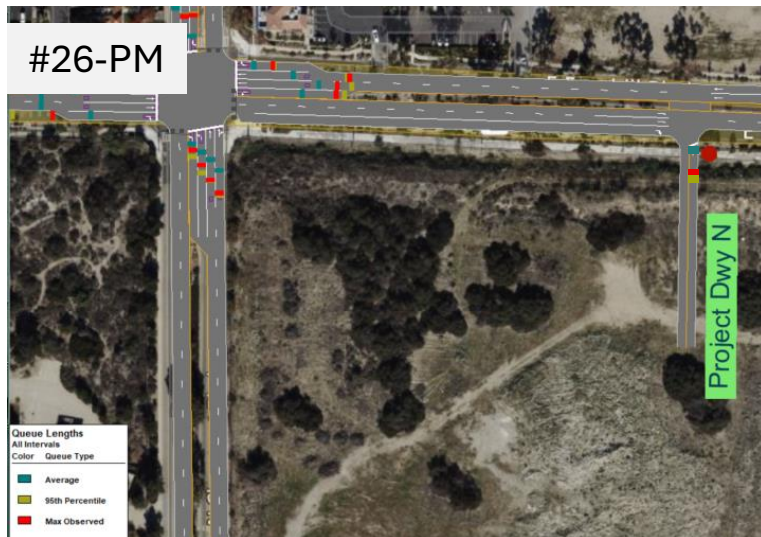
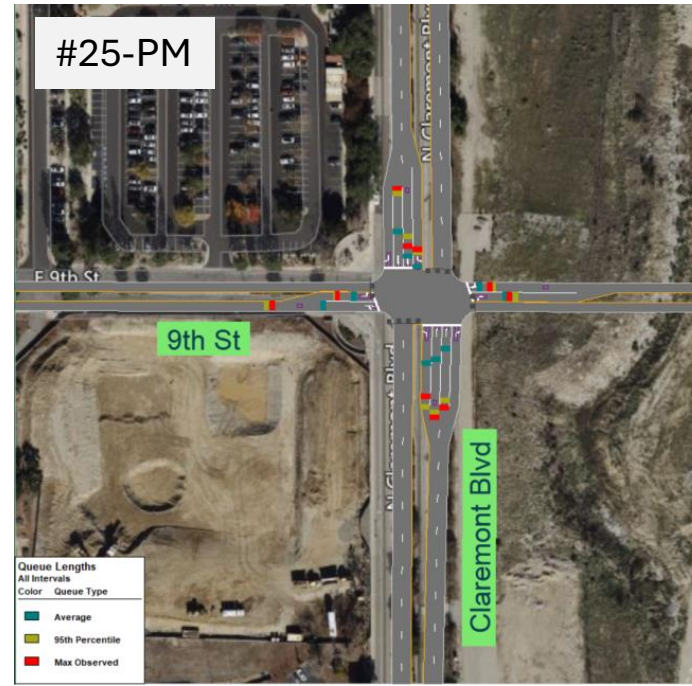
Intersection: 4: Baseline Rd & SR-210 Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	186
Average Queue (ft)	156
95th Queue (ft)	198
Link Distance (ft)	1347
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

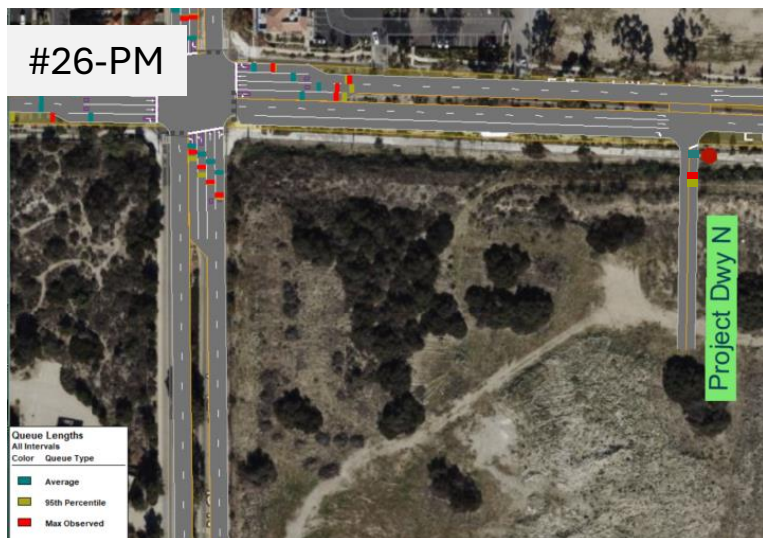
APPENDIX C

QUEUING ANALYSIS FOR PROJECT DRIVEWAYS

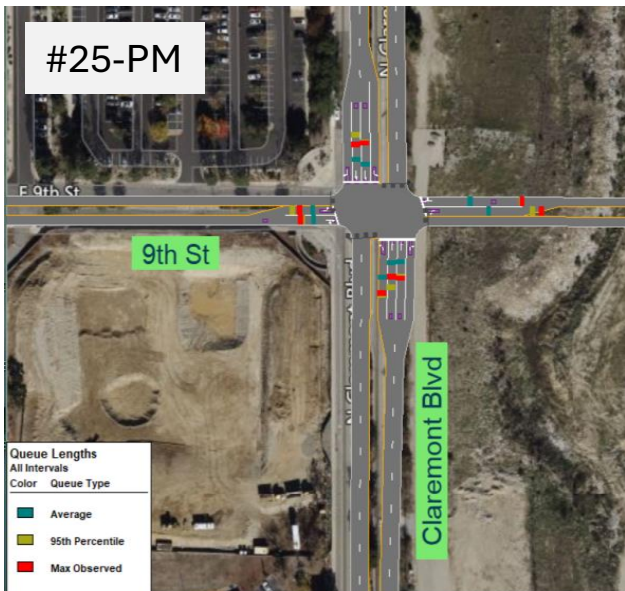
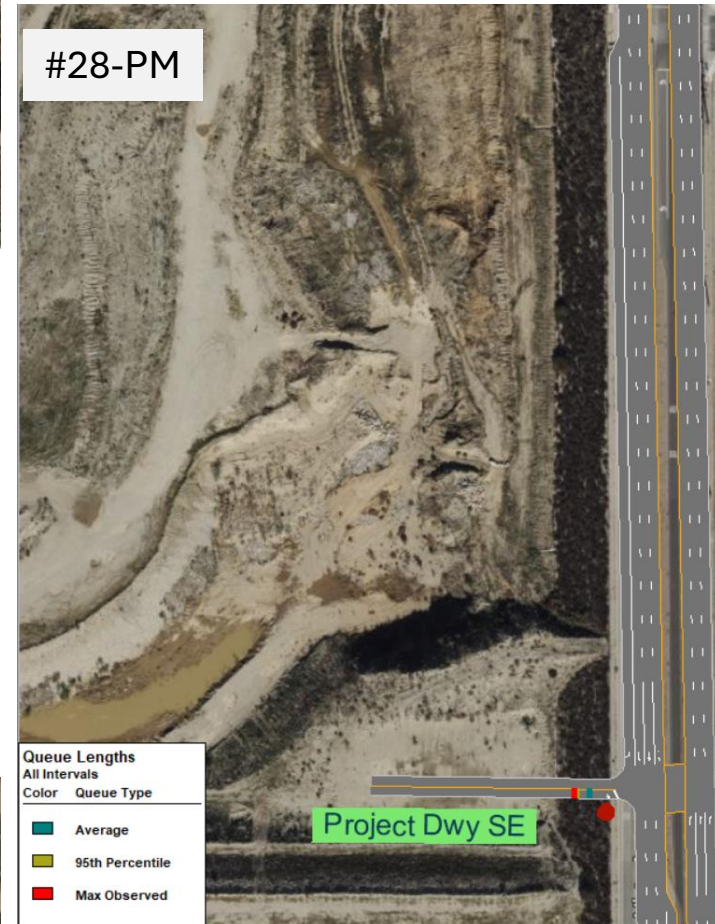
Opening Year with Project-Practice Day



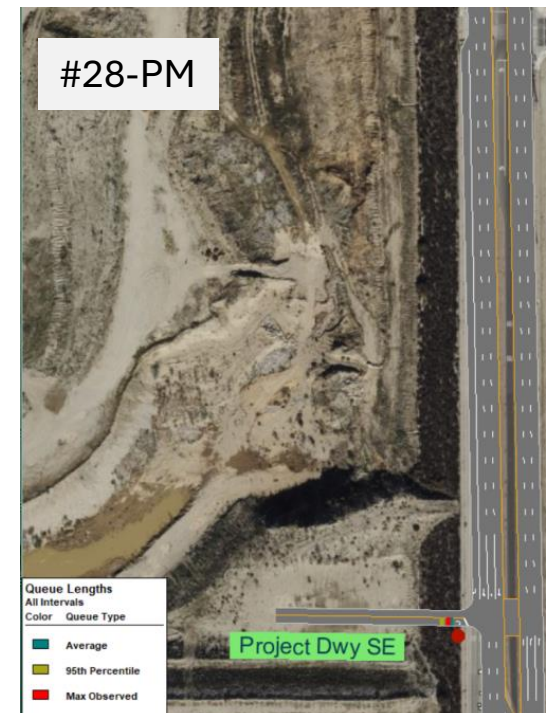
Opening Year with Project-Game Day



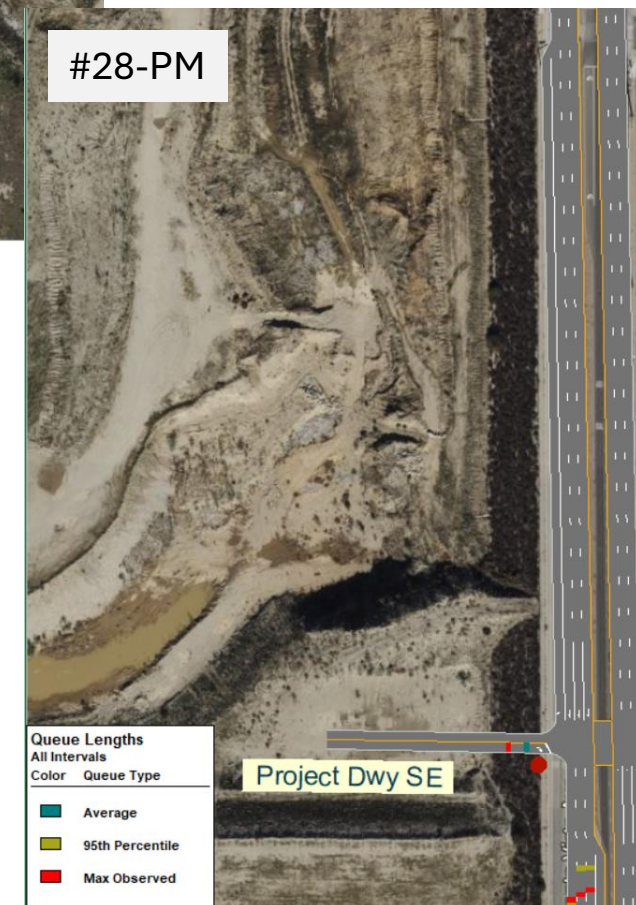
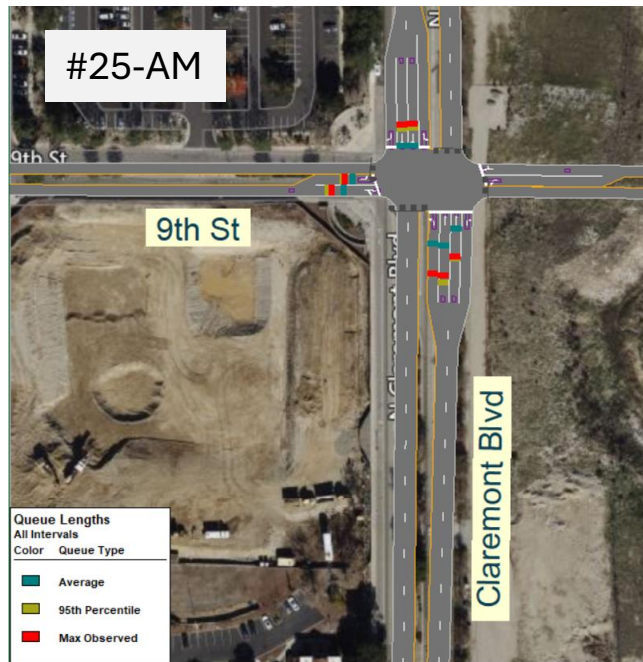
Opening Year with Project-Game Day [Fall]



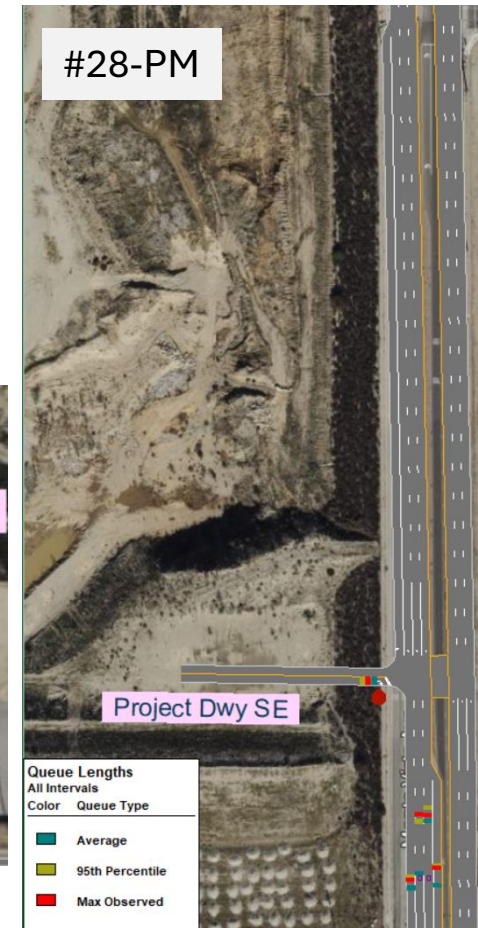
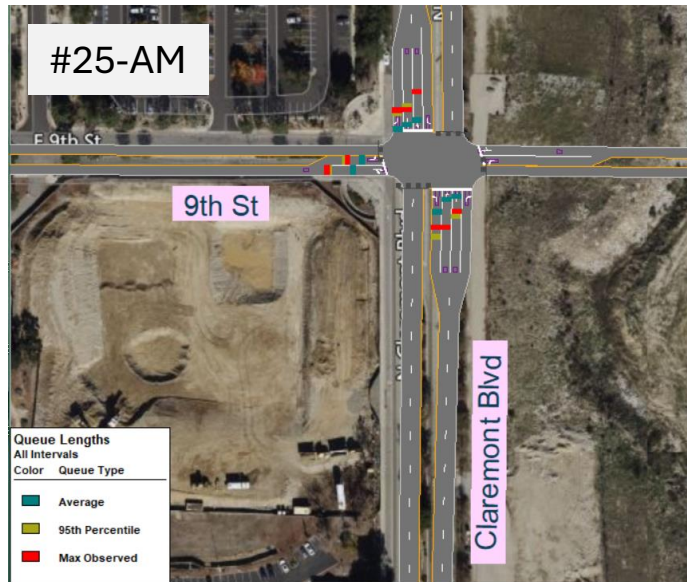
Opening Year with Project-Game Day [Spring]



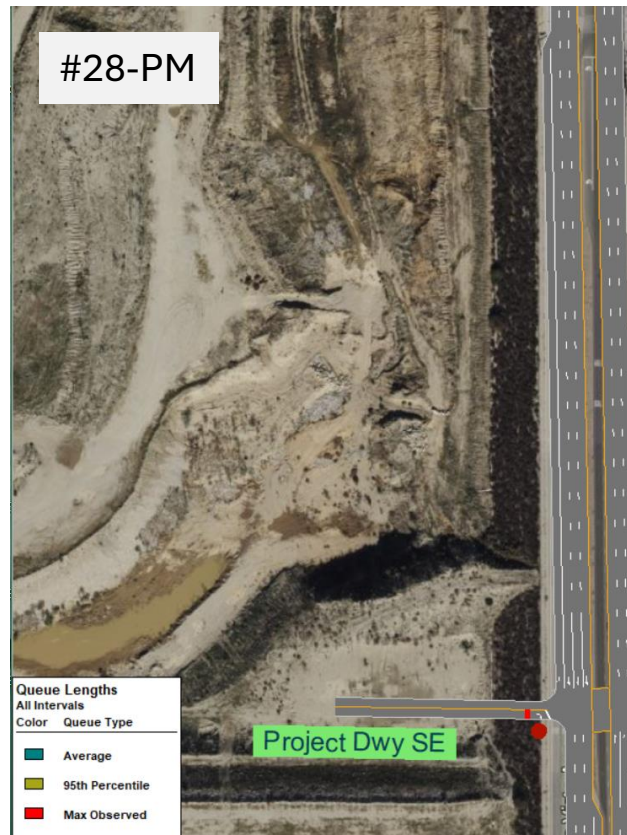
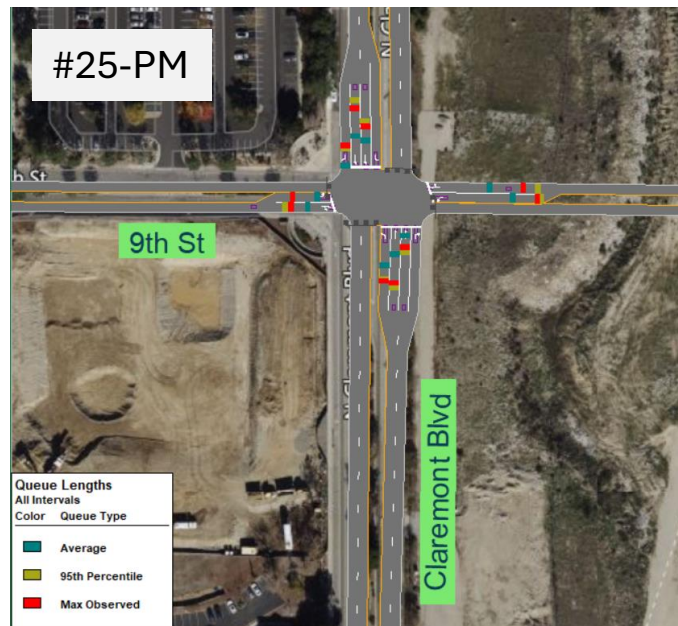
Horizon Year with Project-Practice Day



Horizon Year with Project-Game Day



Horizon Year with Project-Game Day [Fall]



Horizon Year with Project-Game Day [Spring]

#25-AM

9th St

Claremont Blvd

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

#26-PM

Project Dwy N

#27-AM

Project Dwy SW

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

#27-
PM

Project Dwy SW

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

#25-PM

9th St

Claremont Blvd

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

#28-PM

Project Dwy SE

Queue Lengths
All Intervals
Color Queue Type

■	Average
■	95th Percentile
■	Max Observed

APPENDIX D

QUEUING WORKSHEETS FOR PROJECT DRIVEWAYS

Queuing and Blocking Report

Baseline

05/29/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	41	43	71	59	30	30	31	27
Average Queue (ft)	25	34	44	17	12	16	11	5
95th Queue (ft)	48	52	89	56	35	37	33	23
Link Distance (ft)		637		634	634	1514	1514	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	60		100					100
Storage Blk Time (%)	0	0						
Queuing Penalty (veh)	0	0						

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T
Maximum Queue (ft)	43	124	45	21	92	119	106	26	30	102
Average Queue (ft)	23	61	41	8	52	46	33	5	18	49
95th Queue (ft)	46	131	54	25	106	112	97	23	43	96
Link Distance (ft)		637		369		600	600		1514	1514
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60		125		100			125		
Storage Blk Time (%)	0	6			0	1	0			0
Queuing Penalty (veh)	0	3			1	1	0			0

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	13
95th Queue (ft)	38
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	318
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	299
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	TR	L	T	T	T
Maximum Queue (ft)	44	72	38	51	52	52
Average Queue (ft)	19	40	14	27	21	16
95th Queue (ft)	47	79	42	54	63	50
Link Distance (ft)		637		634	1514	1514
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	60		100			
Storage Blk Time (%)	0	2				
Queuing Penalty (veh)	0	1				

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	44	63	67	85	69	98	85	27	29	50	72	31
Average Queue (ft)	18	41	54	34	34	65	45	5	15	29	39	6
95th Queue (ft)	53	71	81	81	74	95	80	23	36	68	93	26
Link Distance (ft)		637		369		600	600			1514	1514	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	60		125		100			100	125			100
Storage Blk Time (%)	0	1				0	0					
Queuing Penalty (veh)	0	1				0	0					

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	24
Average Queue (ft)	19
95th Queue (ft)	34
Link Distance (ft)	267
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	55
Average Queue (ft)	29
95th Queue (ft)	58
Link Distance (ft)	318
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	24
95th Queue (ft)	43
Link Distance (ft)	299
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	43	64	122	93	70	29	92	50	48
Average Queue (ft)	23	41	67	54	43	26	60	16	10
95th Queue (ft)	46	64	138	110	85	32	106	49	41
Link Distance (ft)		637		634	634			1514	1514
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	60		100			100	125		
Storage Blk Time (%)	0	1	10	0			2		
Queuing Penalty (veh)	0	0	19	0			4		

Queuing and Blocking Report

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	44	41	108	136	90	52	29	75	50	31
Average Queue (ft)	27	21	81	72	34	38	15	42	21	6
95th Queue (ft)	54	42	121	125	89	57	36	90	53	27
Link Distance (ft)		637		370		634	634	1514	1514	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60		125		100					100
Storage Blk Time (%)	0	0	25	2	3					
Queuing Penalty (veh)	0	0	33	2	5					

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	79
Average Queue (ft)	41
95th Queue (ft)	72
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	30
95th Queue (ft)	31
Link Distance (ft)	318
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	30
95th Queue (ft)	30
Link Distance (ft)	299
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	43	68	87	52	27	30	69	24	50	26
Average Queue (ft)	18	35	58	21	5	6	50	9	16	10
95th Queue (ft)	45	67	97	63	23	26	82	28	50	31
Link Distance (ft)		637		600	600			1514	1514	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60		100			100	125			100
Storage Blk Time (%)	0	1	0							
Queuing Penalty (veh)	0	0	0							

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	T
Maximum Queue (ft)	24	63	88	65	94	54	30	52	53
Average Queue (ft)	19	34	66	29	38	43	18	27	27
95th Queue (ft)	35	62	89	59	89	62	41	54	66
Link Distance (ft)		637		369		600	600	1514	1514
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	60		125		100				
Storage Blk Time (%)		1			5				
Queuing Penalty (veh)		0			9				

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	24
95th Queue (ft)	44
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	318
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	27
Average Queue (ft)	11
95th Queue (ft)	33
Link Distance (ft)	299
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	28
95th Queue (ft)	54
Link Distance (ft)	299
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Baseline

05/30/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	71	69	89	52	93	54	53	31
Average Queue (ft)	45	44	47	22	25	37	37	6
95th Queue (ft)	70	70	87	55	85	71	72	27
Link Distance (ft)		637		633	633	1514	1514	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	60		100					100
Storage Blk Time (%)	10	1	0		1			
Queuing Penalty (veh)	12	0	1		0			

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	60	67	86	43	52	73	30	26	90	96	30
Average Queue (ft)	22	39	42	26	35	42	6	5	30	51	16
95th Queue (ft)	58	76	81	43	50	72	26	22	84	91	38
Link Distance (ft)		637		406		633	633		1514	1514	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	60		125		100			125			100
Storage Blk Time (%)	1	3								0	
Queuing Penalty (veh)	1	1								0	

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	334
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	18
95th Queue (ft)	42
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	T	T	R
Maximum Queue (ft)	74	59	54	90	28	70	30
Average Queue (ft)	43	29	34	46	14	37	6
95th Queue (ft)	82	54	51	85	34	64	26
Link Distance (ft)		637		633	1514	1514	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	60		100				100
Storage Blk Time (%)	9	1		0			
Queuing Penalty (veh)	10	0		0			

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	59	64	64	21	52	116	94	71	113	31
Average Queue (ft)	30	44	37	21	30	54	46	42	63	18
95th Queue (ft)	63	63	62	21	58	107	95	70	128	42
Link Distance (ft)		637		406		633	633	1514	1514	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60		125		100					100
Storage Blk Time (%)	0	1				2	1		2	
Queuing Penalty (veh)	1	0				1	0		1	

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	30
95th Queue (ft)	32
Link Distance (ft)	334
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	25
95th Queue (ft)	45
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	54
Average Queue (ft)	23
95th Queue (ft)	57
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	63	51	21	134	72	94	29	93	30	29
Average Queue (ft)	19	31	8	41	47	59	10	73	6	16
95th Queue (ft)	59	53	25	122	73	96	31	106	26	38
Link Distance (ft)		637	406		633	633			1514	1514
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60			100			100	125		
Storage Blk Time (%)	3	5		7		0		1		
Queuing Penalty (veh)	3	1		13		0		2		

Queuing and Blocking Report

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	44	65	84	217	51	155	30	94	140	29
Average Queue (ft)	29	38	70	112	30	65	6	35	54	6
95th Queue (ft)	55	65	91	232	49	163	26	93	132	25
Link Distance (ft)		637		406		633	633	1514	1514	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	60		125		100					100
Storage Blk Time (%)	0	1	22	9		5		0	3	
Queuing Penalty (veh)	0	0	29	15		3		0	1	

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	31
95th Queue (ft)	31
Link Distance (ft)	334
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	31
95th Queue (ft)	31
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	30
95th Queue (ft)	30
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	R
Maximum Queue (ft)	43	65	25	21	92	54	52	29	90	27	27
Average Queue (ft)	25	39	5	4	35	29	26	6	52	10	5
95th Queue (ft)	49	66	22	18	92	69	62	25	101	31	24
Link Distance (ft)		637		406		633	633			1514	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	60		125		100			100	125		100
Storage Blk Time (%)	0	2			1						
Queuing Penalty (veh)	0	1			2						

Queuing and Blocking Report

06/11/2024

Intersection: 25: Claremont Blvd & 9th St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	25	21	89	21	119	154	31	28	50	51	26
Average Queue (ft)	12	17	73	17	57	85	24	6	16	30	5
95th Queue (ft)	31	30	94	31	110	147	43	24	50	70	22
Link Distance (ft)		637		406		633	633		1514	1514	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	60		125		100			125			100
Storage Blk Time (%)					10	1					
Queuing Penalty (veh)					19	0					

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	334
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Project Dwy N & Foothill Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	19
95th Queue (ft)	43
Link Distance (ft)	334
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 27: Project Dwy SW & Claremont Blvd

Movement	WB
Directions Served	R
Maximum Queue (ft)	53
Average Queue (ft)	29
95th Queue (ft)	57
Link Distance (ft)	316
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Project Dwy SE & Monte Vista Ave

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	17
95th Queue (ft)	40
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	