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29 May 2023
Project: (210722)

St. Davids Riverview Estates
1755 Stevensville Road
Stevensville ON L0S 1S0

RE: TAWNY RIDGE ESTATES – PHASE 2 – NOTL, TIS ADDENDUM

In November 2022, Paradigm Transportation Solutions Limited (Paradigm) prepared a Transportation Impact Study¹ for a residential Subdivision west of Tanbark Road and south of Warner Road in the Town of Niagara-on-the-Lake.

Further to a public meeting in March 2023 for the proposed development, the Town of Niagara-on-the-Lake has requested additional information regarding the impacts the proposed development will have along Apricot Glen Drive and Creekside Drive.

As a result, this letter has been prepared as an addendum to the November 2022 TIS

¹ 210722: Tawny Ridge Estates – Phase 2, Niagara-on-the-Lake, Transportation Impact Study, November 2022, Paradigm

Traffic Data

The Niagara Region supplied a September 2022 turning movement counts for the intersection of Four Mile Creek Road at Creekside Drive. As the Town did not have a traffic count at the intersection of Tanbark Road and Apricot Glen Drive, Paradigm conducted a count in April 2023. **Appendix A** included the traffic data.

Based on previous comments from the Town, if traffic counts are conducted outside of peak tourist season, a seasonal factor will need to be calculated. The Region of Niagara's Annual Average Daily Traffic (AADT) and Summer Average Daily Traffic (SADT) for their regional road network have been reviewed² to determine an appropriate seasonal factor.

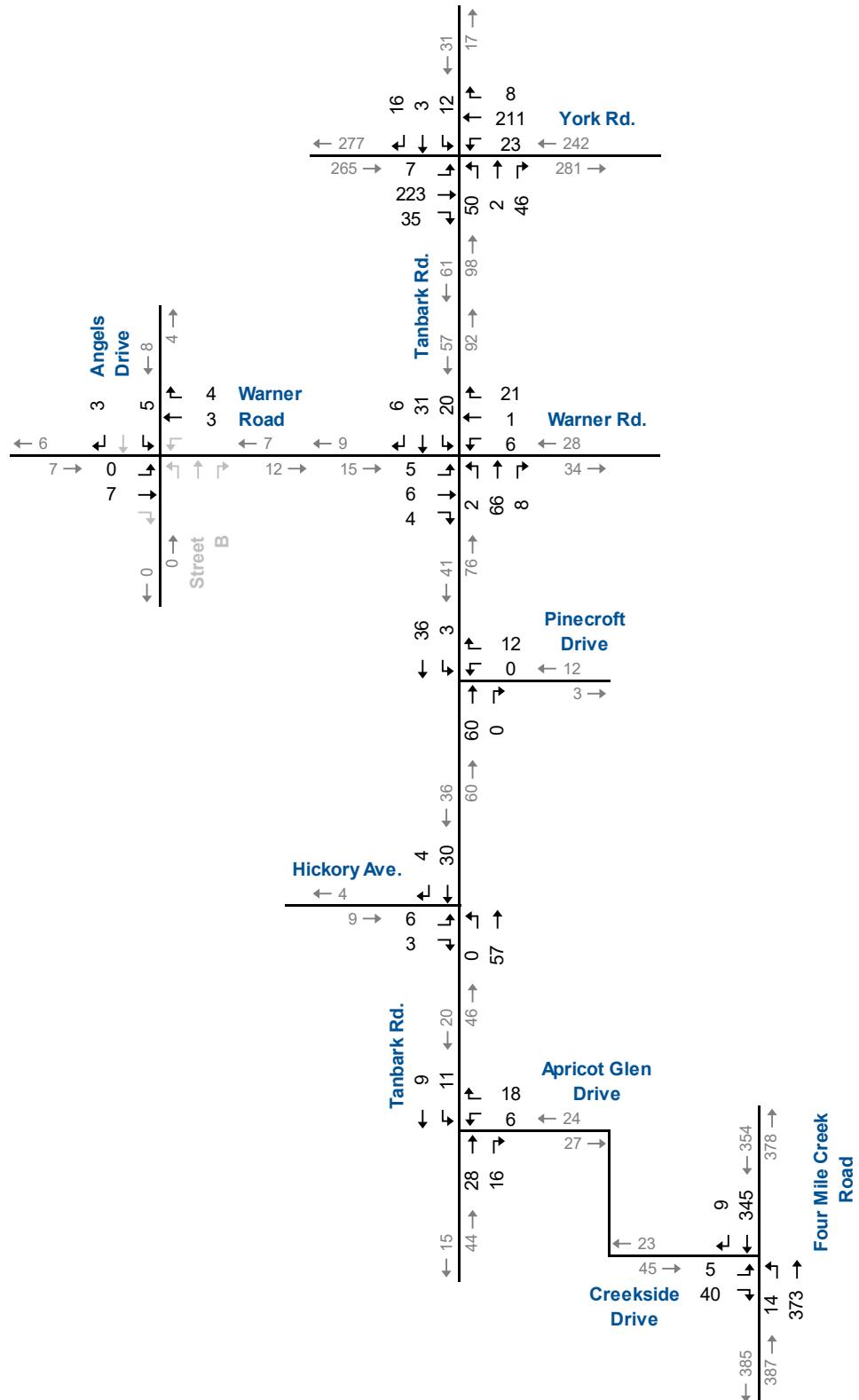
The most currently available data for the study area is from 2018. Based on the regional data, **Table 1** identifies a 10.8% seasonal factor for the study area. The seasonal factor has been applied to April 2023 traffic count for Tanbark Road and Apricot Glen Drive. **Figures 1 and 2** illustrate the "adjusted" peak hour traffic volumes.

TABLE 1: SEASONAL FACTOR ADJUSTMENT

Four Mile Creek Road (York Road to Niagara Townline)	Type		Seasonal Factor
	AADT	SADT	
2018 Data	11,100	12,300	10.81%

² <https://niagaraopendata.ca/dataset/regional-road-traffic-volumes>

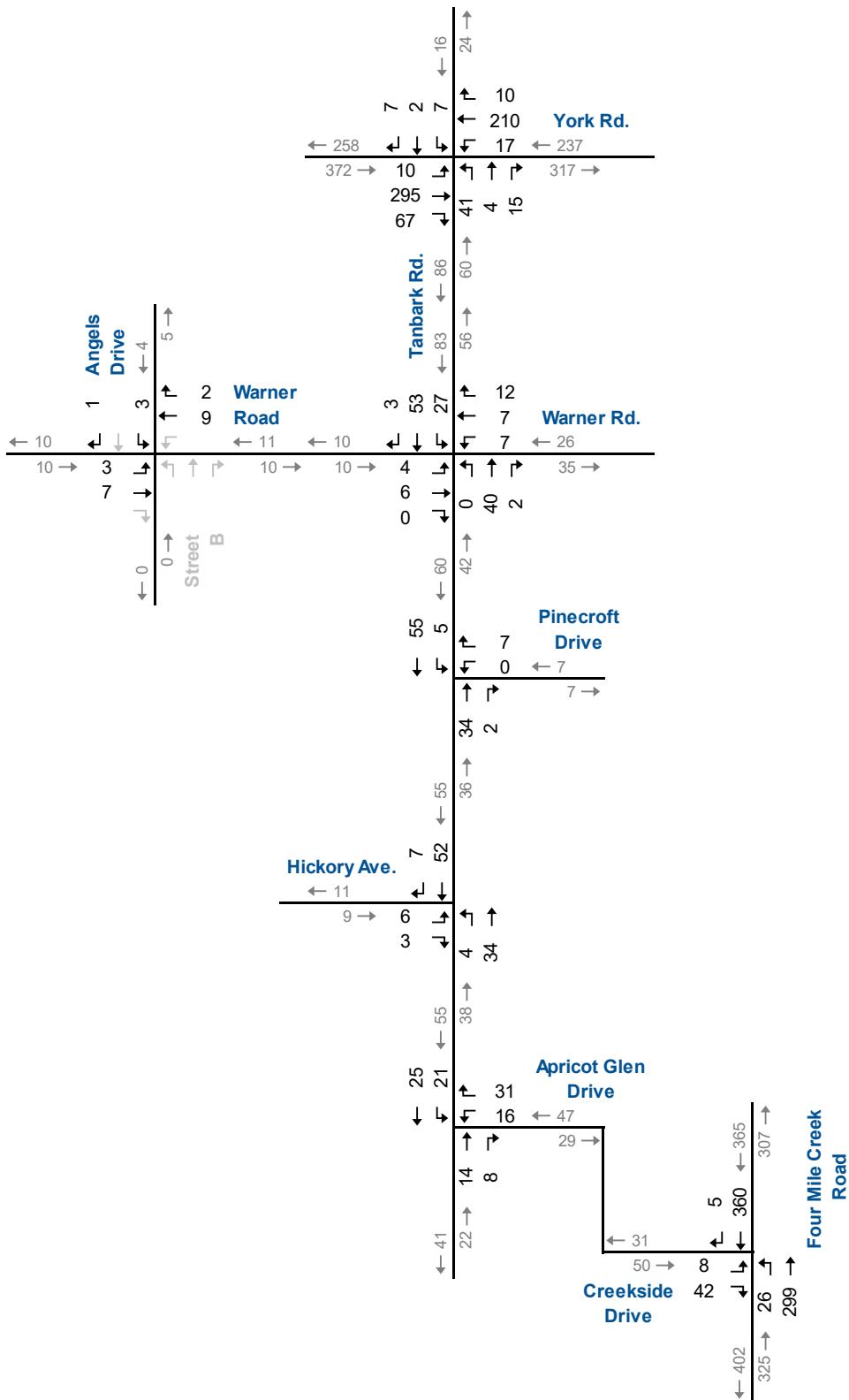




Existing Traffic Volumes AM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum
210722

Figure 1



Existing Traffic Volumes PM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum 210722

Figure 2

Revised Distribution

Further refinements to the distribution have been made to account for trips to/from Four Mile Creek Road through the Apricot Glen Estates (i.e., Creekside Drive). Based on a review of existing traffic along Tanbark Road with Hickory Lane and Pinecroft Drive, the traffic counts identify that 80% of trips travel to/from the north along Tanbark Road. In comparison, 20% of the trips travel to/from the south along Tanbark Road.

Based on the data noted above, the expected distribution for the proposed development has been revised to account for a greater assignment of trips to/from Four Mile Creek Road through the Apricot Glen Estates Subdivision (i.e., 20%). **Table 2** summarizes the estimated trip distribution for the development.

TABLE 2: TRIP DISTRIBUTION

Directional Summary	Route	Percentage
North	Tanbark Road	5%
South	Four Mile Creek Road	20%
East	York Road Warner Road	23% 4%
West	York Road Warner Road	46% 2%
Total		100%

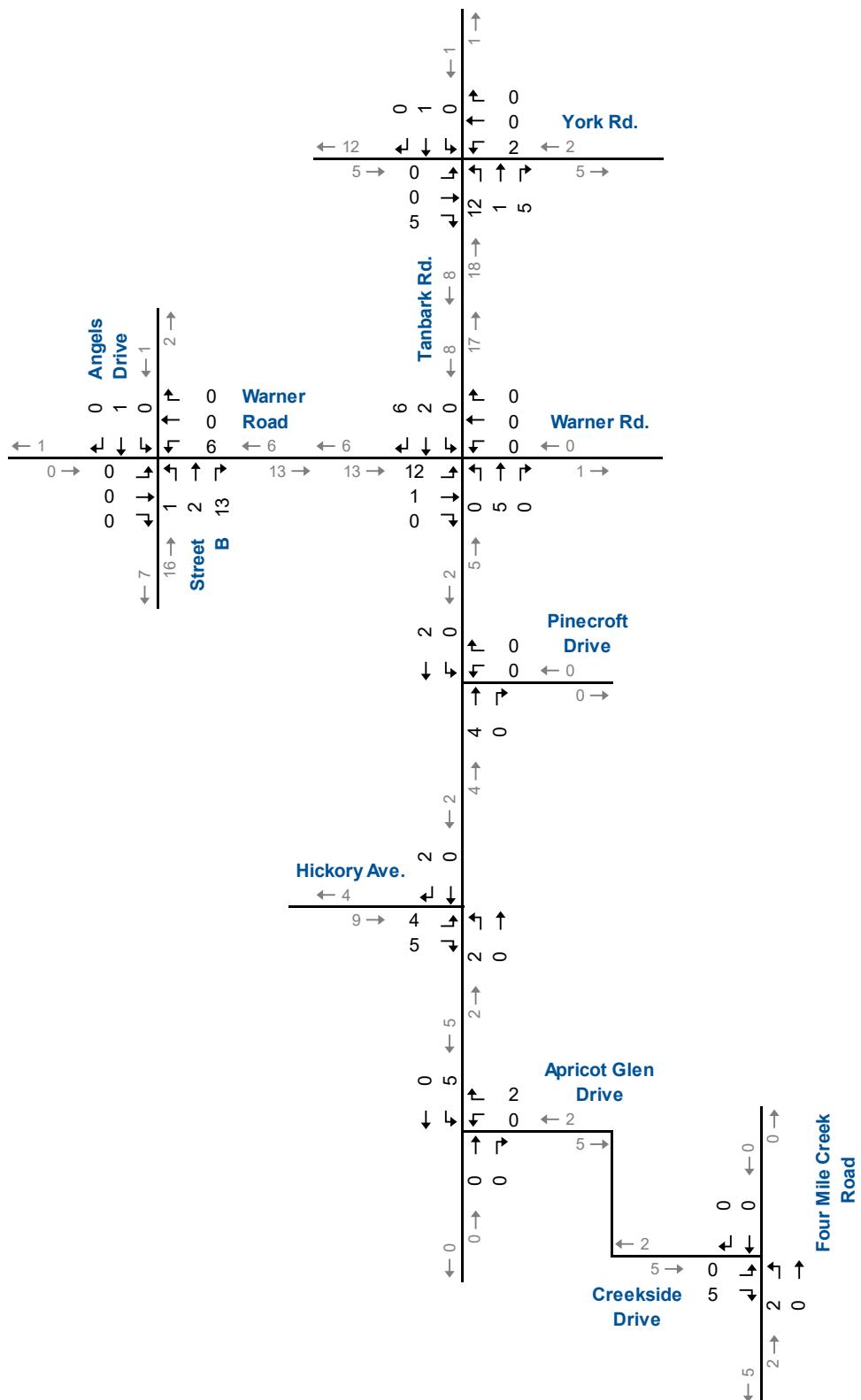
The site traffic was assigned to the adjacent road network using trip generation and the revised distribution. **Figures 3 and 4** illustrate the weekday AM and PM peak hour vehicle trips estimated to be generated by the subject site.

Future Traffic Conditions

The future background traffic volumes have been estimated based on the same methodology in the November 2022 TIS, consisting of a 2.0% compounded per annum growth rate and traffic associated with the first phase of Tawny Ridge Estates. The Weekday AM and PM peak hour background traffic volumes for the 2030 horizon are illustrated in **Figures 5 and 6**.

The projected site-generated traffic volumes were added to the Background projections to develop the Total traffic volumes. The weekday AM and PM peak hour Total traffic volumes for the 2030 horizon are illustrated in **Figures 7 and 8**.

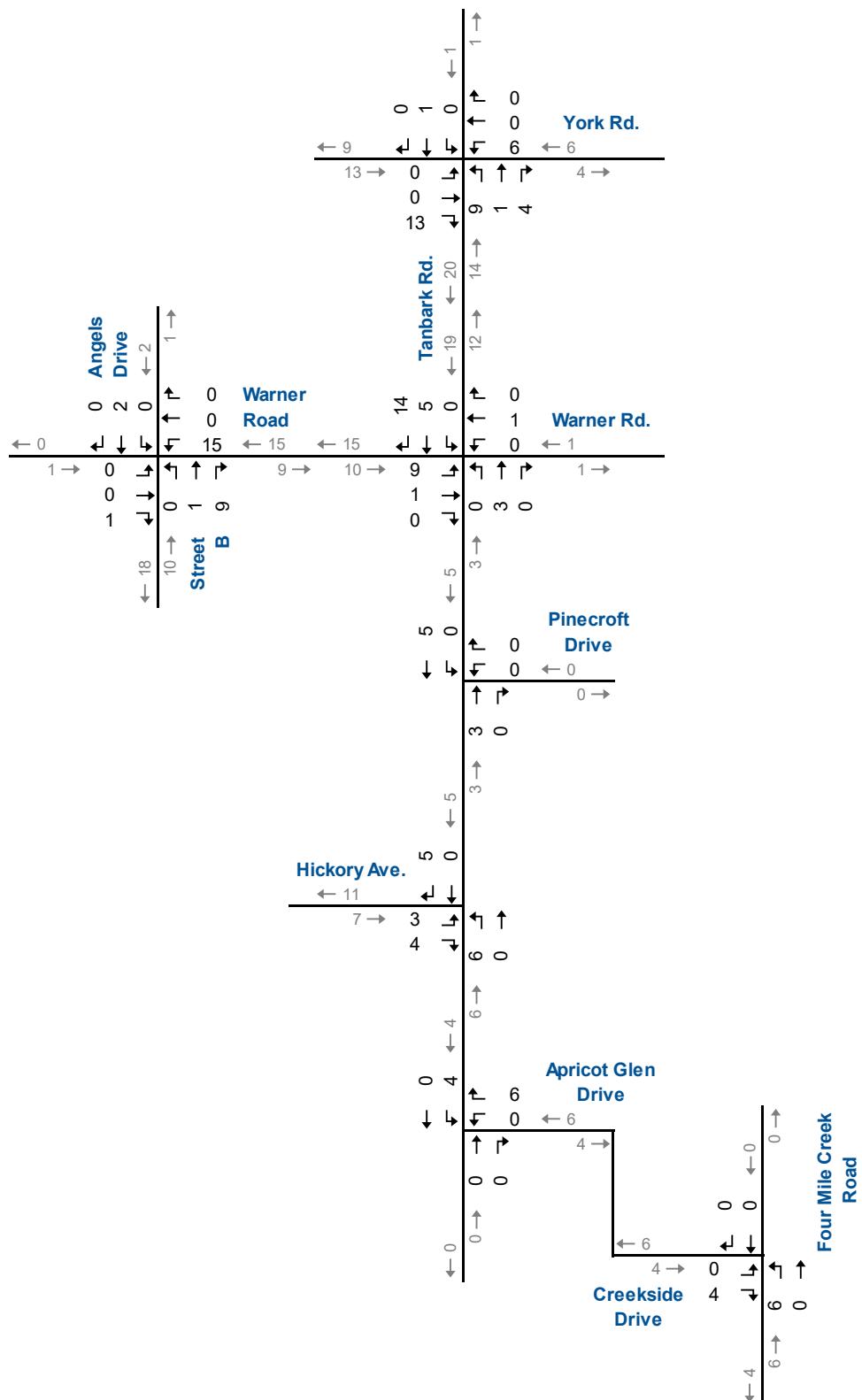


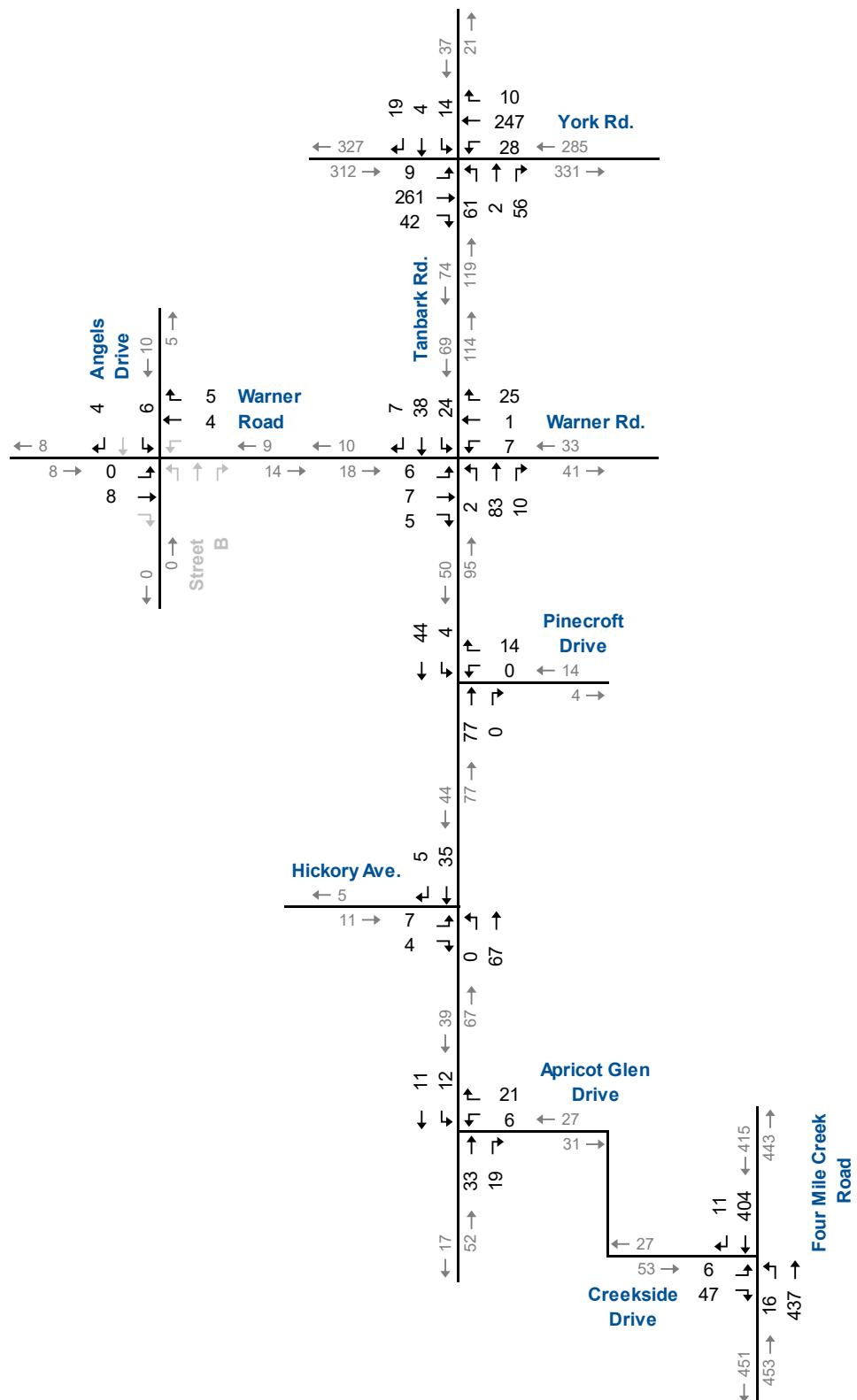


Site Generated Traffic AM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum
210722

Figure 3

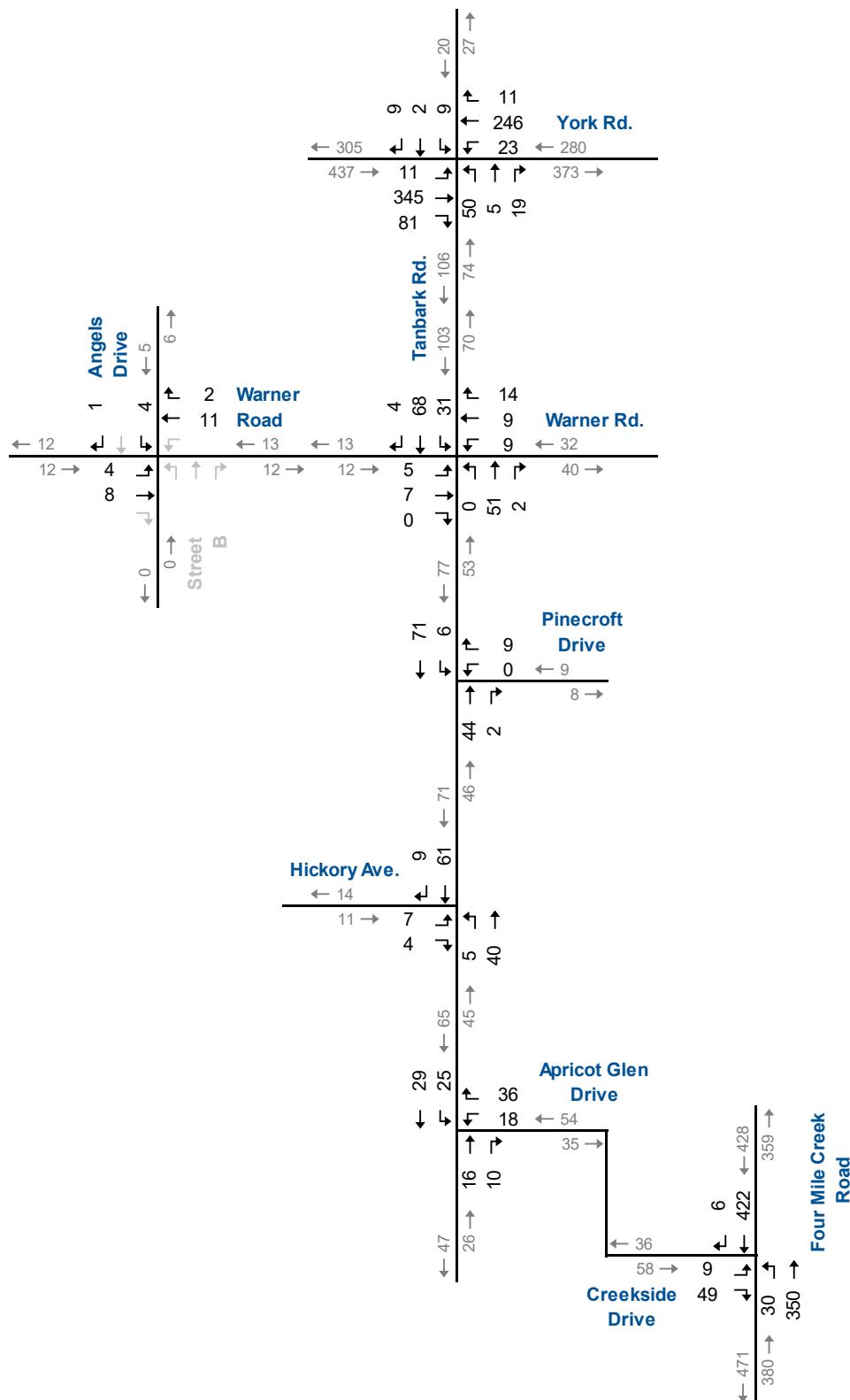




Background Traffic (2030) AM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum
210722

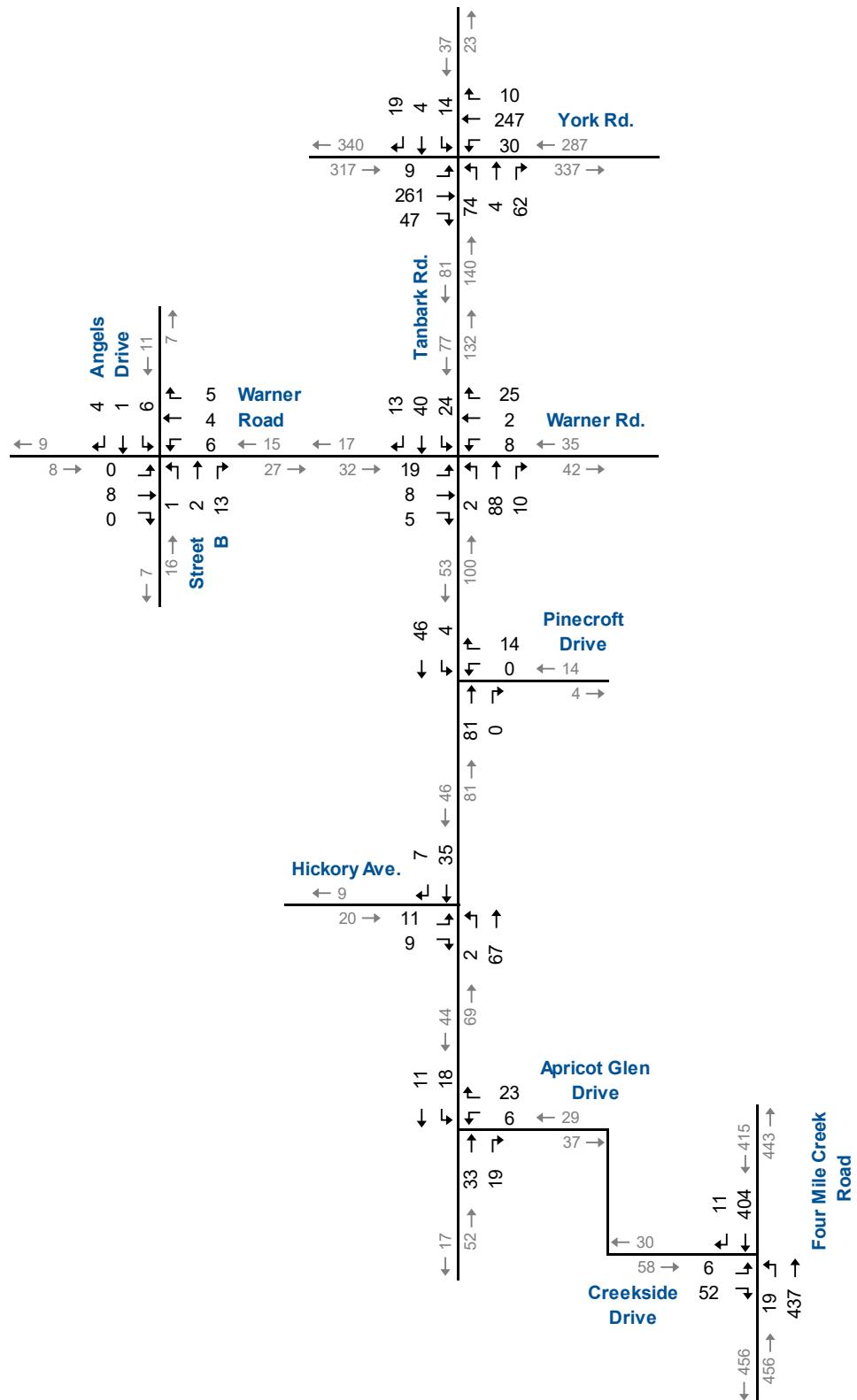
Figure 5

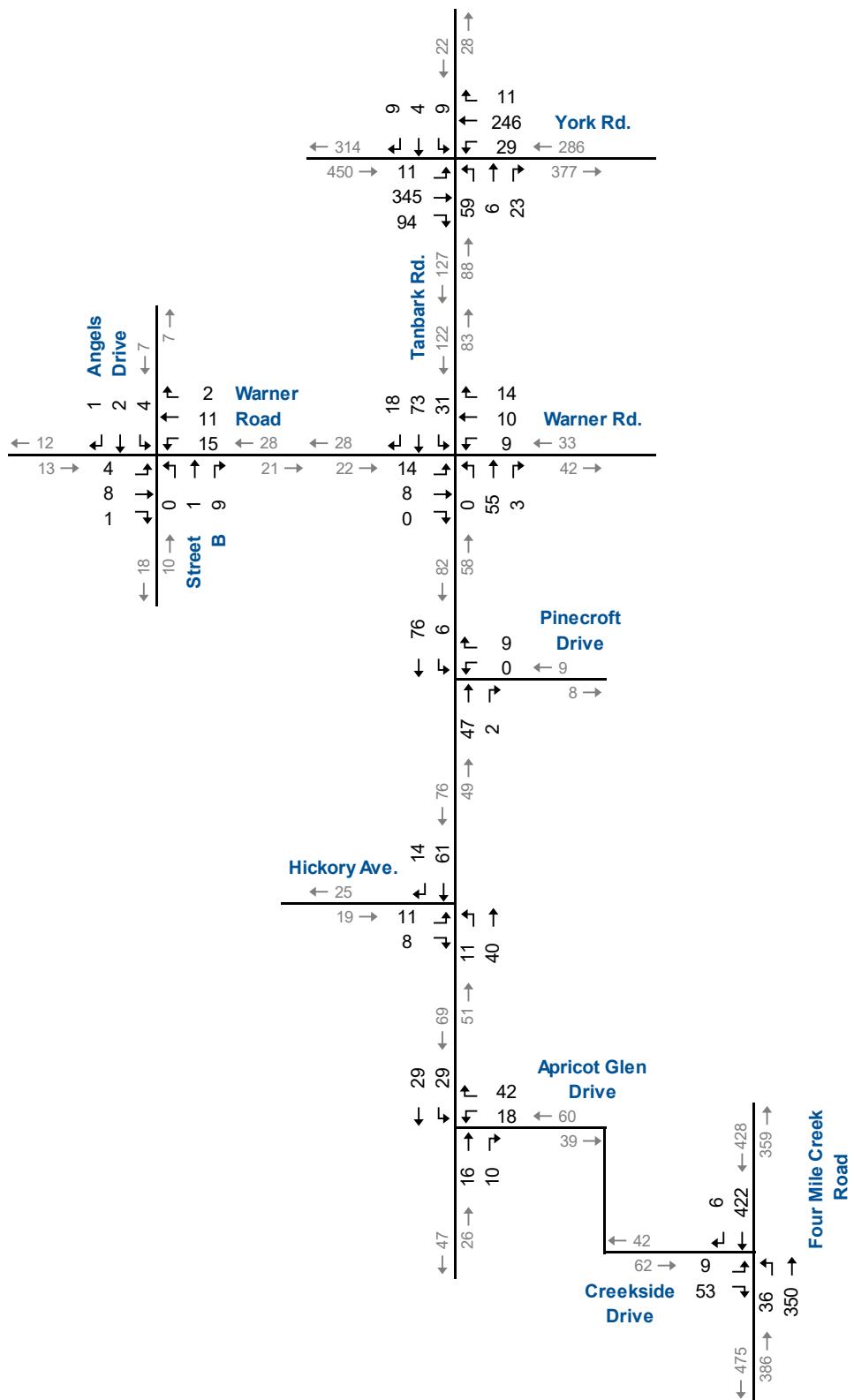


Background Traffic (2030) PM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum
210722

Figure 6





Total Traffic (2030) PM Peak Hour

Tawny Ridge Estates - Phase 2, Niagara-on-the-Lake TIS Addendum
210722

Figure 4.2B

Operational Analysis

The evaluation criteria for analyzing unsignalized intersections are based on the 2000 Highway Capacity Manual (HCM)³ utilizing Synchro 11. **Table 3** summarizes the capacity analyses for the study area intersections for the base year and the 2030 future horizon years for the weekday AM and PM peak hours, respectively. **Appendix B** includes the capacity analysis results.

- ▶ The results of the analyses indicate the study area intersections operate at an acceptable LOS (i.e., LOS C or better). No critical movements are noted.
- ▶ The intersections of Tanbark Road with Apricot Glen Drive and Four Mile Creek Road with Creekside Drive operate at an acceptable level of service conditions during the weekday peak hours. With the expected increase in traffic due to the proposed development, there is a negligible increase in delay during the weekday peak hours at these intersections.
- ▶ The proposed development may increase traffic within the Apricot Glen Estates subdivision by up to ten additional vehicles during the weekday peak hours. The increased traffic volumes are not expected to be sufficient (that motorist will notice any significant deterioration in the level of service).

³ Transportation Research Board, Highway Capacity Manual, Washington, D.C. 2003.



TABLE 3A: WEEKDAY AM PEAK HOUR OPERATIONS

Analysis Period	Intersection	Control Type	Horizon	MOE	Direction / Movement / Approach																Overall	
					Eastbound				Westbound				Northbound				Southbound					
					Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach		
AM Peak Hour	1 - Tanbark Road at York Road	TWSC	2022	LOS Delay V/C Q	A 0.01	A 0.01	A 0.01	A 0	A 0.02	A 0.02	A 0.02	A 1	B 0.21	B 0.14	B 0.14	B 14	B 0.07	B 0.13	B 0.13	B 13	3	
				LOS Delay V/C Q	A 0.01	A 0.01	A 0.01	A 0	A 0.02	A 0.02	A 0.02	A 1	C 0.29	C 0.16	C 0.16	C 16	B 0.09	B 0.14	B 0.14	B 14	4	
		TWSC	2030 (Total)	LOS Delay V/C Q	A 0.01	A 0.01	A 0.01	A 0	A 0.03	A 0.03	A 0.03	A 1	C 0.35	C 0.18	C 0.18	C 18	C 0.10	C 0.15	C 0.15	C 15	4	
	2 - Tanbark Road at Warner Road	TWSC	2022	LOS Delay V/C Q	A 0.02	A 0.02	A 0.02	A 10	A 0.04	A 0.04	A 0.04	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.02	A 0.02	A 0.02	A 3	3	
				LOS Delay V/C Q	A 0.03	A 0.03	A 0.03	A 10	A 0.04	A 0.04	A 0.04	A 10	A 0.00	A 0.00	A 0.00	A 0	A 0.02	A 0.02	A 0.02	A 3	3	
		TWSC	2030 (Total)	LOS Delay V/C Q	B 0.05	B 0.05	B 0.05	B 11	B 0.05	B 0.05	B 0.05	A 10	A 0.00	A 0.00	A 0.00	A 0	A 0.02	A 0.02	A 0.02	A 3	4	
	3 - Tanbark Road at Pinecroft Drive	TWSC	2022	LOS Delay V/C Q					A 0.01	A 0.01	A 0.01	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 1	1	
				LOS Delay V/C Q					A 0.02	A 0.02	A 0.02	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 1	1	
		TWSC	2030 (Total)	LOS Delay V/C Q					A 0.02	A 0.02	A 0.02	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 1	1	
4 - Tanbark Road at Hickory Avenue	TWSC	2022	2022	LOS Delay V/C Q	A 0.01	A 0.01	A 0.01	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 0	A 0.02	A 0.02	A 0.02	A 0	1	
				LOS Delay V/C Q	A 0.01	A 0.01	A 0.01	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 0	A 0.03	A 0.03	A 0.03	A 0	1	
		TWSC	2030 (Total)	LOS Delay V/C Q	A 0.02	A 0.02	A 0.02	A 9	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 0	A 0.03	A 0.03	A 0.03	A 0	2	
	5 - Warner Road at Angels Drive	TWSC	2022	LOS Delay V/C Q	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 0				A 0	A 0.01	A 0.01	A 0.01	A 9	3	
				LOS Delay V/C Q	A 0.00	A 0.00	A 0.00	A 0	A 0.00	A 0.00	A 0.00	A 0				A 0	A 0.01	A 0.01	A 0.01	A 9	3	
		TWSC	2030 (Total)	LOS Delay V/C Q	A 0.00	A 0.00	A 0.00	A 0	A 0.01	A 0.01	A 0.01	A 3	A 0.02	A 0.02	A 0.02	A 9	A 0.01	A 0.01	A 0.01	A 9	6	
6 - Tanbark Road at Apricot Glen Drive	TWSC	2022	2022	LOS Delay V/C Q				A 0	A 0.00	A 0.00	A 0.00	A 0				A 0	A 0.01	A 0.01	A 0.01	A 4	3	
				LOS Delay V/C Q				A 0	A 0.00	A 0.00	A 0.00	A 0				A 0	A 0.01	A 0.01	A 0.01	A 4	3	
		TWSC	2030 (Total)	LOS Delay V/C Q				A 0	A 0.01	A 0.01	A 0.01	A 3	A 0.02	A 0.02	A 0.02	A 9	A 0.01	A 0.01	A 0.01	A 5	4	
	7 - Four Mile Creek Road at Creekside Drive	TWSC	2022	LOS Delay V/C Q	B 0.08	B 0.08	B 0.08	B 11				A 1	A 0.01	A 0.01	A 0.01	A 0	A 0.23	A 0.23	A 0.23	A 0	1	
				LOS Delay V/C Q	B 0.11	B 0.11	B 0.11	B 13				A 9	A 0.03	A 0.03	A 0.03	A 0	A 0.01	A 0.01	A 0.01	A 0	1	
		TWSC	2030 (Total)	LOS Delay V/C Q	B 0.12	B 0.12	B 0.12	B 13				A 9	A 0.03	A 0.03	A 0.03	A 1	A 0.02	A 0.02	A 0.02	A 0	1	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length (m)

Ex - Existing Available Storage (m)

Avail. - Available Storage (m)

TCS - Traffic Control Signal

TWSC - Two-Way Stop Control

AWSC - All-Way Stop Control



TABLE 3B: WEEKDAY PM PEAK HOUR OPERATIONS

Analysis Period	Intersection	Control Type	Horizon	MOE	Direction / Movement / Approach																Overall	
					Eastbound				Westbound				Northbound				Southbound					
					Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach		
PM Peak Hour	1 - Tanbark Road at York Road	TWSC	2022	LOS Delay V/C Q	A 0 0.01	A 0 0.01	A 0 0.01	A 0 0.01	A 1 0.02	A 1 0.02	A 1 0.02	A 1 0.02	B 14 0.20	B 14 0.20	B 14 0.20	B 14 0.20	B 13 0.06	B 13 0.06	B 13 0.06	B 13 0.06	3	
				LOS Delay V/C Q	A 0 0.01	A 0 0.01	A 0 0.01	A 0 0.01	A 1 0.02	A 1 0.02	A 1 0.02	A 1 0.02	C 16 0.28	C 16 0.28	C 16 0.28	C 16 0.28	B 14 0.09	B 14 0.09	B 14 0.09	B 14 0.09	4	
		TWSC	2030 (Total)	LOS Delay V/C Q	A 0 0.01	A 0 0.01	A 0 0.01	A 0 0.01	A 1 0.03	A 1 0.03	A 1 0.03	A 1 0.03	C 20 0.28	C 20 0.28	C 20 0.28	C 20 0.28	C 16 0.07	C 16 0.07	C 16 0.07	C 16 0.07	3	
	2 - Tanbark Road at Warner Road	TWSC	2022	LOS Delay V/C Q	A 10 0.02	A 10 0.02	A 10 0.02	A 10 0.02	A 9 0.03	A 9 0.03	A 9 0.03	A 9 0.03	A 9 0.00	A 9 0.00	A 9 0.00	A 9 0.00	A 3 0.01	A 3 0.01	A 3 0.01	A 3 0.01	3	
				LOS Delay V/C Q	A 10 0.03	A 10 0.03	A 10 0.03	A 10 0.03	A 9 0.04	A 9 0.04	A 9 0.04	A 9 0.04	A 9 0.00	A 9 0.00	A 9 0.00	A 9 0.00	A 3 0.02	A 3 0.02	A 3 0.02	A 3 0.02	3	
		TWSC	2030 (Total)	LOS Delay V/C Q	B 11 0.04	B 11 0.04	B 11 0.04	B 11 0.04	B 10 0.05	B 10 0.05	B 10 0.05	B 10 0.05	A 10 0.00	A 10 0.00	A 10 0.00	A 10 0.00	A 0 0.02	A 0 0.02	A 0 0.02	A 2 0.02	3	
	3 - Tanbark Road at Pinecroft Drive	TWSC	2022	LOS Delay V/C Q					A 9 0.01		A 9 0.01		A 9 0.04		A 9 0.04		A 1 0.00	A 1 0.00	A 1 0.00	A 1 0.00	1	
				LOS Delay V/C Q					A 9 0.02		A 9 0.02		A 9 0.05		A 9 0.05		A 1 0.00	A 1 0.00	A 1 0.00	A 1 0.00	1	
		TWSC	2030 (Total)	LOS Delay V/C Q					A 9 0.01		A 9 0.01		A 9 0.03		A 9 0.03		A 1 0.00	A 1 0.00	A 1 0.00	A 1 0.00	1	
	4 - Tanbark Road at Hickory Avenue	TWSC	2022	LOS Delay V/C Q	A 9 0.01		A 9 0.01	A 9 0.01					A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.02	A 0 0.02	A 0 0.02	A 0 0.02	1	
				LOS Delay V/C Q	A 9 0.01		A 9 0.01	A 9 0.01					A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.03	A 0 0.03	A 0 0.03	A 0 0.03	1	
		TWSC	2030 (Total)	LOS Delay V/C Q	A 9 0.02		A 9 0.02	A 9 0.02					A 0 0.01	A 0 0.01	A 0 0.01	A 0 0.01	A 0 0.05	A 0 0.05	A 0 0.05	A 0 0.05	2	
	5 - Warner Road at Angels Drive	TWSC	2022	LOS Delay V/C Q	A 0 0.00	A 0 0.00		A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.00					A 9 0.01	A 9 0.01	A 9 0.01	A 9 0.01	3		
				LOS Delay V/C Q	A 0 0.00	A 0 0.00		A 0 0.00	A 0 0.00	A 0 0.00	A 0 0.00					A 9 0.01	A 9 0.01	A 9 0.01	A 9 0.01	3		
		TWSC	2030 (Total)	LOS Delay V/C Q	A 2 0.00	A 2 0.00	A 2 0.00	A 2 0.00	A 4 0.01	A 9 0.01	5											
	6 - Tanbark Road at Apricot Glen Drive	TWSC	2022	LOS Delay V/C Q					A 9 0.05		A 9 0.05		A 0 0.01		A 0 0.01		A 3 0.01	A 3 0.01	A 3 0.01	A 3 0.01	5	
				LOS Delay V/C Q					A 9 0.06		A 9 0.06		A 9 0.02		A 9 0.02		A 3 0.02	A 3 0.02	A 3 0.02	A 3 0.02	5	
		TWSC	2030 (Total)	LOS Delay V/C Q					A 9 0.07		A 9 0.07		A 9 0.02		A 9 0.02		A 4 0.02	A 4 0.02	A 4 0.02	A 4 0.02	5	
	7 - Four Mile Creek Road at Creekside Drive	TWSC	2022	LOS Delay V/C Q	B 12 0.10	B 12 0.10	B 12 0.10	B 12 0.10					A 1 0.02	A 1 0.02	A 1 0.02	A 1 0.02	A 0 0.23	A 0 0.23	A 0 0.23	A 0 0.23	1	
				LOS Delay V/C Q	B 13 0.12	B 13 0.12	B 13 0.12	B 13 0.12					A 1 0.03	A 1 0.03	A 1 0.03	A 1 0.03	A 0 0.27	A 0 0.27	A 0 0.27	A 0 0.27	1	
		TWSC	2030 (Total)	LOS Delay V/C Q	B 13 0.13	B 13 0.13	B 13 0.13	B 13 0.13					A 1 0.04	A 1 0.04	A 1 0.04	A 1 0.04	A 0 0.27	A 0 0.27	A 0 0.27	A 0 0.27	1	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length (m)

Ex - Existing Available Storage (m)

Avail. - Available Storage (m)

TCS - Traffic Control Signal

TWSC - Two-Way Stop Control

AWSC - All-Way Stop Control



Conclusions

The traffic assessment noted above indicates the following:

- ▶ Further refinements to the distribution have been made to account for trips to/from Four Mile Creek Road through the Apricot Glen Estates (i.e., Creekside Drive).
- ▶ Tanbark Road and Apricot Glen Drive operate at an acceptable level of service conditions during the weekday peak hours. With the expected increase in traffic due to the proposed development, there is a negligible increase in delay during the weekday peak hours and will continue to operate with acceptable levels of service.
- ▶ Four Mile Creek Road and Creekside Drive currently operates at an acceptable level of service conditions during the weekday peak hours. With the expected increase in traffic due to the proposed development, there is a negligible increase in delay during the weekday peak hours and will continue to operate with acceptable levels of service.
- ▶ The proposed development may increase traffic within the Apricot Glen Estates subdivision by up to ten additional vehicles during the weekday peak hours. The increased traffic volumes are not expected to be sufficient (that motorist will notice any significant deterioration in the level of service).
- ▶ The analysis herein has determined that with the revised distribution for a greater assignment to Four Mile Creek Road through Creekside Drive, the internal study area intersections are projected to operate with similar operational characteristics as initially concluded in the November 2022 TIS.

Overall, the changes to the distribution do not alter the conclusions and recommendations reached within the November 2022 TIS.

Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED



Adam J. Makarewicz
Dipl.T., C.E.T. MITE
Senior Project Manager



Stew Elkins
B.E.S., MITE
Vice President



Appendix A

TRAFFIC DATA



Location..... Creekside Drive @ Four Mile Creek Road

GeOID..... 18930

Municipality. NIAGARA-ON-THE-LAKE

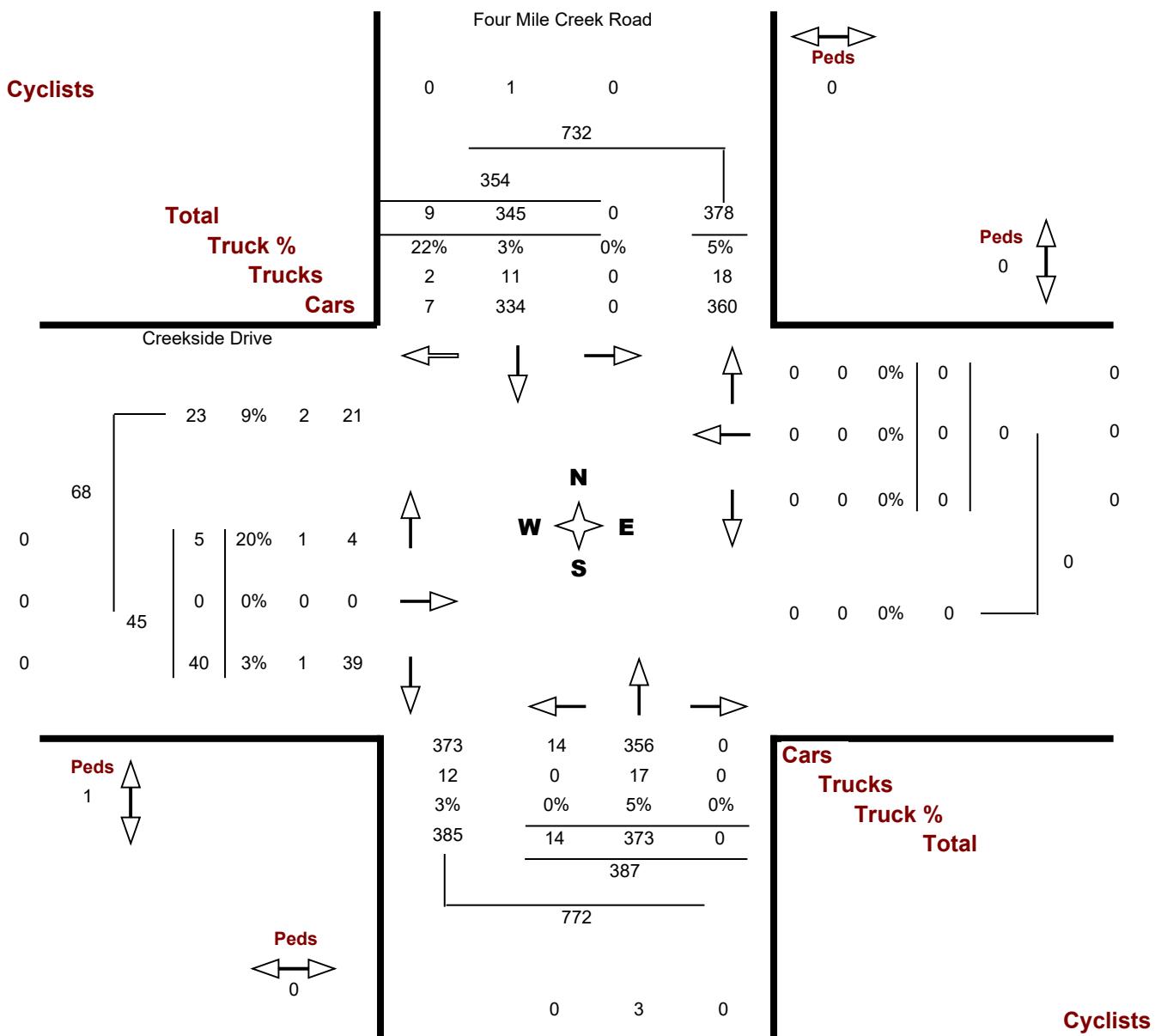
Count Date. Tuesday, 20 September, 2022

Traffic Cont. Stop sign

Count Time. 07:00 AM — 09:00 AM

Major Dir..... North south

Peak Hour.. 08:00 AM — 09:00 AM



Location..... Creekside Drive @ Four Mile Creek Road

GeOID..... 18930

Municipality. NIAGARA-ON-THE-LAKE

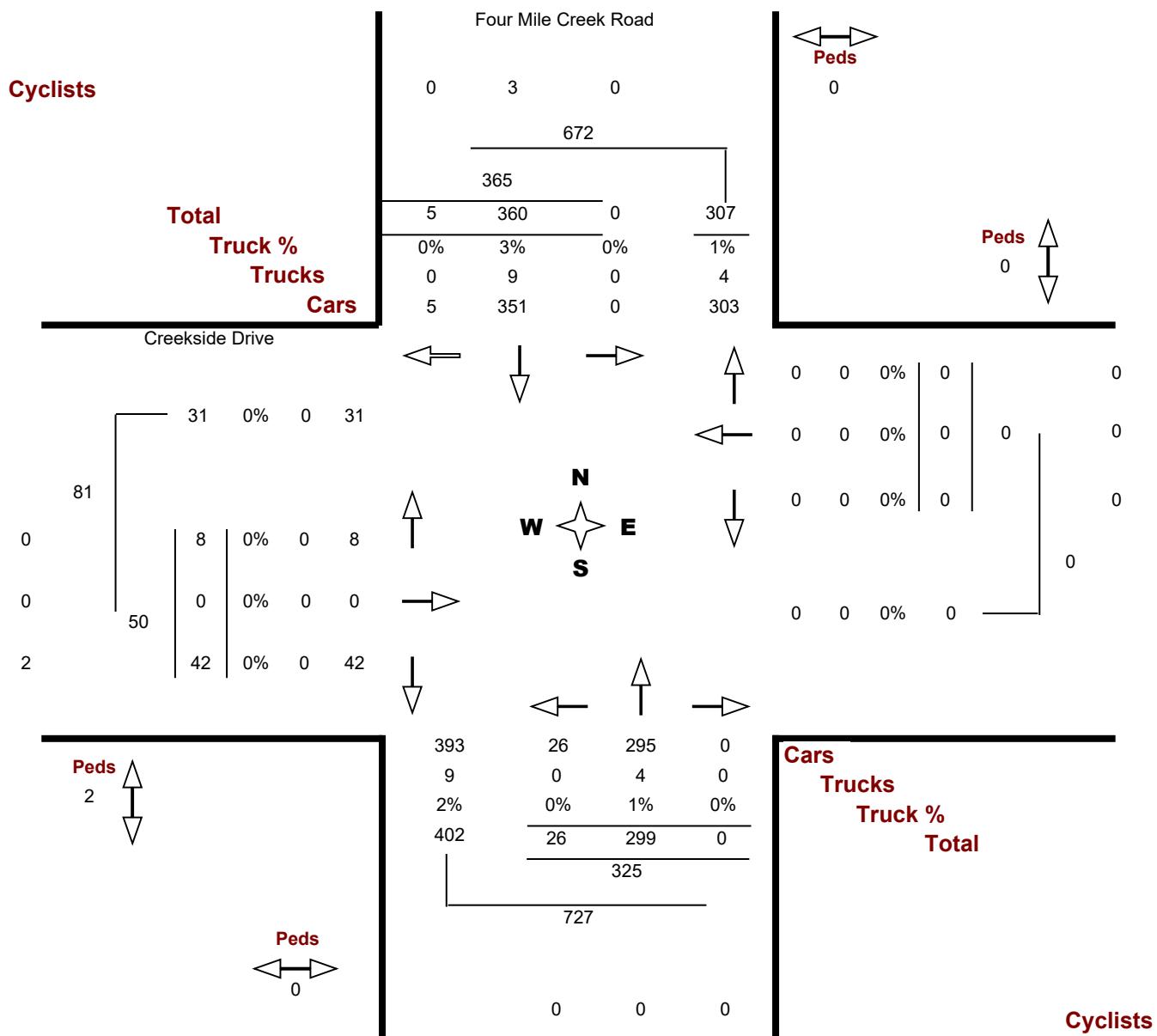
Count Date. Tuesday, 20 September, 2022

Traffic Cont. Stop sign

Count Time. 03:00 PM — 06:00 PM

Major Dir..... North south

Peak Hour.. 05:00 PM — 06:00 PM

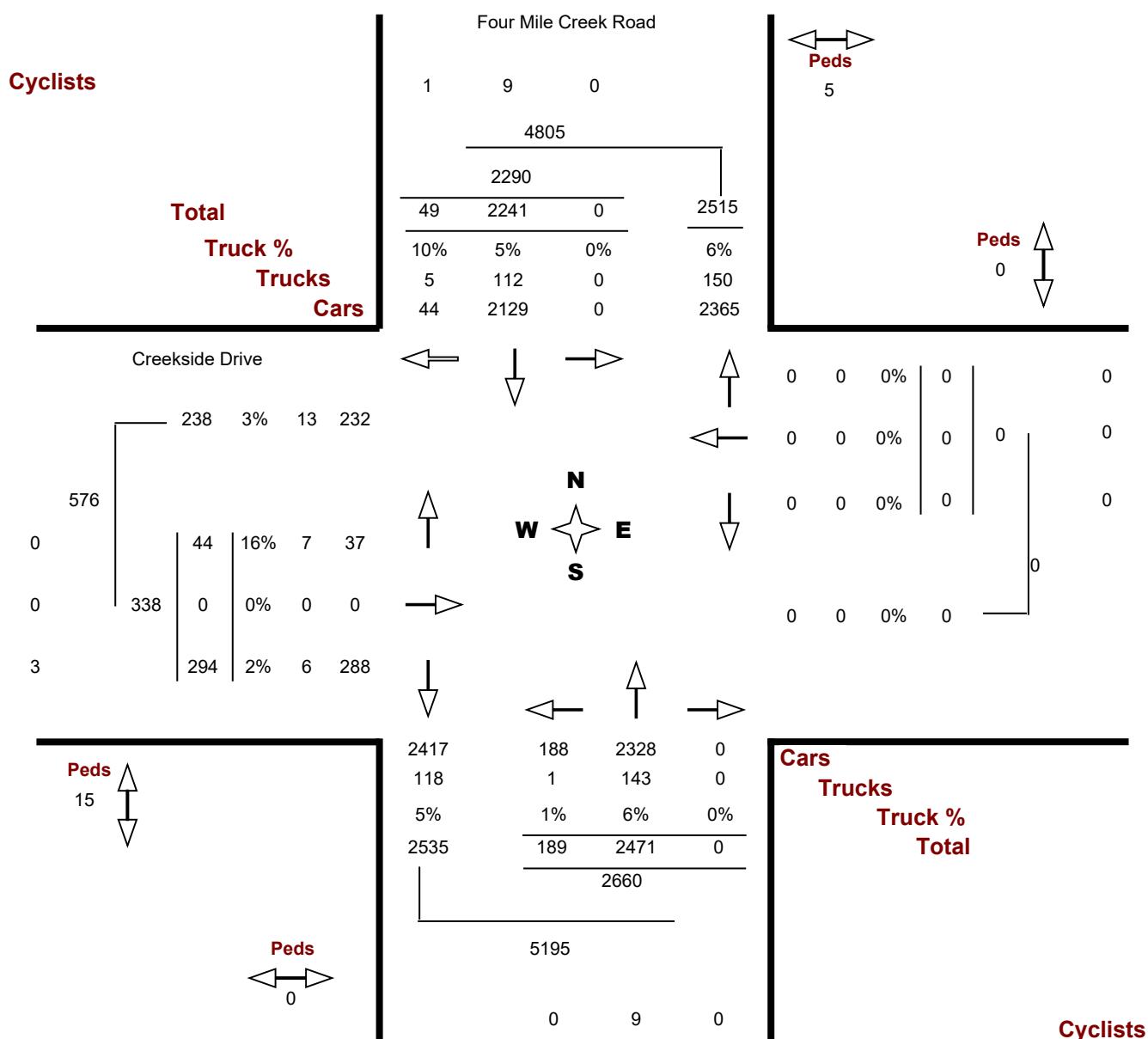


Location..... Creekside Drive @ Four Mile Creek Road

Municipality..... NIAGARA-ON-THE-LAKE

GeOID..... 18930

Count Date..... Tuesday, 20 September, 2022



Turning Movement Count - Details Report (15 min)

Location..... Creekside Drive @ Four Mile Creek Road

Municipality..... NIAGARA-ON-THE-LAKE

Count Date..... Tuesday, September 20, 2022

Four Mile Creek Road

Creekside Drive

North Approach					South Approach					East Approach					West Approach					
Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT

07:00	07:15	0	34	1	0	35	0	50	0	0	50	0	0	0	0	0	0	5	0	5		
07:15	07:30	0	53	0	0	53	0	56	0	0	56	0	0	0	0	0	1	0	5	0	6	
07:30	07:45	0	59	0	0	59	3	77	0	0	80	0	0	0	0	0	0	0	7	0	7	
07:45	08:00	0	61	1	0	62	2	78	0	0	80	0	0	0	0	0	0	0	10	0	10	
Hourly Total		0	207	2	0	209	5	261	0	0	266	0	0	0	0	0	1	0	27	0	28	
08:00	08:15	0	89	2	0	91	7	66	0	0	73	0	0	0	0	0	0	0	6	0	6	
08:15	08:30	0	97	0	0	97	2	95	0	0	97	0	0	0	0	0	0	0	11	0	11	
08:30	08:45	0	70	4	0	74	2	100	0	0	102	0	0	0	0	0	2	0	17	0	19	
08:45	09:00	0	89	3	0	92	3	112	0	0	115	0	0	0	0	0	3	0	6	0	9	
Hourly Total		0	345	9	0	354	14	373	0	0	387	0	0	0	0	0	5	0	40	0	45	
11:00	11:15	0	96	1	0	97	4	63	0	0	67	0	0	0	0	0	3	0	8	0	11	
11:15	11:30	0	85	3	0	88	7	81	0	0	88	0	0	0	0	0	0	0	9	0	9	
11:30	11:45	0	86	2	0	88	8	113	0	0	121	0	0	0	0	0	0	0	11	0	11	
11:45	12:00	0	75	1	0	76	10	82	0	0	92	0	0	0	0	0	1	0	7	0	8	
Hourly Total		0	342	7	0	349	29	339	0	0	368	0	0	0	0	0	4	0	35	0	39	
12:00	12:15	0	70	1	0	71	7	91	0	0	98	0	0	0	0	0	2	0	7	0	9	
12:15	12:30	0	86	4	0	90	5	93	0	0	98	0	0	0	0	0	3	0	5	0	8	
12:30	12:45	0	51	0	0	51	4	60	0	0	64	0	0	0	0	0	2	0	11	0	13	
12:45	13:00	0	91	2	0	93	9	66	0	0	75	0	0	0	0	0	2	0	11	0	13	
Hourly Total		0	298	7	0	305	25	310	0	0	335	0	0	0	0	0	9	0	34	0	43	
13:00	13:15	0	84	3	0	87	9	73	0	0	82	0	0	0	0	0	0	0	9	0	9	
13:15	13:30	0	53	3	0	56	11	98	0	0	109	0	0	0	0	0	4	0	8	0	12	
13:30	13:45	0	94	2	0	96	2	78	0	0	80	0	0	0	0	0	1	0	7	0	8	
13:45	14:00	0	87	1	0	88	5	81	0	0	86	0	0	0	0	0	1	0	8	0	9	
Hourly Total		0	318	9	0	327	27	330	0	0	357	0	0	0	0	0	6	0	32	0	38	
15:00	15:15	0	41	1	0	42	4	61	0	0	65	0	0	0	0	0	0	0	0	4	0	4
15:15	15:30	0	55	0	0	55	8	35	0	0	43	0	0	0	0	0	2	0	11	0	13	
15:30	15:45	0	32	3	0	35	15	83	0	0	98	0	0	0	0	0	2	0	13	0	15	
15:45	16:00	0	31	0	0	31	6	97	0	0	103	0	0	0	0	0	4	0	2	0	6	
Hourly Total		0	159	4	0	163	33	276	0	0	309	0	0	0	0	0	8	0	30	0	38	
16:00	16:15	0	58	3	0	61	4	62	0	0	66	0	0	0	0	0	0	0	0	15	0	15

Four Mile Creek Road

Creekside Drive

Time Period	North Approach				South Approach				East Approach				West Approach							
	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
16:15 16:30	0	64	2	0	66	7	54	0	0	61	0	0	0	0	0	1	0	11	0	12
16:30 16:45	0	41	1	0	42	6	88	0	0	94	0	0	0	0	0	2	0	13	0	15
16:45 17:00	0	49	0	0	49	13	79	0	0	92	0	0	0	0	0	0	0	15	0	15
Hourly Total	0	212	6	0	218	30	283	0	0	313	0	0	0	0	0	3	0	54	0	57
17:00 17:15	0	57	1	0	58	6	57	0	0	63	0	0	0	0	0	6	0	15	0	21
17:15 17:30	0	123	0	0	123	6	93	0	0	99	0	0	0	0	0	2	0	11	0	13
17:30 17:45	0	104	2	0	106	7	77	0	0	84	0	0	0	0	0	0	0	7	0	7
17:45 18:00	0	76	2	0	78	7	72	0	0	79	0	0	0	0	0	0	0	9	0	9
Hourly Total	0	360	5	0	365	26	299	0	0	325	0	0	0	0	0	8	0	42	0	50
Grand Total	0	2241	49	0	2290	189	2471	0	0	2660	0	0	0	0	0	44	0	294	0	338
Truck %	0%	5%	10%	0%	5%	1%	6%	0%	0%	5%	0%	0%	0%	0%	0%	16%	0%	2%	0%	4%



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
Page No: 1

Turning Movement Data

Start Time	Apricot Glen Drive					Tanbark Road					Tanbark Road					Int. Total
	Westbound					Northbound					Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	1	0	0	1	3	0	0	0	3	1	1	0	1	2	6
7:15 AM	0	1	0	0	1	3	0	0	0	3	1	4	0	0	5	9
7:30 AM	1	1	0	1	2	4	1	0	0	5	3	1	0	1	4	11
7:45 AM	0	6	0	0	6	2	2	0	0	4	5	4	0	0	9	19
Hourly Total	1	9	0	1	10	12	3	0	0	15	10	10	0	2	20	45
8:00 AM	1	5	0	1	6	7	6	0	0	13	2	0	0	1	2	21
8:15 AM	1	2	0	0	3	6	3	0	0	9	2	2	0	0	4	16
8:30 AM	1	6	0	1	7	7	2	0	0	9	2	0	1	0	3	19
8:45 AM	2	3	0	0	5	8	4	0	0	12	4	7	0	0	11	28
Hourly Total	5	16	0	2	21	28	15	0	0	43	10	9	1	1	20	84
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	4	0	0	5	4	5	3	0	0	8	4	2	0	1	6	18
11:15 AM	3	3	0	5	6	9	2	0	0	11	6	3	0	0	9	26
11:30 AM	3	6	0	3	9	3	5	0	0	8	5	3	0	1	8	25
11:45 AM	0	2	0	3	2	4	3	0	0	7	5	2	0	1	7	16
Hourly Total	10	11	0	16	21	21	13	0	0	34	20	10	0	3	30	85
12:00 PM	3	2	0	1	5	1	0	0	0	1	3	3	0	0	6	12
12:15 PM	2	3	0	2	5	2	4	0	0	6	6	1	0	0	7	18
12:30 PM	3	4	0	3	7	2	1	0	0	3	3	3	0	3	6	16
12:45 PM	4	4	0	0	8	3	0	0	0	3	3	3	0	0	6	17
Hourly Total	12	13	0	6	25	8	5	0	0	13	15	10	0	3	25	63
1:00 PM	0	8	0	0	8	6	0	0	0	6	0	5	0	2	5	19
1:15 PM	3	1	0	1	4	2	6	0	0	8	2	4	0	2	6	18
1:30 PM	1	2	0	0	3	3	5	0	0	8	2	1	0	2	3	14
1:45 PM	4	6	0	8	10	3	1	0	0	4	8	7	0	0	15	29
Hourly Total	8	17	0	9	25	14	12	0	0	26	12	17	0	6	29	80
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	4	7	0	1	11	6	4	0	0	10	4	3	1	2	8	29
3:15 PM	5	5	0	1	10	3	2	0	0	5	8	10	0	1	18	33
3:30 PM	1	8	0	3	9	3	3	0	0	6	8	6	0	0	14	29
3:45 PM	4	8	0	8	12	2	1	0	0	3	0	6	0	0	6	21
Hourly Total	14	28	0	13	42	14	10	0	0	24	20	25	1	3	46	112
4:00 PM	3	4	0	1	7	4	2	0	0	6	3	3	0	0	6	19
4:15 PM	7	2	0	7	9	4	3	0	0	7	3	4	1	0	8	24
4:30 PM	4	4	0	0	8	2	4	0	0	6	6	5	0	0	11	25
4:45 PM	4	7	0	2	11	4	4	0	0	8	2	2	0	0	4	23

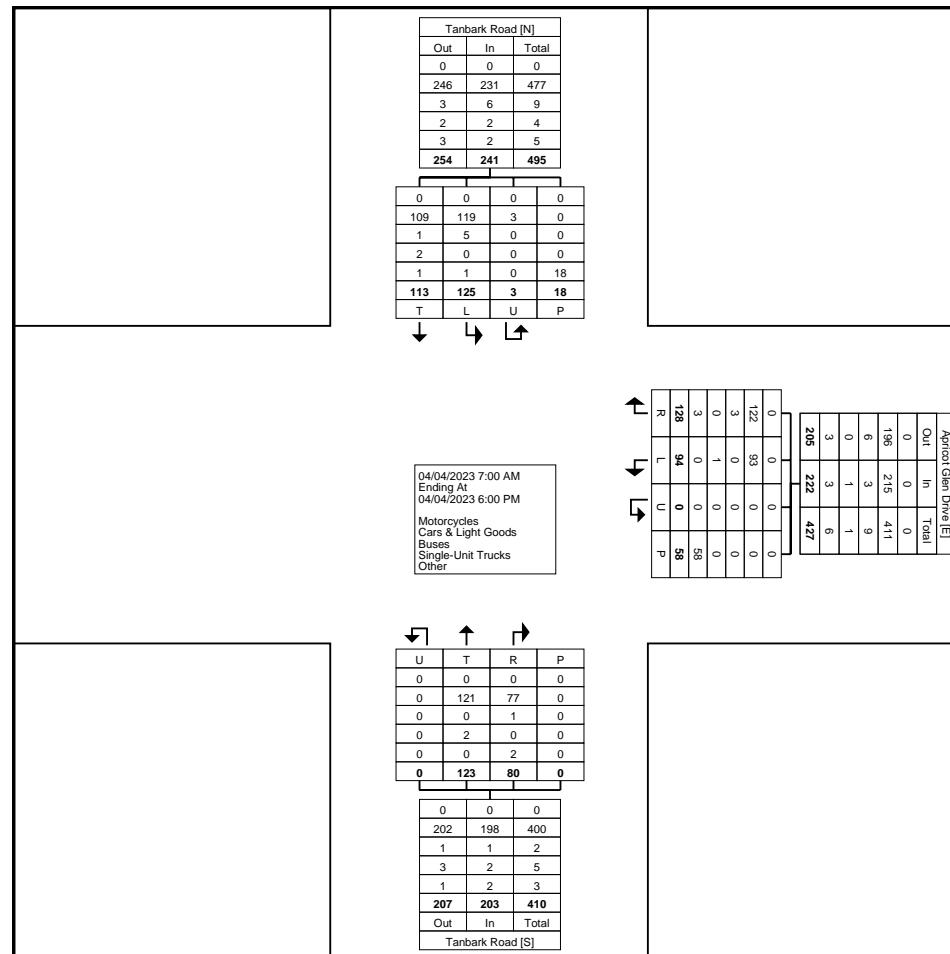
Hourly Total	18	17	0	10	35	14	13	0	0	27	14	14	1	0	29	91
5:00 PM	10	5	0	0	15	3	3	0	0	6	9	2	0	0	11	32
	5	2	0	1	7	5	3	0	0	8	4	5	0	0	9	24
	5	7	0	0	12	2	2	0	0	4	8	6	0	0	14	30
	6	3	0	0	9	2	1	0	0	3	3	5	0	0	8	20
Hourly Total	26	17	0	1	43	12	9	0	0	21	24	18	0	0	42	106
Grand Total	94	128	0	58	222	123	80	0	0	203	125	113	3	18	241	666
Approach %	42.3	57.7	0.0	-	-	60.6	39.4	0.0	-	-	51.9	46.9	1.2	-	-	-
Total %	14.1	19.2	0.0	-	33.3	18.5	12.0	0.0	-	30.5	18.8	17.0	0.5	-	36.2	-
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	93	122	0	-	215	121	77	0	-	198	119	109	3	-	231	644
% Cars & Light Goods	98.9	95.3	-	-	96.8	98.4	96.3	-	-	97.5	95.2	96.5	100.0	-	95.9	96.7
Buses	0	3	0	-	3	0	1	0	-	1	5	1	0	-	6	10
% Buses	0.0	2.3	-	-	1.4	0.0	1.3	-	-	0.5	4.0	0.9	0.0	-	2.5	1.5
Single-Unit Trucks	1	0	0	-	1	2	0	0	-	2	0	2	0	-	2	5
% Single-Unit Trucks	1.1	0.0	-	-	0.5	1.6	0.0	-	-	1.0	0.0	1.8	0.0	-	0.8	0.8
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	3	0	-	3	0	2	0	-	2	1	1	0	-	2	7
% Bicycles on Road	0.0	2.3	-	-	1.4	0.0	2.5	-	-	1.0	0.8	0.9	0.0	-	0.8	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	58	-	-	-	-	0	-	-	-	-	18	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
Page No: 3



Turning Movement Data Plot



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
Page No: 4

Turning Movement Peak Hour Data (8:00 AM)

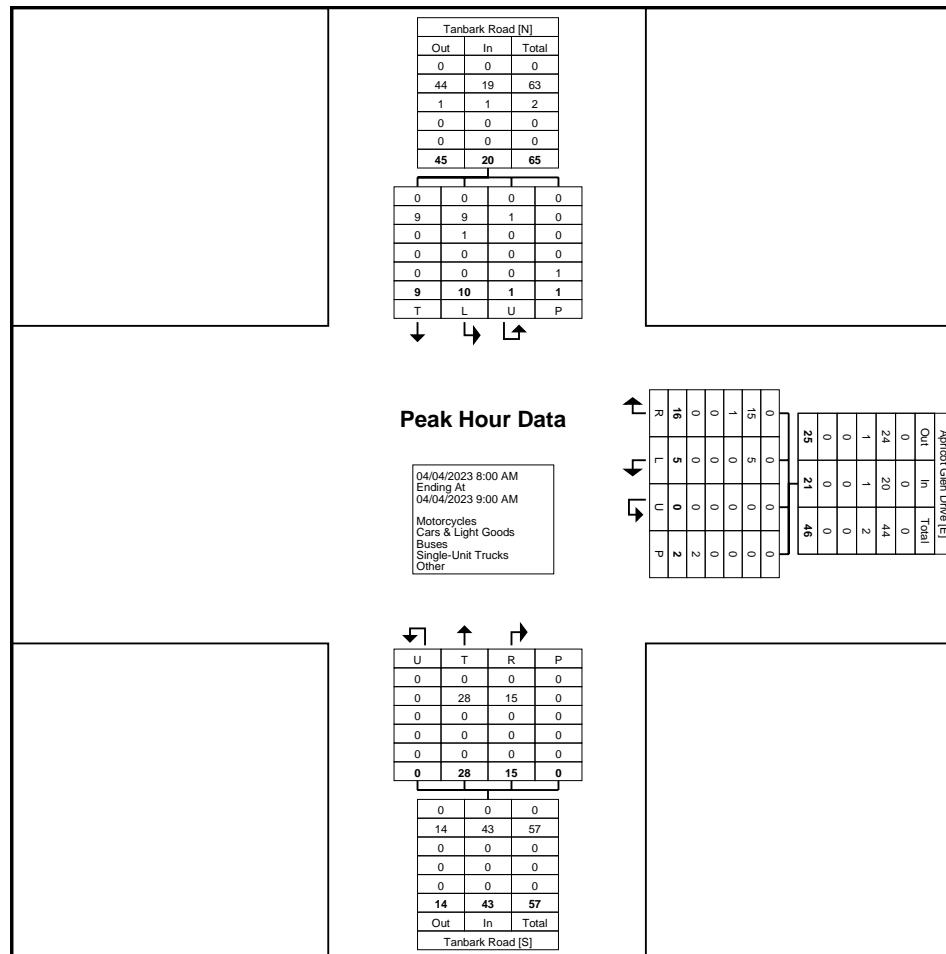
Start Time	Apricot Glen Drive					Tanbark Road					Tanbark Road					Int. Total
	Westbound					Northbound					Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
8:00 AM	1	5	0	1	6	7	6	0	0	13	2	0	0	1	2	21
8:15 AM	1	2	0	0	3	6	3	0	0	9	2	2	0	0	4	16
8:30 AM	1	6	0	1	7	7	2	0	0	9	2	0	1	0	3	19
8:45 AM	2	3	0	0	5	8	4	0	0	12	4	7	0	0	11	28
Total	5	16	0	2	21	28	15	0	0	43	10	9	1	1	20	84
Approach %	23.8	76.2	0.0	-	-	65.1	34.9	0.0	-	-	50.0	45.0	5.0	-	-	-
Total %	6.0	19.0	0.0	-	25.0	33.3	17.9	0.0	-	51.2	11.9	10.7	1.2	-	23.8	-
PHF	0.625	0.667	0.000	-	0.750	0.875	0.625	0.000	-	0.827	0.625	0.321	0.250	-	0.455	0.750
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	5	15	0	-	20	28	15	0	-	43	9	9	1	-	19	82
% Cars & Light Goods	100.0	93.8	-	-	95.2	100.0	100.0	-	-	100.0	90.0	100.0	100.0	-	95.0	97.6
Buses	0	1	0	-	1	0	0	0	-	0	1	0	0	-	1	2
% Buses	0.0	6.3	-	-	4.8	0.0	0.0	-	-	0.0	10.0	0.0	0.0	-	5.0	2.4
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
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Turning Movement Peak Hour Data Plot (8:00 AM)



Paradigm Transportation Solutions Limited
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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
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Turning Movement Peak Hour Data (11:00 AM)

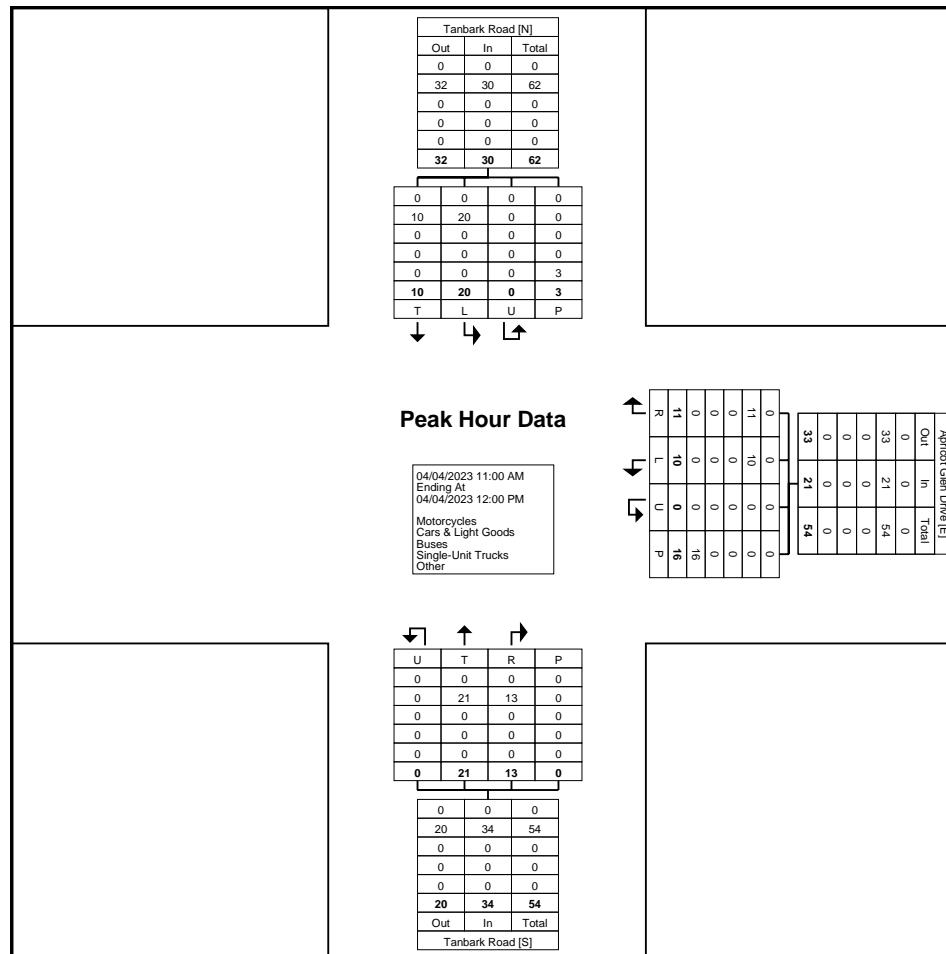
Start Time	Apricot Glen Drive					Tanbark Road					Tanbark Road					Int. Total
	Westbound					Northbound					Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
11:00 AM	4	0	0	5	4	5	3	0	0	8	4	2	0	1	6	18
11:15 AM	3	3	0	5	6	9	2	0	0	11	6	3	0	0	9	26
11:30 AM	3	6	0	3	9	3	5	0	0	8	5	3	0	1	8	25
11:45 AM	0	2	0	3	2	4	3	0	0	7	5	2	0	1	7	16
Total	10	11	0	16	21	21	13	0	0	34	20	10	0	3	30	85
Approach %	47.6	52.4	0.0	-	-	61.8	38.2	0.0	-	-	66.7	33.3	0.0	-	-	-
Total %	11.8	12.9	0.0	-	24.7	24.7	15.3	0.0	-	40.0	23.5	11.8	0.0	-	35.3	-
PHF	0.625	0.458	0.000	-	0.583	0.583	0.650	0.000	-	0.773	0.833	0.833	0.000	-	0.833	0.817
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	10	11	0	-	21	21	13	0	-	34	20	10	0	-	30	85
% Cars & Light Goods	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	16	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
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Turning Movement Peak Hour Data Plot (11:00 AM)



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
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Turning Movement Peak Hour Data (3:00 PM)

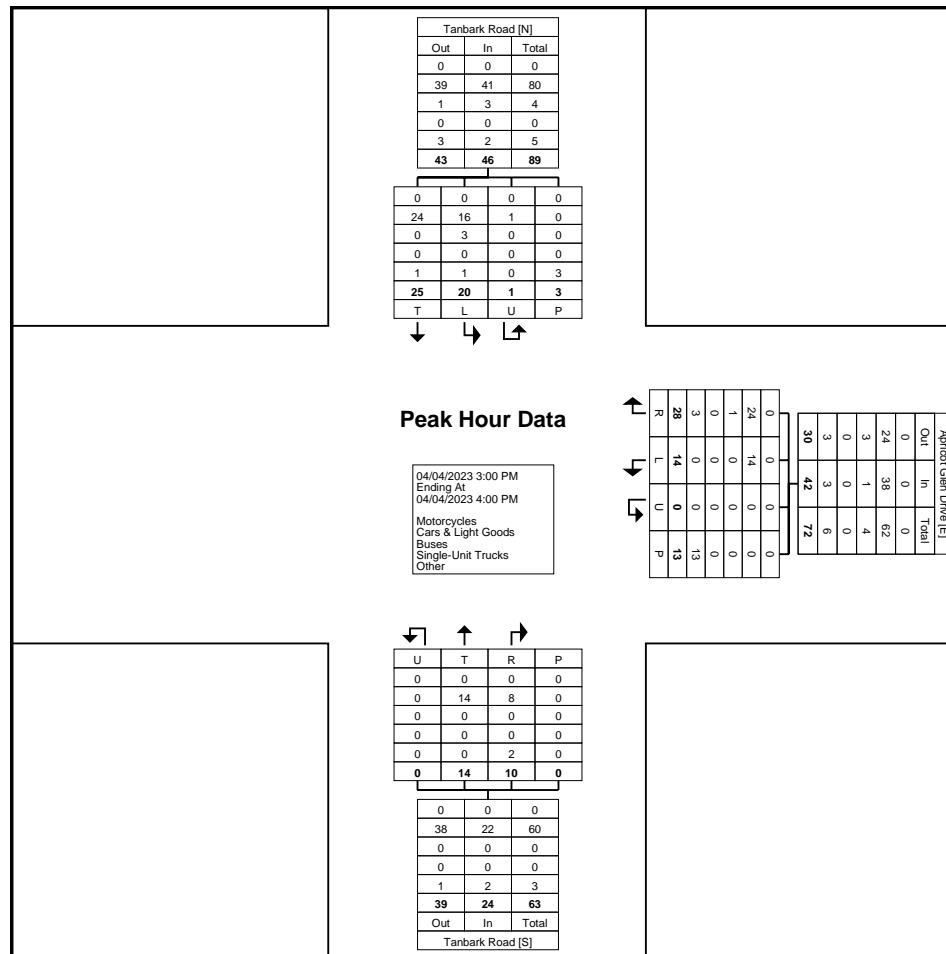
Start Time	Apricot Glen Drive					Tanbark Road					Tanbark Road					Int. Total
	Westbound					Northbound					Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
3:00 PM	4	7	0	1	11	6	4	0	0	10	4	3	1	2	8	29
3:15 PM	5	5	0	1	10	3	2	0	0	5	8	10	0	1	18	33
3:30 PM	1	8	0	3	9	3	3	0	0	6	8	6	0	0	14	29
3:45 PM	4	8	0	8	12	2	1	0	0	3	0	6	0	0	6	21
Total	14	28	0	13	42	14	10	0	0	24	20	25	1	3	46	112
Approach %	33.3	66.7	0.0	-	-	58.3	41.7	0.0	-	-	43.5	54.3	2.2	-	-	-
Total %	12.5	25.0	0.0	-	37.5	12.5	8.9	0.0	-	21.4	17.9	22.3	0.9	-	41.1	-
PHF	0.700	0.875	0.000	-	0.875	0.583	0.625	0.000	-	0.600	0.625	0.625	0.250	-	0.639	0.848
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	14	24	0	-	38	14	8	0	-	22	16	24	1	-	41	101
% Cars & Light Goods	100.0	85.7	-	-	90.5	100.0	80.0	-	-	91.7	80.0	96.0	100.0	-	89.1	90.2
Buses	0	1	0	-	1	0	0	0	-	0	3	0	0	-	3	4
% Buses	0.0	3.6	-	-	2.4	0.0	0.0	-	-	0.0	15.0	0.0	0.0	-	6.5	3.6
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	3	0	-	3	0	2	0	-	2	1	1	0	-	2	7
% Bicycles on Road	0.0	10.7	-	-	7.1	0.0	20.0	-	-	8.3	5.0	4.0	0.0	-	4.3	6.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	13	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Apricot Glen Drive & Tanbark Road
Site Code: 210722
Start Date: 04/04/2023
Page No: 9



Turning Movement Peak Hour Data Plot (3:00 PM)

Appendix B

SYNCHRO OPERATIONAL REPORTS



Lanes, Volumes, Timings 1: Tanbark Road & York Road											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Group											
Lane Configurations											
Traffic Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Ideal Flow (vphol)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor											
Fit	0.982		0.995		0.936		0.930				
Fit Protected	0.999		0.995		0.975		0.981				
Satd. Flow (prot)	0	1721	0	0	1744	0	0	1718	0	0	1673
Fit Permitted	0.999		0.995		0.975		0.981				
Satd. Flow (perm)	0	1721	0	0	1744	0	0	1718	0	0	1673
Link Speed (kph)	50		50		50		50		50		
Link Distance (m)	351.4		515.6		156.3		11.3		44.1		
Travel Time (s)	25.3		2	2	17	1	8	8	3.2		
Confli. Peds. (#/h)	17		37.1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	0%	0%	0%	0%	2%	0%	0%	7%
Adj. Flow (vph)	8	242	38	25	229	9	54	2	50	13	3
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	288	0	0	263	0	0	106	0	0	33
Enter Blocked Intersection	No	No	No	No							
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		
Two way Left Turn Lane											
Headway Factor											
Turning Speed (km/h)	25		15	25	15	25	15	25	15		
Sign Control	Free		Free		Stop		Stop		Stop		
Intersection Summary											
Area Type:	Other										
Control Type: Unsigned											
Intersection Capacity Utilization 39.3%											
Analysis Period(min) 15											

2022 AM Existing 05-02-2023											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Group											
Lane Configurations											
Traffic Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Ideal Flow (vphol)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor											
Fit	0.982		0.995		0.936		0.930				
Fit Protected	0.999		0.995		0.975		0.981				
Satd. Flow (prot)	0	1721	0	0	1744	0	0	1718	0	0	1673
Fit Permitted	0.999		0.995		0.975		0.981				
Satd. Flow (perm)	0	1721	0	0	1744	0	0	1718	0	0	1673
Link Speed (kph)	50		50		50		50		50		
Link Distance (m)	351.4		515.6		156.3		11.3		44.1		
Travel Time (s)	25.3		2	2	17	1	8	8	3.2		
Confli. Peds. (#/h)	17		37.1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	0%	0%	0%	0%	2%	0%	0%	7%
Adj. Flow (vph)	8	242	38	25	229	9	54	2	50	13	3
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	288	0	0	263	0	0	106	0	0	33
Enter Blocked Intersection	No	No	No	No							
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		
Two way Left Turn Lane											
Headway Factor											
Turning Speed (km/h)	25		15	25	15	25	15	25	15		
Sign Control	Free		Free		Stop		Stop		Stop		
Intersection Summary											
Area Type:	Other										
Control Type: Unsigned											
Intersection Capacity Utilization 39.3%											
Analysis Period(min) 15											

HCM Unsignedized Intersection Capacity Analysis 1:Tanbark Road & York Road											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Group											
Lane Configurations											
Traffic Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Ideal Flow (vphol)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor											
Fit	0.982		0.995		0.936		0.930				
Fit Protected	0.999		0.995		0.975		0.981				
Satd. Flow (prot)	0	1721	0	0	1744	0	0	1718	0	0	1673
Fit Permitted	0.999		0.995		0.975		0.981				
Satd. Flow (perm)	0	1721	0	0	1744	0	0	1718	0	0	1673
Link Speed (kph)	50		50		50		50		50		
Link Distance (m)	351.4		515.6		156.3		11.3		44.1		
Travel Time (s)	25.3		2	2	17	1	8	8	3.2		
Confli. Peds. (#/h)	17		37.1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	0%	0%	0%	0%	2%	0%	0%	7%
Adj. Flow (vph)	8	242	38	25	229	9	54	2	50	13	3
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	288	0	0	263	0	0	106	0	0	33
Enter Blocked Intersection	No	No	No	No							
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		
Two way Left Turn Lane											
Headway Factor											
Turning Speed (km/h)	25		15	25	15	25	15	25	15		
Sign Control	Free		Free		Stop		Stop		Stop		
Intersection Summary											
Area Type:	Other										
Control Type: Unsigned											
Intersection Capacity Utilization 39.3%											
Analysis Period(min) 15											

2022 AM Existing 05-02-2023											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Group											
Lane Configurations											
Traffic Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Ideal Flow (vphol)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor											
Fit	0.982		0.995		0.936		0.930				
Fit Protected	0.999		0.995		0.975		0.981				
Satd. Flow (prot)	0	1721	0	0	1744	0	0	1718	0	0	1673
Fit Permitted	0.999		0.995		0.975		0.981				</

2022 AM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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HCM Unsignedized Intersection Capacity Analysis							
2: Tanbark Road & Warner Road							
Movement	E BL	E BT	E BR	W BL	W BT	W BR	W BS
Lane Configurations							
Traffic Volume (veh/h)	5	6	4	6	1		
Future Volume (veh/h)	5	6	4	6	1		
Sign Control	Stop			Stop			
Grade				0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	7	4	7	1		
Pedestrians					17		
Lane Width (m)					3.6		
Walking Speed (m/s)					1.2		
Percent Blockage (%)					1		
Right turn flare (veh)							
Median type							
Median storage (veh)							
Upstream signal (m)							
PX, platoon unblocked							
VC, conflicting volume							
VC1, stage 1 conflict vol							
VC2, stage 2 conflict vol							
VC3, unblocked vol							
IC, single (s)	194	184	38	186	182		
IC, 2 stage (s)	7.1	6.5	6.5	7.3	6.5		
IF (s)	3.5	4.0	3.5	3.7	4.0		
po queue free %	99	99	100	99	99		
cM capacity (veh/h)	728	693	973	706	694		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1			
Volume Total	16	31	83	63			
Volume Left	5	7	2	22			
Volume Right	4	23	9	7			
cSH	759	848	1581	1456			
Volume to Capacity	0.02	0.04	0.00	0.02			
Queue Length 85th (m)	0.5	0.9	0.0	0.4			
Control Delay (s)	9.8	9.4	0.2	2.7			
Lane LOS	A	A	A	A			
Approach Delay (s)	9.8	9.4	0.2	2.7			
Approach LOS	A	A					
Intersection Summary							
Average Delay				3.3			
Intersection Capacity Utilization				22.1%			
ICU Level							

2022 AM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
3: Tanbark Road & Pinecroft Drive

HCM Unsignedized Intersection Capacity Analysis
3: Tanbark Road & Pinecroft Drive

2022 AM Existing
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	W	B	W	B
Traffic Volume (vph)	0	12	60	0	3	36
Future Volume (vph)	0	12	60	0	3	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1810	0	0	1746
Fit Permitted						
Satd. Flow (perm)	1644	0	1810	0	0	1746
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	13	65	0	3	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	65	0	0	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor						
Turning Speed (km/h)	25	15	15	25		
Sign Control	Stop	Free	Free			
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.4%						
Analysis Period(min) 15						

2022 AM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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2022 AM Existing
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	W	B	W	B
Traffic Volume (vph)	0	12	60	0	3	36
Future Volume (vph)	0	12	60	0	3	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1810	0	0	1746
Fit Permitted						
Satd. Flow (perm)	1644	0	1810	0	0	1746
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	13	65	0	3	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	65	0	0	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor						
Turning Speed (km/h)	25	15	15	25		
Sign Control	Stop	Free	Free			
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.4%						
Analysis Period(min) 15						

2022 AM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings 4: Tanbark Road & Hickory Avenue							2022 AM Existing 05-02-2023						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group 0													
Lane Configurations	W	6	3	0	57	30	4	W	6	3	0	57	30
Traffic Volume (vph)		6	3	0	57	30	4		6	3	0	57	30
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900						4
Ideal Flow (vphpl)													
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Fit	0.959	0.966	0.966	0.966	0.966	0.966	0.965						
Fit Protected	0.966	1760	0	0	1827	1704	0						
Satd. Flow (prot)													
Fit Permitted													
Satd. Flow (perm)	1760	0	0	1827	1704	0							
Link Speed (kh)	50	50	50	50	50	50	50						
Link Distance (m)	1296	1000	205.1										
Travel Time (s)	9.3	7.2	14.8										
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92						
Heavy Vehicles (%)	0%	0%	0%	4%	11%	0%							
Adj. Flow (vph)	7	3	0	62	33	4							
Shared Lane Traffic (%)													
Lane Group Flow (vph)	10	0	0	62	37	0							
Enter Blocked Intersection	No	No	No	No	No	No							
Lane Alignment	Left	Right	Left	Left	Left	Right							
Median Width(m)	3.6		0.0	0.0									
Link Offset(m)	0.0		0.0	0.0									
Crosswalk Width(m)	4.8		4.8	4.8									
Two Way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00							
Turning Speed (kph)	25	15	25	15	15								
Sign Control	Stop		Free	Free									
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization (13.3%)													
Analysis Period (min) 15													

HCM Unsignedized Intersection Capacity Analysis 4: Tanbark Road & Hickory Avenue							2022 AM Existing 05-02-2023						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	6	3	0	57	30	4	W	6	3	0	57	30
Traffic Volume (veh)		6	3	0	57	30	4		6	3	0	57	30
Future Volume (veh)	1900	1900	1900	1900	1900	1900	1900						4
Ideal Flow (vphpl)													
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Fit	0.959	0.966	0.966	0.966	0.966	0.966	0.965						
Fit Protected	0.966	1760	0	0	1827	1704	0						
Satd. Flow (prot)													
Fit Permitted													
Satd. Flow (perm)	1760	0	0	1827	1704	0							
Link Speed (kh)	50	50	50	50	50	50	50						
Link Distance (m)	1296	1000	205.1										
Travel Time (s)	9.3	7.2	14.8										
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92						
Heavy Vehicles (%)	0%	0%	0%	4%	11%	0%							
Adj. Flow (vph)	7	3	0	62	33	4							
Shared Lane Traffic (%)													
Lane Group Flow (vph)	10	0	0	62	37	0							
Enter Blocked Intersection	No	No	No	No	No	No							
Lane Alignment	Left	Right	Left	Left	Left	Right							
Median Width(m)	3.6		0.0	0.0									
Link Offset(m)	0.0		0.0	0.0									
Crosswalk Width(m)	4.8		4.8	4.8									
Two Way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00							
Turning Speed (kph)	25	15	25	15	15								
Sign Control	Stop		Free	Free									
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization (13.3%)													
Analysis Period (min) 15													
Intersection Summary													
Average Delay													
Intersection Capacity Utilization													
Analysis Period (min) 15													
Intersection Summary													
Average Delay													
Intersection Capacity Utilization													
Analysis Period (min) 15													

Lanes, Volumes, Timings 5: Warner Road & Angels Drive										2022 AM Existing 05-02-2023																
	EBL	EBC	EBR	EBL	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		EBL	EBC	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group																										
Lane Configurations																										
Traffic Volume (vph)	0	7	0	0	3	4	0	0	0	5	0	3														
Future Volume (vph)	0	7	0	0	3	4	0	0	0	5	0	3														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900														
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Fit Projected																										
Satd. Flow (prot)	0	1329	0	0	1364	0	0	1863	0	0	1401	0														
Fit Permitted																										
Satd. Flow (perm)	0	1329	0	0	1364	0	0	1863	0	0	1401	0														
Link Speed (kh)	50		50		50		50		50		50															
Link Distance (m)	191.9		207.8		207.8		207.8		207.8		207.8															
Travel Time (s)	13.8		15.0		15.0		15.0		15.0		15.0															
Peak Hour Factor	0.92		0.92		0.92		0.92		0.92		0.92															
Heavy Vehicles (%)	0%		43%		2%		0%		50%		2%															
Adj. Flow (vph)	0	8	0	0	3	4	0	0	0	5	0	3														
Shared Lane Traffic (%)																										
Lane Group Flow (vph)	0	8	0	0	7	0	0	0	0	0	8	0														
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No														
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Left														
Median Width(m)	0.0		0.0		0.0		0.0		0.0		0.0															
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0															
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8															
Two Way Left Turn Lane																										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Turning Speed (kph)	25		100	100	15	100	100	100	25	15	Stop	Stop														
Sign Control	Free		Free		Free		Free		Free		Free															
Intersection Summary										Other																
Area Type:	Other																									
Control Type: Unsigned																										
Intersection Capacity Utilization (13.3%)																										
Analysis Period (min) 15																										

HCM Unsignedized Intersection Capacity Analysis 5: Warner Road & Angels Drive										2022 AM Existing 05-02-2023																
	EBL	EBC	EBR	EBL	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		EBL	EBC	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations																										
Traffic Volume (vph)	0	7	0	0	3	4	0	0	0	5	0	3														
Future Volume (vph)	0	7	0	0	3	4	0	0	0	5	0	3														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900														
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Fit Projected																										
Satd. Flow (prot)	0	1329	0	0	1364	0	0	1863	0	0	1401	0														
Fit Permitted																										
Satd. Flow (perm)	0	1329	0	0	1364	0	0	1863	0	0	1401	0														
Link Speed (kh)	50		50		50		50		50		50															
Link Distance (m)	191.9		207.8		207.8		207.8		207.8		207.8															
Travel Time (s)	13.8		15.0		15.0		15.0		15.0		15.0															
Peak Hour Factor	0.92		0.92		0.92		0.92		0.92		0.92															
Heavy Vehicles (%)	0%		43%		2%		0%		50%		2%															
Adj. Flow (vph)	0	8	0	0	3	4	0	0	0	5	0	3														
Shared Lane Traffic (%)																										
Lane Group Flow (vph)	0	8	0	0	7	0	0	0	0	0	8	0														
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No														
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Left														
Median Width(m)	0.0		0.0		0.0		0.0		0.0		0.0															
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0															
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8															
Two Way Left Turn Lane																										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Turning Speed (kph)	25		100	100	15	100	100	100	25	15	Stop	Stop														
Sign Control	Free		Free		Free		Free		Free		Free															
Intersection Summary										Other																
Area Type:	Other																									
Control Type: Unsigned																										
Intersection Capacity Utilization (13.3%)																										
Analysis Period (min) 15																										
Intersection Summary										Average Delay																
Intersection Capacity Utilization										3.0																
Analysis Period (min)										15																
Average Delay										13.3%																
Intersection Capacity Utilization										15																
Analysis Period (min)																										

Lanes, Volumes, Timings
6: Tanbark Road & Apricot Glen Drive

2022 AM Existing
05-02-2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	W	W	↑	↑	↓	↓
Lane Configurations	W	6	18	28	16	11
Traffic Volume (vph)	6	6	18	28	16	9
Future Volume (vph)	1900	1900	1900	1900	1900	9
Ideal Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Fit	0.900	0.951				
Fit Protected	0.987	0.973				
Satd. Flow (prot)	1655	0	1771	0	0	1812
Fit Permitted	0.987	0.973				
Satd. Flow (perm)	1655	0	1771	0	0	1812
Link Speed (kh)	50	50	50	50	50	
Link Distance (m)	197.4	137.4		100.0		
Travel Time (s)	14.2	9.9		7.2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	7	20	30	17	12	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	27	0	47	0	0	22
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	
Median Width(m)	3.6	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 17.7%						
Analysis Period (min) 15						

HCM Unsignedized Intersection Capacity Analysis
6: Tanbark Road & Apricot Glen Drive

2022 AM Existing
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Traffic Volume (veh/h)	6	18	28	16	11	9
Future Volume (veh/h)	6	18	28	16	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Fit	0.900	0.951				
Fit Protected	0.987	0.973				
Satd. Flow (prot)	1655	0	1771	0	0	1812
Fit Permitted	0.987	0.973				
Satd. Flow (perm)	1655	0	1771	0	0	1812
Link Speed (kh)	50	50	50	50	50	
Link Distance (m)	197.4	137.4		100.0		
Travel Time (s)	14.2	9.9		7.2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	7	20	30	17	12	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	27	0	47	0	0	22
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	
Median Width(m)	3.6	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 17.7%						
Analysis Period (min) 15						

Lanes, Volumes, Timings 7: Four Mile Creek Road & Creekside Drive						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W	5	40	14	373	345
Traffic Volume (vph)						
Future Volume (vph)	5	5	40	14	373	345
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.879	0.995	0.988	0.996		
Fit Protected	0.995	0	0	0	0	
Satd. Flow (prot)	1629	0	0	0	0	
Fit Permitted	0.995	0	0	0	0	
Satd. Flow (perm)	1629	0	0	0	0	
Link Speed (kh)	50	50	50	50		
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	7.0	6.5			
Peak Hour Factor	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	43	15	405	375	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	48	0	0	420	385	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0		
Link Offset(m)	0.0			0.0		
Crosswalk Width(m)	4.8			4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kh)	100	100	100	100		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 41.0%						
Analysis Period (min) 15						

2022 AM Existing 05-02-2023						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W	5	40	14	373	345
Traffic Volume (vph)						
Future Volume (vph)	5	5	40	14	373	345
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.879	0.995	0.988	0.996		
Fit Protected	0.995	0	0	0	0	
Satd. Flow (prot)	1629	0	0	0	0	
Fit Permitted	0.995	0	0	0	0	
Satd. Flow (perm)	1629	0	0	0	0	
Link Speed (kh)	50	50	50	50		
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	7.0	6.5			
Peak Hour Factor	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	43	15	405	375	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	48	0	0	420	385	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0		
Link Offset(m)	0.0			0.0		
Crosswalk Width(m)	4.8			4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kh)	100	100	100	100		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 41.0%						
Analysis Period (min) 15						

HCM Unsignedized Intersection Capacity Analysis 7: Four Mile Creek Road & Creekside Drive						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W	5	40	14	373	345
Traffic Volume (vph)						
Future Volume (vph)	5	5	40	14	373	345
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.879	0.995	0.988	0.996		
Fit Protected	0.995	0	0	0	0	
Satd. Flow (prot)	1629	0	0	0	0	
Fit Permitted	0.995	0	0	0	0	
Satd. Flow (perm)	1629	0	0	0	0	
Link Speed (kh)	50	50	50	50		
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	7.0	6.5			
Peak Hour Factor	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	43	15	405	375	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	48	0	0	420	385	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0		
Link Offset(m)	0.0			0.0		
Crosswalk Width(m)	4.8			4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kh)	100	100	100	100		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 41.0%						
Analysis Period (min) 15						

2022 AM Existing 05-02-2023						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W	5	40	14	373	345
Traffic Volume (vph)						
Future Volume (vph)	5	5	40	14	373	345
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.879	0.995	0.988	0.996		
Fit Protected	0.995	0	0	0	0	
Satd. Flow (prot)	1629	0	0	0	0	
Fit Permitted	0.995	0	0	0	0	
Satd. Flow (perm)	1629	0	0	0	0	
Link Speed (kh)	50	50	50	50		
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	7.0	6.5			
Peak Hour Factor	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	43	15	405	375	10
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	48	0	0	420	385	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0		
Link Offset(m)	0.0			0.0		
Crosswalk Width(m)	4.8			4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kh)	100	100	100	100		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 41.0%						
Analysis Period (min) 15						

Lanes, Volumes, Timings 1: Tanbark Road & York Road											
2022 PM Existing 05-02-2023											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	7	223	35	23	211	8	50	2	46	12	3
Traffic Volume (vph)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.982	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Fit Protected	0.989	0.985	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.981	0.981
Satd. Flow (prot)	0	1818	0	0	1778	0	0	1627	0	0	1643
Fit Permitted	0.999	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.981	0.981
Satd. Flow (perm)	0	1818	0	0	1778	0	0	1627	0	0	1643
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	351.4	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	44.1	44.1
Travel Time (s)	25.3	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	3.2	3.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	6%	0%	0%	0%	14%	14%	0%	0%
Adj. Flow (vph)	8	242	38	25	229	9	54	2	50	13	3
Shared Lane Traffic (%)	0	288	0	0	263	0	0	106	0	0	33
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	0
Enter Blocked Intersection	No	Left	Right								
Lane Alignment	Left	Left	Right								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	25	15	25	15	25	15	25	15	25	15	15
Turning Speed (kph)	Free	Free	Free	Free	Stop						
Sign Control	Other	Unsignalized									
Intersection Summary	ICU Level of Service A										
Area Type:	Intersection Capacity Utilization 37.7% Analysis Period (min) 15										

HCM Unsignedalized Intersection Capacity Analysis 1:Tanbark Road & York Road											
2022 PM Existing 05-02-2023											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	7	223	35	23	211	8	50	2	46	12	3
Traffic Volume (veh)	7	223	35	23	211	8	50	2	46	12	3
Future Volume (veh)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.982	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Fit Protected	0.989	0.985	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.981	0.981
Satd. Flow (prot)	0	1818	0	0	1778	0	0	1627	0	0	1643
Fit Permitted	0.999	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.981	0.981
Satd. Flow (perm)	0	1818	0	0	1778	0	0	1627	0	0	1643
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	351.4	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	44.1	44.1
Travel Time (s)	25.3	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	3.2	3.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	6%	0%	0%	0%	14%	14%	0%	0%
Adj. Flow (vph)	8	242	38	25	229	9	54	2	50	13	3
Shared Lane Traffic (%)	0	288	0	0	263	0	0	106	0	0	33
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	0
Enter Blocked Intersection	No	Left	Right								
Lane Alignment	Left	Left	Right								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	25	15	25	15	25	15	25	15	25	15	15
Turning Speed (kph)	Free	Free	Free	Free	Stop						
Sign Control	Other	Unsignalized									
Intersection Summary	ICU Level of Service A										
Area Type:	Intersection Capacity Utilization 37.7% Analysis Period (min) 15										

Lanes, Volumes, Timings 2: Tanbark Road & Warner Road		2022 PM Existing											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group		4	6	6	1	21	2	66	8	20	31	6	
Lane Configurations		5	6	4	6	1	21	2	66	8	20	31	6
Traffic Volume (vph)		5	6	4	6	1	21	2	66	8	20	31	6
Future Volume (vph)		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit		0.986	0.986	0.986	0.986	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985
Fit Protected		0.985	0.985	0.985	0.985	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (prot)		0	1808	0	0	1684	0	0	1822	0	0	1820	0
Fit Permitted		0.985	0.985	0.985	0.985	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (perm)		0	1808	0	0	1684	0	0	1822	0	0	1820	0
Link Speed (kh)		50	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)		207.8	207.8	107.8	107.8	154.0	154.0	156.3	156.3	156.3	156.3	156.3	156.3
Travel Time (s)		15.0	15.0	7.8	7.8	11.1	11.1	11.3	11.3	11.3	11.3	11.3	11.3
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)		0%	0%	0%	0%	14%	0%	0%	3%	0%	2%	0%	0%
Adj. Flow (vph)		5	7	4	7	1	23	2	72	9	22	34	7
Shared Lane Traffic (%)		0	16	0	0	31	0	0	83	0	0	63	0
Lane Group Flow (vph)		No											
Enter Blocked Intersection		Left	Right										
Lane Alignment		Left	Left	Right	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)		4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor		25	15	25	25	15	25	15	25	15	25	15	25
Turning Speed (kph)		Stop	Stop	Stop	Stop	Free							
Sign Control		Other											
Intersection Summary		ICU Level of Service A											
Area Type:		Unsignalized											
Control Type:		Other											
Intersection Capacity Utilization (%)		19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%
Analysis Period (min)		15	15	15	15	15	15	15	15	15	15	15	15

HCM Unsignalized Intersection Capacity Analysis													
2: Tanbark Road & Warner Road													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT	SBT
Lane Configurations	4	6	6	1	21	2	66	8	20	31	6	21	2
Traffic Volume (vph)	5	6	4	6	1	21	2	66	8	20	31	6	21
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.986	0.986	0.986	0.986	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985
Fit Protected	0.985	0.985	0.985	0.985	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (prot)	0	1808	0	0	1684	0	0	1822	0	0	1820	0	0
Fit Permitted	0.985	0.985	0.985	0.985	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (perm)	0	1808	0	0	1684	0	0	1822	0	0	1820	0	0
Link Speed (kh)	50	50	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	207.8	207.8	107.8	107.8	154.0	154.0	156.3	156.3	156.3	156.3	156.3	156.3	156.3
Travel Time (s)	15.0	15.0	7.8	7.8	11.1	11.1	11.3	11.3	11.3	11.3	11.3	11.3	11.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	14%	0%	0%	3%	0%	2%	0%	0%	0%
Adj. Flow (vph)	5	7	4	7	1	23	2	72	9	22	34	7	7
Shared Lane Traffic (%)	0	16	0	0	31	0	0	83	0	0	63	0	0
Lane Group Flow (vph)	No												
Enter Blocked Intersection	Left	Right	Left										
Lane Alignment	Left	Left	Right	Right	Left								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	25	15	25	25	15	25	15	25	15	25	15	25	15
Turning Speed (kph)	Stop	Stop	Stop	Stop	Free								
Sign Control	Other												
Intersection Summary	ICU Level of Service A												
Area Type:	Unsignalized												
Control Type:	Other												
Intersection Capacity Utilization (%)	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%	19.8%
Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15	15	15

Lanes, Volumes, Timings 3: Tanbark Road & Pinecroft Drive							2022 PM Existing 05-02-2023						
	WBL	WBR	NBT	NBR	SBL	SBT		WBL	WBR	NBT	NBR	SBL	SBT
Lane Group 0							Movement						
Lane Configurations	W	W	W	W	W	W	Lane Configurations	W	W	W	W	W	W
Traffic Volume (vph)	0	12	60	0	3	36	Traffic Volume (veh/h)	0	12	60	0	3	36
Future Volume (vph)	0	12	60	0	3	36	Future Volume (veh/h)	0	12	60	0	3	36
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	Sign Control	Stop	Free	Free	Free	Free	Free
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	Grade	0%	0%	0%	0%	0%	0%
Fit	0.865						Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Fit Protected							Hourly flow rate (vph)	0	13	65	0	3	39
Satd. Flow (prot)	1644	0	1792	0	0	1858	Pedestrians						
Fit Permitted							Lane Width (m)						
Satd. Flow (perm)	1644	0	1792	0	0	1858	Walking Speed (m/s)						
Link Speed (kh)	50	50	50	50	50	50	Percent Blockage						
Link Distance (m)	132.9	205.1	205.1	132.9	154.0	154.0	Right turn flare (veh)						
Travel Time (s)	9.6	14.8	14.8	9.6	11.1	11.1	Median type						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	Median storage (veh)						
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%	Upstream signal (m)						
Adj. Flow (vph)	0	13	65	0	3	39	PX, platoon unblocked						
Shared Lane Traffic (%)							vC, conflicting volume						
Lane Group Flow (vph)	13	0	65	0	0	42	vC1, stage 1 conf vol						
Enter Blocked Intersection	No	No	No	No	No	No	vC2, stage 2 conf vol						
Lane Alignment	Left	Right	Left	Right	Left	Left	vCu, unblocked vol	110	65	65	65	65	65
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0	IC, single (s)	6.4	6.2	6.2	6.2	6.2	6.2
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	IC, 2 stage (s)						
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	If (s)	3.5	3.3	3.3	3.3	3.3	3.3
Two Way Left Turn Lane							p0 queue free %	100	99	99	99	99	99
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	CM capacity (veh/h)	890	1005	1005	1005	1005	1005
Turning Speed (kh)	25	15	15	25	25	25	Direction Lane #	WB 1	NB 1	SB 1	WB 1	NB 1	SB 1
Sign Control	Stop	Free	Free	Free	Free	Free	Volume Total	13	65	42	42	42	42
Intersection Summary							Volume Left	0	0	0	0	0	0
Area Type:	Other						Volume Right	13	0	0	0	0	0
Control Type: Unsignalized							cSH	1005	1700	1550	1550	1550	1550
Intersection Capacity Utilization 14.4%	ICU Level of Service A						Volume to Capacity	0.01	0.04	0.00	0.00	0.00	0.00
Analysis Period (min) 15							Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	0.0

HCM Unsignedized Intersection Capacity Analysis 3: Tanbark Road & Pinecroft Drive							2022 FM Existing 05-02-2023						
	WBL	WBR	NBT	NBR	SBL	SBT		WBL	WBR	NBT	NBR	SBL	SBT
Lane Group 0							Movement						
Lane Configurations	W	W	W	W	W	W	Lane Configurations	W	W	W	W	W	W
Traffic Volume (vph)	0	12	60	0	3	36	Traffic Volume (veh/h)	0	12	60	0	3	36
Future Volume (vph)	0	12	60	0	3	36	Future Volume (veh/h)	0	12	60	0	3	36
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	Sign Control	Stop	Free	Free	Free	Free	Free
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	Grade	0%	0%	0%	0%	0%	0%
Fit	0.865						Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Fit Protected							Hourly flow rate (vph)	0	13	65	0	3	39
Satd. Flow (prot)	1644	0	1792	0	0	1858	Pedestrians						
Fit Permitted							Lane Width (m)						
Satd. Flow (perm)	1644	0	1792	0	0	1858	Walking Speed (m/s)						
Link Speed (kh)	50	50	50	50	50	50	Percent Blockage						
Link Distance (m)	132.9	205.1	205.1	132.9	154.0	154.0	Right turn flare (veh)						
Travel Time (s)	9.6	14.8	14.8	9.6	11.1	11.1	Median type						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	Median storage (veh)						
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%	Upstream signal (m)						
Adj. Flow (vph)	0	13	65	0	3	39	PX, platoon unblocked						
Shared Lane Traffic (%)							vC, conflicting volume						
Lane Group Flow (vph)	13	0	65	0	0	42	vC1, stage 1 conf vol						
Enter Blocked Intersection	No	No	No	No	No	No	vC2, stage 2 conf vol						
Lane Alignment	Left	Right	Left	Right	Left	Left	vCu, unblocked vol	110	65	65	65	65	65
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0	IC, single (s)	6.4	6.2	6.2	6.2	6.2	6.2
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	IC, 2 stage (s)						
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	If (s)	3.5	3.3	3.3	3.3	3.3	3.3
Two Way Left Turn Lane							p0 queue free %	100	99	99	99	99	99
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	CM capacity (veh/h)	890	1005	1005	1005	1005	1005
Turning Speed (kh)	25	15	15	25	25	25	Direction Lane #	WB 1	NB 1	SB 1	WB 1	NB 1	SB 1
Sign Control	Stop	Free	Free	Free	Free	Free	Volume Total	13	65	42	42	42	42
Intersection Summary							Volume Left	0	0	0	0	0	0
Area Type:	Other						Volume Right	13	0	0	0	0	0
Control Type: Unsignalized							cSH	1005	1700	1550	1550	1550	1550
Intersection Capacity Utilization 14.4%	ICU Level of Service A						Volume to Capacity	0.01	0.04	0.00	0.00	0.00	0.00
Analysis Period (min) 15							Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	0.0
Intersection Summary							Control Delay (s)	8.6	0.0	0.5	0.5	0.5	0.5
Average Delay							Lane LOS	A	A	A	A	A	A
Intersection Capacity Utilization Analysis Period (min)	14.4%						Approach Delay (s)	8.6	0.0	0.5	0.5	0.5	0.5
Analysis Period (min)	15						Approach LOS	A	A	A	A	A	A

Lanes, Volumes, Timings
4: Tanbark Road & Hickory Avenue

2022 PM Existing
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	6	3	0	57	30	4
Traffic Volume (vph)	6	3	0	57	30	4
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.959			0.985		
Fit Protected	0.966					
Satd. Flow (prot)	1760	0	0	1792	1872	0
Fit Permitted	0.966					
Satd. Flow (perm)	1760	0	0	1792	1872	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296			99.8	205.1	
Travel Time (s)	9.3			7.2	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	7	3	0	62	33	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	62	37	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization (13.3%)						
Analysis Period (min) 15						

2022 PM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2022 PM Existing
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vph)	6	3	0	57	30	4
Future Volume (vph)	6	3	0	57	30	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.959			0.985		
Fit Protected	0.966					
Satd. Flow (prot)	1760	0	0	1792	1872	0
Fit Permitted	0.966					
Satd. Flow (perm)	1760	0	0	1792	1872	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296			99.8	205.1	
Travel Time (s)	9.3			7.2	14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	7	3	0	62	33	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	62	37	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization (13.3%)						
Analysis Period (min) 15						
Intersection Summary						
Average Delay						
Intersection Capacity Utilization						
Analysis Period (min)						

2022 PM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings 5: Warner Road & Angels Drive		2022 PM Existing 05-02-2023											
		EBL	EBT	EBR	EBL	EWT	EWR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group													
Lane Configurations													
Traffic Volume (vph)	0	7	0	0	3	4	0	0	5	0	3		
Future Volume (vph)	0	7	0	0	3	4	0	0	5	0	3		
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped/Bike Factor													
Fit													
Fit Protected													
Satd. Flow (prot)	0	1900	0	0	1682	0	0	1863	0	0	1450	0	
Fit Permitted													
Satd. Flow (perm)	0	1900	0	0	1682	0	0	1863	0	0	1450	0	
Link Speed (kph)	50			50			50			50			
Link Distance (m)	191.9			207.8			103.2			131.4			
Travel Time (s)	13.8			15.0			7.4			9.5			
Confli. Pedcs. (#/h)	1												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	10%	0%	2%	2%	2%	33%	2%	0%	
Adj. Flow (vph)	0	8	0	0	3	4	0	0	0	5	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	8	0	0	7	0	0	0	0	8	0		
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8			4.8			4.8			4.8			
Two way Left Turn Lane													
Headway Factor													
Turning Speed (km/h)	25			15			25			15			
Sign Control	Free				Free			Stop		Stop			
Intersection Summary													
Area Type:	Other												
Control Type: Unsigned													
Intersection Capacity Utilization 13.7%													
Analysis Period(min) 15													

HCM Unsignedized Intersection Capacity Analysis 5: Warner Road & Angels Drive		2022 PM Existing 05-02-2023											
		EBL	EBT	EBR	EBL	EWT	EWR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group													
Lane Configurations													
Traffic Volume (vph)	0	7	0	0	3	4	0	0	5	0	3		
Future Volume (vph)	0	7	0	0	3	4	0	0	5	0	3		
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped/Bike Factor													
Fit													
Fit Protected													
Satd. Flow (prot)	0	1900	0	0	1682	0	0	1863	0	0	1450	0	
Fit Permitted													
Satd. Flow (perm)	0	1900	0	0	1682	0	0	1863	0	0	1450	0	
Link Speed (kph)	50			50			50			50			
Link Distance (m)	191.9			207.8			103.2			131.4			
Travel Time (s)	13.8			15.0			7.4			9.5			
Confli. Pedcs. (#/h)	1												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	10%	0%	2%	2%	2%	33%	2%	0%	
Adj. Flow (vph)	0	8	0	0	3	4	0	0	0	5	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	8	0	0	7	0	0	0	0	8	0		
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8			4.8			4.8			4.8			
Two way Left Turn Lane													
Headway Factor													
Turning Speed (km/h)	25			15			25			15			
Sign Control	Free				Free			Stop		Stop			
Intersection Summary													
Area Type:	Other												
Control Type: Unsigned													
Intersection Capacity Utilization 13.7%													
Analysis Period(min) 15													

Lanes, Volumes, Timings
6: Tanbark Road & Apricot Glen Drive

2022 PM Existing
05-02-2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	W	W	↑	↑	↓	↓
Lane Configurations	W	W	↑	↑	↓	↓
Traffic Volume (vph)	16	31	14	8	21	25
Future Volume (vph)	16	31	14	8	21	25
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.910	0.949				
Fit Protected	0.984	1668	0	1768	0	1822
Satd. Flow (prot)	0.984	1668	0	1768	0	1822
Fit Permitted	0.978					
Satd. Flow (perm)	0.978					
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	112.3	170.0				
Travel Time (s)	8.1	12.2				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	34	15	9	23	27
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	51	0	24	0	0	50
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	
Median Width(m)	3.6		0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	100	100	100	100	100	
Sign Control	Stop	Free			Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 19.1%					ICU Level of Service A	
Analysis Period (min) 15						

HCM Unsignedized Intersection Capacity Analysis
6: Tanbark Road & Apricot Glen Drive

2022 PM Existing
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	↑	↑	↓	↓
Traffic Volume (veh/h)	16	31	14	8	21	25
Future Volume (veh/h)	16	31	14	8	21	25
Sign Control			Stop		Free	
Grade	0%					
Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	34	15	9	23	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
PX, platoon unblocked						
VC, conflicting volume						
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
If (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction Lane #	WB 1	NB 1	SB 1			
Intersection Summary						
Average Delay	51	24	50			
Intersection Capacity Utilization (min)						
Analysis Period (min)	15					
ICU Level of Service	A					

Lanes, Volumes, Timings
7: Four Mile Creek Road & Creekside Drive

2022 PM Existing
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	8	42	26	289	360
Traffic Volume (vph)			42	26	299	5
Future Volume (vph)			8	26	360	5
Peak Flow (vphpl)			1900	1900	1900	1900
Lane Util. Factor			1.00	1.00	1.00	1.00
Fit			0.887		0.998	
Fit Protected			0.992		0.996	
Satd. Flow (prot)			1639	0	0	1855
Fit Permitted			0.992		0.996	
Satd. Flow (perm)			1639	0	0	1855
Link Speed (kh)			50	50	50	50
Link Distance (m)			132.8		97.5	91.5
Travel Time (s)			9.6	7.0	6.6	
Peak Hour Factor			0.92	0.92	0.92	0.92
Adj. Flow (vph)			9	46	28	325
Shared Lane Traffic (%)						
Lane Group n Flow (vph)			55	0	353	396
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kph)	100	100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 47.3%						
Analysis Period (min) 15						

2022 PM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2022 PM Existing
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	8	42	26	289	360
Traffic Volume (vph)			42	26	299	5
Future Volume (vph)			8	26	360	5
Peak Hour Factor			1.00	1.00	1.00	1.00
Lane Util. Factor			1.00	1.00	1.00	1.00
Fit			0.887		0.998	
Fit Protected			0.992		0.996	
Satd. Flow (prot)			1639	0	0	1855
Fit Permitted			0.992		0.996	
Satd. Flow (perm)			1639	0	0	1855
Link Speed (kh)			50	50	50	50
Link Distance (m)			132.8		97.5	91.5
Travel Time (s)			9.6	7.0	6.6	
Peak Hour Factor			0.92	0.92	0.92	0.92
Adj. Flow (vph)			9	46	28	325
Shared Lane Traffic (%)						
Lane Group n Flow (vph)			55	0	353	396
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kph)	100	100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsigned						
Intersection Capacity Utilization 47.3%						
Analysis Period (min) 15						

2022 PM Existing 4:07 pm 11-01-2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
1: Tanbark Road & York Road

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
1:Tanbark Road & York Road

2030 AM Background
05-02-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations												
Traffic Volume (vph)	9	261	42	28	247	10	61	2	56	14	4	19
Future Volume (vph)	9	261	42	28	247	10	61	2	56	14	4	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor												
Fit	0.982											
Fit Protected	0.999											
Satd. Flow (prot)	0	1721	0	0	1745	0	0	1718	0	0	1672	0
Fit Permitted	0.999											
Satd. Flow (perm)	0	1721	0	0	1745	0	0	1718	0	0	1672	0
Link Speed (kph)	50											
Link Distance (m)	351.4											
Travel Time (s)	25.3											
Confli. Peds. (#/hr)	17											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	0%	9%	0%	0%	2%	0%	0%	0%	7%
Adj. Flow (vph)	10	284	46	30	288	11	66	2	61	15	4	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	309	0	0	129	0	0	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8											
Two way Left Turn Lane												
Headway Factor												
Turning Speed (km/h)	25											
Sign Control	Free											
Intersection Summary	Other											
Area Type:	Unsignalized											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	261	42	28	247	10	61	2	56	14	4	19
Future Volume (vph)	9	261	42	28	247	10	61	2	56	14	4	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor												
Fit	0.982											
Fit Protected	0.999											
Satd. Flow (prot)	0	1721	0	0	1745	0	0	1718	0	0	1672	0
Fit Permitted	0.999											
Satd. Flow (perm)	0	1721	0	0	1745	0	0	1718	0	0	1672	0
Link Speed (kph)	50											
Link Distance (m)	351.4											
Travel Time (s)	25.3											
Confli. Peds. (#/hr)	17											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	0%	9%	0%	0%	2%	0%	0%	0%	7%
Adj. Flow (vph)	10	284	46	30	288	11	66	2	61	15	4	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	309	0	0	129	0	0	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8											
Two way Left Turn Lane												
Headway Factor												
Turning Speed (km/h)	25											
Sign Control	Free											
Intersection Summary	Other											
Area Type:	Unsignalized											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%												
Analysis Period(min)	15											
Intersection Summary	Average Delay											
Area Type:	Other											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization 44.8%			</td									

Lanes, Volumes, Timings
2: Tanbark Road & Warner Road

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
2: Tanbark Road & Warner Road

2030 AM Background
05-02-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	6	7	5	7	1	25	2	83	10	24	38	7
Traffic Volume (vph)	6	7	5	7	1	25	2	83	10	24	38	7
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor												
Ped Bike Factor	0.966		0.899		0.986		0.986		0.999		0.983	
Fit Protected	0.983		0.989		0.999		0.999		0.999		0.983	
Satd. Flow (prot)	0	1638	0	0	1518	0	0	1792	0	0	1745	0
Fit Permitted	0.983		0.989		0.999		0.999		0.999		0.983	
Satd. Flow (perm)	0	1638	0	0	1518	0	0	1792	0	0	1745	0
Link Speed (kph)	50			50		50		50		50		
Link Distance (m)	207.8			107.8		154.0		154.0		156.3		
Travel Time (s)	15.0			7.8		8		11.1		17		11.3
Confli. Peds. (#/h)	8											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	25%	17%	0%	10%	0%	2%	25%	5%	7%	0%
Adj. Flow (vph)	7	8	5	8	1	27	2	90	11	26	41	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	36	0	0	103	0	0	75	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Right										
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (km/h)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Stop		Stop		Free		Free		Free		Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 22.8%												
Analysis Period(min) 15												

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report

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2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
2: Tanbark Road & Warner Road

2030 AM Background
05-02-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	6	7	5	7	1	25	2	83	10	24	38	7
Traffic Volume (vph)	6	7	5	7	1	25	2	83	10	24	38	7
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor												
Ped Bike Factor	0.966		0.899		0.986		0.986		0.999		0.983	
Fit Protected	0.983		0.989		0.999		0.999		0.999		0.983	
Satd. Flow (prot)	0	1638	0	0	1518	0	0	1792	0	0	1745	0
Fit Permitted	0.983		0.989		0.999		0.999		0.999		0.983	
Satd. Flow (perm)	0	1638	0	0	1518	0	0	1792	0	0	1745	0
Link Speed (kph)	50			50		50		50		50		
Link Distance (m)	207.8			107.8		154.0		154.0		156.3		
Travel Time (s)	15.0			7.8		8		11.1		17		11.3
Confli. Peds. (#/h)	8											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	25%	17%	0%	10%	0%	2%	25%	5%	7%	0%
Adj. Flow (vph)	7	8	5	8	1	27	2	90	11	26	41	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	36	0	0	103	0	0	75	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Right										
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (km/h)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Stop		Stop		Free		Free		Free		Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 22.8%												
Analysis Period(min) 15												

Average Delay
Intersection Capacity Utilization
Analysis Period (min) 15

3.3
22.8%
15

ICU Level of Service
A

Synchro 11 Report
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Lanes, Volumes, Timings
3: Tanbark Road & Pinecroft Drive

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
3: Tanbark Road & Pinecroft Drive

2030 AM Background
05-02-2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group 0	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	14	77	0	4	44
Future Volume (vph)	0	14	77	0	4	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1810	0	0	1747
Fit Permitted						
Satd. Flow (perm)	1644	0	1810	0	0	1747
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	15	84	0	4	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	84	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kph)	25	15	15	25		
Sign Control	Stop	Free	Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 16.0%						
Analysis Period(min) 15						

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report
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2030 AM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (veh/h)	0	14	77	0	4	44
Future Volume (veh/h)	0	14	77	0	4	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1810	0	0	1747
Fit Permitted						
Satd. Flow (perm)	1644	0	1810	0	0	1747
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	15	84	0	4	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	84	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kph)	25	15	15	25		
Sign Control	Stop	Free	Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 16.0%						
Analysis Period(min) 15						

2030 AM Background 1:15 pm 11-02-2022

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Lanes, Volumes, Timings
4: Tanbark Road & Hickory Avenue

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2030 AM Background
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	7	4	0	67	35	5
Traffic Volume (vph)	7	4	0	67	35	5
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1827	1704	0
Satd. Flow (prot)	0.968	1756	0	1827	1704	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1827	1704	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296	1000	205.1			
Travel Time (s)	9.3	7.2	14.8			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	11%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report
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2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2030 AM Background
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (veh/h)	7	4	0	67	35	5
Future Volume (veh/h)	7	4	0	67	35	5
Peak Hour Factor (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1827	1704	0
Satd. Flow (prot)	0.968	1756	0	1827	1704	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1827	1704	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296	1000	205.1			
Travel Time (s)	9.3	7.2	14.8			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	11%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

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Synchro 11 Report
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Lanes, Volumes, Timings
5: Warner Road & Angels Drive

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
5: Warner Road & Angels Drive

2030 AM Background
05-02-2023

	EBL	EBC	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations	4	0	0	4	5	0	0	0	6	0	4	4
Traffic Volume (vph)	0	8	0	4	5	0	0	0	6	0	0	4
Future Volume (vph)	0	8	0	4	5	0	0	0	6	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit												
Fit Projected												
Satd. Flow (prot)	0	1329	0	0	1375	0	0	1863	0	0	1404	0
Fit Permitted												
Satd. Flow (perm)	0	1329	0	0	1375	0	0	1863	0	0	1404	0
Link Speed (kh)	50		50		50		50		50		50	
Link Distance (m)	191.9		207.8		98.3		131.4					
Travel Time (s)	13.8		15.0		7.1		9.5					
Peak Hour Factor	0.92		0.92		0.92		0.92		0.92		0.92	
Heavy Vehicles (%)	0%		43%		2%		0%		50%		2%	
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7	0	4	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	0	11	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right	Left	
Median Width(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two way Left Turn Lane												
Headway Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Turning Speed (kph)	25		100		100		15		100		25	
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization (13.3%)												
Analysis Period (min) 15												

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Synchro 11 Report

2030 AM Background 1:15 pm 11-02-2022

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	EBL	EBC	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Traffic Volume (veh)	0	8	0	0	4	5	0	0	6	0	4	4
Future Volume (veh)	0	8	0	0	4	5	0	0	6	0	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit												
Fit Projected												
Satd. Flow (prot)	0	1329	0	0	1375	0	0	1863	0	0	1404	0
Fit Permitted												
Satd. Flow (perm)	0	1329	0	0	1375	0	0	1863	0	0	1404	0
Link Speed (kh)	50		50		50		50		50		50	
Link Distance (m)	191.9		207.8		98.3		131.4					
Travel Time (s)	13.8		15.0		7.1		9.5					
Peak Hour Factor	0.92		0.92		0.92		0.92		0.92		0.92	
Heavy Vehicles (%)	0%		43%		2%		0%		50%		2%	
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7	0	4	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	0	11	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right	Left	
Median Width(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two way Left Turn Lane												
Headway Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Turning Speed (kph)	25		100		100		15		100		25	
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization (13.3%)												
Analysis Period (min) 15												
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

3.3
13.3%
15

ICU Level of Service

A

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report

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Lanes, Volumes, Timings
6: Tanbark Road & Apricot Glen Drive

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
6: Tanbark Road & Apricot Glen Drive

2030 AM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	19	12	11	W
Traffic Volume (vph)	6	21	33	19	12	11
Future Volume (vph)	6	21	33	19	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.896	0.950				
Fit Protected	0.988	0	0.975			
Satd. Flow (prot)	1649	0	1770	0	0	1816
Fit Permitted	0.988					
Satd. Flow (perm)	1649	0	1770	0	0	1816
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	197.4	137.4	100.0			
Travel Time (s)	14.2	9.9	7.2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	23	36	21	13	12
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	30	0	57	0	0	25
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	
Median Width(m)	3.6		0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	100	100	100	100	100	
Sign Control	Stop	Free	Free	Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 17.9%						
Analysis Period (min) 15						

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Synchro 11 Report
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2030 AM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	19	12	11	W
Traffic Volume (vph)	6	21	33	19	12	11
Future Volume (vph)	6	21	33	19	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.896	0.950				
Fit Protected	0.988	0	0.975			
Satd. Flow (prot)	1649	0	1770	0	0	1816
Fit Permitted	0.988					
Satd. Flow (perm)	1649	0	1770	0	0	1816
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	197.4	137.4	100.0			
Travel Time (s)	14.2	9.9	7.2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	23	36	21	13	12
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	30	0	57	0	0	25
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	
Median Width(m)	3.6		0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8			
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	100	100	100	100	100	
Sign Control	Stop	Free	Free	Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 17.9%						
Analysis Period (min) 15						

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report
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Lanes, Volumes, Timings
7: Four Mile Creek Road & Creekside Drive

2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2030 AM Background
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	6	47	16	437	404
Traffic Volume (vph)					11	11
Future Volume (vph)		6	47	16	437	404
Peak Flow (vphpl)		1900	1900	1900	1900	1900
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00
Fit		0.881		0.996		
Fit Protected		0.994		0.998		
Satd. Flow (prot)		1631	0	0	1859	1855
Fit Permitted		0.994		0.998		
Satd. Flow (perm)		1631	0	0	1859	1855
Link Speed (kh)		50		50	50	
Link Distance (m)		117.7		96.9	90.2	
Travel Time (s)		8.5		7.0	6.5	
Peak Hour Factor		0.92		0.92	0.92	0.92
Adj. Flow (vph)		7	51	17	475	439
Shared Lane Traffic (%)						
Lane Group n Flow (vph)		58	0	0	492	451
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kh)		100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 45.9%						
Analysis Period (min) 15						

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Synchro 11 Report
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2030 AM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2030 AM Background
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	6	47	16	437	404
Traffic Volume (vph)					11	11
Future Volume (vph)		6	47	16	437	404
Peak Flow (vphpl)		1900	1900	1900	1900	1900
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00
Fit		0.881		0.996		
Fit Protected		0.994		0.998		
Satd. Flow (prot)		1631	0	0	1859	1855
Fit Permitted		0.994		0.998		
Satd. Flow (perm)		1631	0	0	1859	1855
Link Speed (kh)		50		50	50	
Link Distance (m)		117.7		96.9	90.2	
Travel Time (s)		8.5		7.0	6.5	
Peak Hour Factor		0.92		0.92	0.92	0.92
Adj. Flow (vph)		7	51	17	475	439
Shared Lane Traffic (%)						
Lane Group n Flow (vph)		58	0	0	492	451
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor						
Turning Speed (kh)		100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 45.9%						
Analysis Period (min) 15						

2030 AM Background 1:15 pm 11-02-2022

Synchro 11 Report
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Lanes, Volumes, Timings
1: Tanbark Road & York Road

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
1:Tanbark Road & York Road

2030 PM Background
05-02-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations	9	261	42	28	247	10	61	2	56	14	4	19
Traffic Volume (vph)	9	261	42	28	247	10	61	2	56	14	4	19
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	Fit	0.982	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Fit Protected	0.989	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Satd. Flow (prot)	0	1818	0	0	1778	0	0	1626	0	0	1647	0
Fit Permitted	0.999	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Satd. Flow (perm)	0	1818	0	0	1778	0	0	1626	0	0	1647	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	351.4	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6
Travel Time (s)	25.3	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	6%	0%	6%	0%	6%	0%	6%	0%	6%
Adj. Flow (vph)	10	284	46	30	268	11	66	2	61	15	4	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	309	0	0	129	0	0	40	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (kph)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Free	Free	Free	Free	Stop							
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 43.7%												
Analysis Period (min) 15												

2030 PM Background 1:26 pm 11-02-2022

Synchro 11 Report

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
1:Tanbark Road & York Road

2030 PM Background
05-02-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Traffic Volume (veh)	9	261	42	28	247	10	61	2	56	14	4	19
Future Volume (veh)	9	261	42	28	247	10	61	2	56	14	4	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.982	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Fit Protected	0.989	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Satd. Flow (prot)	0	1818	0	0	1778	0	0	1626	0	0	1647	0
Fit Permitted	0.999	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Satd. Flow (perm)	0	1818	0	0	1778	0	0	1626	0	0	1647	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	351.4	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6	515.6
Travel Time (s)	25.3	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	6%	0%	6%	0%	6%	0%	6%	0%	6%
Adj. Flow (vph)	10	284	46	30	268	11	66	2	61	15	4	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	309	0	0	129	0	0	40	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (kph)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Free	Free	Free	Free	Stop							
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 43.7%												
Analysis Period (min) 15												
Intersection Summary												
Average Delay	3.7											
Intersection Capacity Utilization	43.7%											
Analysis Period (min)	15											

A

Synchro 11 Report
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Lanes, Volumes, Timings
2: Tanbark Road & Warner Road

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
2: Tanbark Road & Warner Road

2030 PM Background
05-02-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations	6	7	5	7	1	25	2	83	10	24	38	7
Traffic Volume (vph)	6	7	5	7	1	25	2	83	10	24	38	7
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)												
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.966	0.989	0.899	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986
Fit Protected	0.983	0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (prot)	0	1804	0	0	1633	0	0	1824	0	0	1822	0
Fit Permitted	0.983	0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (perm)	0	1804	0	0	1633	0	0	1824	0	0	1822	0
Link Speed (kph)	50		50		50		50		50		50	
Link Distance (m)	207.8		107.8		154.0		156.3		11.1		11.3	
Travel Time (s)	15.0		7.8		11.1		11.3					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	14%	0%	0%	3%	0%	2%	0%	0%
Adj. Flow (vph)	7	8	5	8	1	27	2	90	11	26	41	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	36	0	0	103	0	0	75	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two Way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (kph)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Stop		Stop		Free		Free		Free		Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 20.4%												
Analysis Period (min) 15												

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HCM Unsignedized Intersection Capacity Analysis
2: Tanbark Road & Warner Road

2030 PM Background
05-02-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT
Movement												
Lane Configurations	6	7	5	7	1	25	2	83	10	24	38	7
Traffic Volume (vph)	6	7	5	7	1	25	2	83	10	24	38	7
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)												
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.966	0.989	0.899	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986
Fit Protected	0.983	0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (prot)	0	1804	0	0	1633	0	0	1824	0	0	1822	0
Fit Permitted	0.983	0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
Satd. Flow (perm)	0	1804	0	0	1633	0	0	1824	0	0	1822	0
Link Speed (kph)	50		50		50		50		50		50	
Link Distance (m)	207.8		107.8		154.0		156.3		11.1		11.3	
Travel Time (s)	15.0		7.8		11.1		11.3					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	14%	0%	0%	3%	0%	2%	0%	0%
Adj. Flow (vph)	7	8	5	8	1	27	2	90	11	26	41	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	36	0	0	103	0	0	75	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two Way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (kph)	25	15	25	15	25	15	25	15	25	15	25	15
Sign Control	Stop		Stop		Free		Free		Free		Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignedized												
Intersection Capacity Utilization 20.4%												
Analysis Period (min) 15												
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)	15											
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)	15											
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)	15											

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ICU Level of Service
A

Synchro 11 Report
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Lanes, Volumes, Timings
3: Tanbark Road & Pinecroft Drive

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
3: Tanbark Road & Pinecroft Drive

2030 PM Background
05-02-2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group 0	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	14	77	0	4	44
Future Volume (vph)	0	14	77	0	4	44
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1792	0	0	1858
Fit Permitted						
Satd. Flow (perm)	1644	0	1792	0	0	1858
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	6%	0%	2%		
Adj. Flow (vph)	0	15	84	0	4	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	84	0	0	52
Enter Blocked Intersection	No	Right	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	
Median Width(m)	3.6	0.0		0.0		
Link Offset(m)	0.0	0.0		0.0		
Crosswalk Width(m)	4.8	4.8		4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kph)	25	15	15	25		
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.6%						
Analysis Period (min) 15						
ICU Level of Service A						

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2030 PM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (veh/h)	0	14	77	0	4	44
Future Volume (veh/h)	0	14	77	0	4	44
Peak Hour Factor (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1644	0	1792	0	0	1858
Fit Permitted						
Satd. Flow (perm)	1644	0	1792	0	0	1858
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	11.1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	6%	0%	2%		
Adj. Flow (vph)	0	15	84	0	4	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	84	0	0	52
Enter Blocked Intersection	No	Right	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	
Median Width(m)	3.6	0.0		0.0		
Link Offset(m)	0.0	0.0		0.0		
Crosswalk Width(m)	4.8	4.8		4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kph)	25	15	15	25		
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.6%						
Analysis Period (min) 15						
ICU Level of Service A						

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Lanes, Volumes, Timings
4: Tanbark Road & Hickory Avenue

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2030 PM Background
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	7	4	0	67	35	5
Traffic Volume (vph)	7	4	0	67	35	5
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1792	1870	0
Satd. Flow (prot)	0.968	1756	0	1792	1870	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1792	1870	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296		99.8	205.1		
Travel Time (s)	9.3	0.92	7.2	14.8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vehn)	7	4	0	67	35	5
Future Volume (vehn)	7	4	0	67	35	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1792	1870	0
Satd. Flow (prot)	0.968	1756	0	1792	1870	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1792	1870	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296		99.8	205.1		
Travel Time (s)	9.3	0.92	7.2	14.8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vehn)	7	4	0	67	35	5
Future Volume (vehn)	7	4	0	67	35	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1792	1870	0
Satd. Flow (prot)	0.968	1756	0	1792	1870	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1792	1870	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296		99.8	205.1		
Travel Time (s)	9.3	0.92	7.2	14.8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vehn)	7	4	0	67	35	5
Future Volume (vehn)	7	4	0	67	35	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.955	0.968		0.984		
Fit Protected	0.968	1756	0	1792	1870	0
Satd. Flow (prot)	0.968	1756	0	1792	1870	0
Fit Permitted	0.968					
Satd. Flow (perm)	1756	0	0	1792	1870	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	1296		99.8	205.1		
Travel Time (s)	9.3	0.92	7.2	14.8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	0%
Adj. Flow (vph)	8	4	0	73	38	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	73	43	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization (13.5%)						
Analysis Period (min) 15						

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Lanes, Volumes, Timings
5: Warner Road & Angels Drive

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HCM Unsignedized Intersection Capacity Analysis
5: Warner Road & Angels Drive

2030 PM Background
05-02-2023

	EBL	EBC	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Lane Group									
Lane Configurations									
Traffic Volume (vph)	0	8	0	0	4	5	0	0	6
Future Volume (vph)	0	8	0	0	4	5	0	0	4
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor									
Fit									
Fit Protected									
Satd. Flow (prot)	0	1900	0	0	1683	0	0	1863	0
Fit Permitted									
Satd. Flow (perm)	0	1900	0	0	1683	0	0	1863	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1			1					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	11
Enter Blocked Intersection	No								
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane									
Headway Factor									
Turning Speed (km/h)	25	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary									
Area Type:	Other								
Control Type: Unsignedized									
Intersection Capacity Utilization 13.7%									
Analysis Period(min) 15									

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Movement	EBL	EBC	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	0	8	0	0	4	5	0	0	4
Future Volume (vph)	0	8	0	0	4	5	0	0	4
Peak Hour Factor	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor									
Fit									
Fit Protected									
Satd. Flow (prot)	0	1900	0	0	1683	0	0	1863	0
Fit Permitted									
Satd. Flow (perm)	0	1900	0	0	1683	0	0	1863	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1			1					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	11
Enter Blocked Intersection	No								
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane									
Headway Factor									
Turning Speed (km/h)	25	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary									
Area Type:	Other								
Control Type: Unsignedized									
Intersection Capacity Utilization 13.7%									
Analysis Period(min) 15									

Movement	EBL	EBC	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	0	8	0	0	4	5	0	0	4
Future Volume (vph)	0	8	0	0	4	5	0	0	4
Peak Hour Factor	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor									
Fit									
Fit Protected									
Satd. Flow (prot)	0	1900	0	0	1683	0	0	1863	0
Fit Permitted									
Satd. Flow (perm)	0	1900	0	0	1683	0	0	1863	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1			1					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	11
Enter Blocked Intersection	No								
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane									
Headway Factor									
Turning Speed (km/h)	25	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary									
Area Type:	Other								
Control Type: Unsignedized									
Intersection Capacity Utilization 13.7%									
Analysis Period(min) 15									

Movement	EBL	EBC	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations									
Traffic Volume (vph)	0	8	0	0	4	5	0	0	4
Future Volume (vph)	0	8	0	0	4	5	0	0	4
Peak Hour Factor	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor									
Fit									
Fit Protected									
Satd. Flow (prot)	0	1900	0	0	1683	0	0	1863	0
Fit Permitted									
Satd. Flow (perm)	0	1900	0	0	1683	0	0	1863	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1			1					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	0	9	0	0	4	5	0	0	7
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	9	0	0	9	0	0	0	11
Enter Blocked Intersection	No								
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Right	Left
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane									
Headway Factor									
Turning Speed (km/h)	25	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary									
Area Type:	Other								
Control Type: Unsignedized									
Intersection Capacity Utilization 13.7%									
Analysis Period(min) 15									

Movement	EBL	EBC	EBR	WBL	WBR	NBL	NBR	SBL	SBR</
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Lanes, Volumes, Timings
6: Tanbark Road & Apricot Glen Drive

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
6: Tanbark Road & Apricot Glen Drive

2030 PM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B				
Traffic Volume (vph)	36	18	16	25	29	29
Future Volume (vph)	36	18	16	25	29	29
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.954	0.947				
Fit Protected	0.968	0	1764	0	1822	
Satd. Flow (prot)	0.968					
Fit Permitted						
Satd. Flow (perm)	1720	0	1764	0	1822	
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	112.3	170.0				
Travel Time (s)	8.1	12.2	0.92	0.92	0.92	0.92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	20	17	11	27	32
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	59	0	28	0	59	
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	
Median Width(m)	3.6		0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop	Free			Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 19.6%						
Analysis Period (min) 15						

2030 PM Background 1:26 pm 11-02-2022

Synchro 11 Report
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2030 PM Background
05-02-2023

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B				
Traffic Volume (vph)	36	18	16	25	29	29
Future Volume (vph)	36	18	16	25	29	29
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.954	0.947				
Fit Protected	0.968	0	1764	0	1822	
Satd. Flow (prot)	0.968					
Fit Permitted						
Satd. Flow (perm)	1720	0	1764	0	1822	
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	112.3	170.0				
Travel Time (s)	8.1	12.2	0.92	0.92	0.92	0.92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	20	17	11	27	32
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	59	0	28	0	59	
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	
Median Width(m)	3.6		0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop	Free			Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 19.6%						
Analysis Period (min) 15						

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Lanes, Volumes, Timings
7: Four Mile Creek Road & Creekside Drive

2030 PM Background
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2030 PM Background
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	9	49	30	350	422	6
Traffic Volume (vph)	9	49	30	350	422	6
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.886	0.998				
Fit Protected	0.992	0.996				
Satd. Flow (prot)	1637	0	0	1855	1859	0
Fit Permitted	0.992	0.996				
Satd. Flow (perm)	1637	0	0	1855	1859	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	132.8					
Travel Time (s)	9.6	7.0	6.6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	53	33	380	459	7
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	63	0	0	413	466	0
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 53.4%						
Analysis Period (min) 15						

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2030 PM Background
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	9	49	30	350	422	6
Traffic Volume (vph)	9	49	30	350	422	6
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.886	0.998				
Fit Protected	0.992	0.996				
Satd. Flow (prot)	1637	0	0	1855	1859	0
Fit Permitted	0.992	0.996				
Satd. Flow (perm)	1637	0	0	1855	1859	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	132.8					
Travel Time (s)	9.6	7.0	6.6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	53	33	380	459	7
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	63	0	0	413	466	0
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	100	100	100	100	100	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 53.4%						
Analysis Period (min) 15						

2030 PM Background 1:26 pm 11-02-2022

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Lanes, Volumes, Timings		2030 AM Total											
1: Tanbark Road & York Road		05-02-2023											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group													
Lane Configurations													
Traffic Volume (vph)	9	261	47	30	247	10	74	4	62	14	4	19	4
Future Volume (vph)	9	261	47	30	247	10	74	4	62	14	4	19	4
ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor													
Fit	0.980												
Fit Protected	0.999												
Satd. Flow (prot)	0	1582	0	0	1608	0	0	1588	0	0	1540	0	
Fit Permitted	0.999												
Satd. Flow (perm)	0	1582	0	0	1608	0	0	1588	0	0	1540	0	
Link Speed (kph)	50												
Link Distance (m)	351.4												
Travel Time (s)	25.3												
Confli. Peds. (#/h)	17												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	9%	0%	0%	0%	2%	0%	0%	0%	7%	29%
Adj. Flow (vph)	10	284	51	33	288	11	80	4	67	15	4	21	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	345	0	0	312	0	0	151	0	0	40	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Left	Right	Left	Right	Left	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane													
Headway Factor													
Turning Speed (km/h)	25	15	25	15	25	15	25	15	25	15	15	15	
Sign Control	Free												
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 50.6%													
Analysis Period(min)	15												

HCM Unsignedized Intersection Capacity Analysis													
1:Tanbark Road & York Road													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SSB
Lane Configurations													
Traffic Volume (vph)	9	261	47	30	247	10	74	4	62	14	4	19	4
Future Volume (vph)	9	261	47	30	247	10	74	4	62	14	4	19	4
ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor													
Fit	0.980												
Fit Protected	0.999												
Satd. Flow (prot)	0	1582	0	0	1608	0	0	1588	0	0	1540	0	
Fit Permitted	0.999												
Satd. Flow (perm)	0	1582	0	0	1608	0	0	1588	0	0	1540	0	
Link Speed (kph)	50												
Link Distance (m)	351.4												
Travel Time (s)	25.3												
Confli. Peds. (#/h)	17												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	8%	9%	9%	0%	0%	0%	2%	0%	0%	0%	7%	29%
Adj. Flow (vph)	10	284	51	33	288	11	80	4	67	15	4	21	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	345	0	0	312	0	0	151	0	0	40	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Right	Left	Left	Right	Left	Right	Left	
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
Two way Left Turn Lane													
Headway Factor													
Turning Speed (km/h)	25	15	25	15	25	15	25	15	25	15	15	15	
Sign Control	Free												
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 50.6%													
Analysis Period(min)	15												

Lanes, Volumes, Timings 2: Tanbark Road & Warner Road		2030 AM Total 05-02-2023											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group													
Lane Configurations		19	8	5	8	2	25	2	88	10	24	40	13
Traffic Volume (vph)		19	8	5	8	2	25	2	88	10	24	40	13
Future Volume (vph)													
ideal Flow (vphpl)		1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor													
Fit		0.981		0.904		0.986		0.977		0.92		0.92	
Fit Protected		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (prot)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Fit Permitted		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (perm)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Link Speed (kph)		50			50		50		50		50		
Link Distance (m)		207.8			107.8		154.0		154.0		156.3		
Travel Time (s)		15.0			7.8		11.1		17		17		
Confli. Peds. (#/h)		8			8		8		8		8		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)		0%	0%	25%	17%	0%	10%	0%	2%	25%	5%	7%	0%
Adj. Flow (vph)		21	9	5	9	2	27	2	96	11	26	43	14
Shared Lane Traffic (%)													
Lane Group Flow (vph)		0	35	0	0	38	0	0	109	0	0	83	0
Enter Blocked Intersection		No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment		Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)		4.8			4.8		4.8		4.8		4.8		
Two way Left Turn Lane													
Headway/T Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (km/h)		25	15	25	15	25	15	25	15	25	15	25	15
Sign Control		Stop		Stop		Free		Free		Free		Free	
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 23.6%													
Analysis Period(min)	15												

HCM Unsignedized Intersection Capacity Analysis 2: Tanbark Road & Warner Road													
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SRB
Lane Group													
Lane Configurations		19	8	5	8	2	25	2	88	10	24	40	13
Traffic Volume (vph)		19	8	5	8	2	25	2	88	10	24	40	13
Future Volume (vph)													
ideal Flow (vphpl)		1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor													
Fit		0.981		0.904		0.986		0.977		0.92		0.92	
Fit Protected		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (prot)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Fit Permitted		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (perm)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Link Speed (kph)		50			50		50		50		50		
Link Distance (m)		207.8			107.8		154.0		154.0		156.3		
Travel Time (s)		15.0			7.8		11.1		17		17		
Confli. Peds. (#/h)		8			8		8		8		8		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)		0%	0%	25%	17%	0%	10%	0%	2%	25%	5%	7%	0%
Adj. Flow (vph)		21	9	5	9	2	27	2	96	11	26	43	14
Shared Lane Traffic (%)													
Lane Group Flow (vph)		0	35	0	0	38	0	0	109	0	0	83	0
Enter Blocked Intersection		No	No	No	No	No							
Lane Alignment		Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)		4.8			4.8		4.8		4.8		4.8		
Two way Left Turn Lane													
Headway/T Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (km/h)		25	15	25	15	25	15	25	15	25	15	25	15
Sign Control		Stop		Stop		Free		Free		Free		Free	
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 23.6%													
Analysis Period(min)	15												

HCM Unsignedized Intersection Capacity Analysis 2: Tanbark Road & Warner Road													
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SRB
Lane Group													
Lane Configurations		19	8	5	8	2	25	2	88	10	24	40	13
Traffic Volume (vph)		19	8	5	8	2	25	2	88	10	24	40	13
Future Volume (vph)													
ideal Flow (vphpl)		1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor													
Fit		0.981		0.904		0.986		0.977		0.92		0.92	
Fit Protected		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (prot)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Fit Permitted		0.971		0.988		0.999		0.985		0.92		0.92	
Satd. Flow (perm)		0	1609	0	0	1406	0	0	1653	0	0	1601	0
Link Speed (kph)		50			50		50		50		50		
Link Distance (m)		207.8			107.8		154.0		154.0		156.3		
Travel Time (s)		15.0			7.8		11.1		17		17		
Confli. Peds. (#/h)		8			8		8		8		8		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)		0%	0%	25%	17%	0%	10%	0%	2%	25%	5%	7%	0%
Adj. Flow (vph)		21	9	5	9	2	27	2	96	11	26	43	14
Shared Lane Traffic (%)													
Lane Group Flow (vph)		0	35	0	0	38	0	0	109	0	0	83	0
Enter Blocked Intersection		No	No	No	No	No							
Lane Alignment		Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)		4.8			4.8		4.8		4.8		4.8		
Two way Left Turn Lane													
Headway/T Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (km/h)		25	15	25	15	25	15	25	15	25	15	25	15
Sign Control		Stop		Stop		Free		Free		Free		Free	
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 23.6%													
Analysis Period(min)	15												

Lanes, Volumes, Timings
3: Tanbark Road & Pinecroft Drive

2030 AM Total
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
3: Tanbark Road & Pinecroft Drive

2030 AM Total
05-02-2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group 0	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	0	14	81	0	4	46
Traffic Volume (vph)	0	14	81	0	4	46
Future Volume (vph)	1750	1750	1750	1750	1750	1750
Peak Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1514	0	1667	0	0	1609
Fit Permitted						
Satd. Flow (perm)	1514	0	1667	0	0	1609
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	7	7	11.1	
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	15	88	0	4	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	88	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane						
Headway Factor						
Turning Speed (km/h)	25	15	15	25		
Sign Control	Stop	Free	Free	Free		

Area Type:	Other
Control Type: Unsignedized	
Intersection Capacity Utilization 16.4%	
Analysis Period(min) 15	

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2030 AM Total
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (veh/h)	0	14	81	0	4	46
Future Volume (veh/h)	0	14	81	0	4	46
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped/Bike Factor						
Fit	0.865					
Fit Protected						
Satd. Flow (prot)	1514	0	1667	0	0	1609
Fit Permitted						
Satd. Flow (perm)	1514	0	1667	0	0	1609
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.9	205.1	154.0			
Travel Time (s)	9.6	14.8	7	7	11.1	
Confli. Peds. (#/h)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	5%	0%	0%	9%
Adj. Flow (vph)	0	15	88	0	4	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	88	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane						
Headway Factor						
Turning Speed (km/h)	25	15	15	25		
Sign Control	Stop	Free	Free	Free		

Intersection Summary	Average Delay	Intersection Capacity Utilization	ICU Level of Service
		16.4%	A

Analysis Period (min)	15	15

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Lanes, Volumes, Timings
4: Tanbark Road & Hickory Avenue

2030 AM Total
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2030 AM Total
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	11	9	2	67	35	7
Traffic Volume (vph)	11	9	2	67	35	7
Future Volume (vph)	1750	1750	1750	1750	1750	1750
Ideal Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.939					
Fit Protected	0.973					
Satd. Flow (prot)	1599	0	0	1633	1567	0
Fit Permitted	0.973					
Satd. Flow (perm)	1599	0	0	1633	1567	0
Link Speed (kh)	50			50	50	
Link Distance (m)	1296			1000	2051	
Travel Time (s)	9.3			7.2	14.8	
Peak Hour Factor	0.92			0.92	0.92	
Heavy Vehicles (%)	0%			0%	11%	0%
Adj. Flow (vph)	12	10	2	73	38	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	0	75	46	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two Way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	
Turning Speed (kph)	25	15	25	15	15	
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.6%						
Analysis Period (min) 15						

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2030 AM Total
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HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

2030 AM Total
05-02-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (veh/h)	11	9	2	67	35	7
Future Volume (veh/h)	11	9	2	67	35	7
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.939					
Fit Protected	0.973					
Satd. Flow (prot)	1599	0	0	1633	1567	0
Fit Permitted	0.973					
Satd. Flow (perm)	1599	0	0	1633	1567	0
Link Speed (kh)	50			50	50	
Link Distance (m)	1296			1000	2051	
Travel Time (s)	9.3			7.2	14.8	
Peak Hour Factor	0.92			0.92	0.92	
Heavy Vehicles (%)	0%			4%	11%	0%
Adj. Flow (vph)	12	10	2	73	38	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	0	75	46	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two Way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	
Turning Speed (kph)	25	15	25	15	15	
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 15.6%						
Analysis Period (min) 15						

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Lanes, Volumes, Timings 6: Tanbark Road & Apricot Glen Drive								2030 AM Total 05-02-2023								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	W	W	W	W	W	W		Lane Configurations	W	W	W	W	W	W		
Traffic Volume (vph)	6	23	33	19	18	11		Traffic Volume (veh/h)	6	23	33	19	18	11		
Future Volume (vph)	6	23	33	19	18	11		Future Volume (veh/h)	6	23	33	19	18	11		
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750		Sign Control	Stop	Free	Free	Free	Free	Free		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		Grade	0%	0%	0%	0%	0%	0%		
Fit	0.895	0.950						Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Fit Protected	0.989	0						Hourly flow rate (vph)	7	25	36	21	20	12		
Satd. Flow (prot)	1519	0	1630	0	0	1664		Pedestrians								
Fit Permitted	0.989							Lane Width (m)								
Satd. Flow (perm)	1519	0	1630	0	0	1664		Walking Speed (m/s)								
Link Speed (kh)	50	50						Percent Blockage								
Link Distance (m)	197.4	137.4						Right turn flare (veh)								
Travel Time (s)	14.2	9.9						Median type								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		Upstream signal (m)								
Adj. Flow (vph)	7	25	36	21	20	12		PX, platoon unblocked								
Shared Lane Traffic (%)								vC, conflicting volume								
Lane Group On Flow (vph)	32	0	57	0	0	32		vC1, stage 1 conf vol								
Enter Blocked Intersection	No	No	No	No	No	No		vC2, stage 2 conf vol								
Lane Alignment	Left	Right	Left	Right	Left	Left		vCu, unblocked vol								
Median Width(m)	3.6							vC, single (s)								
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0		vC, 2 stage (s)								
Crosswalk Width(m)	4.8	4.8						If (s)								
Two way Left Turn Lane								p0 queue free %								
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11		CM capacity (veh/h)								
Turning Speed (kh)	25	15	15	25				Direction Lane #	WB 1	NB 1	SB 1					
Sign Control	Stop	Free						Volume / Total	32	57	32					
Intersection Summary								Volume Left	7	0						
Area Type	Other								Volume Right	25	21	0				
Control L Type: Unsignalized									cSH	980	1700	1547				
Intersection Capacity Utilization 18.4%									Volume to Capacity	0.03	0.03	0.01				
Analysis Period (min) 15									Queue Length 95th (m)	0.8	0.0	0.3				
									Control Delay (s)	8.8	0.0	4.6				
									Lane LOS	A	A	A				
									Approach Delay (s)	8.8	0.0	4.6				
									Approach LOS	A						
									Intersection Summary							
									Average Delay	3.5						
									Intersection Capacity Utilization	18.4%						
									Analysis Period (min)	15						
									ICU Level of Service	A						

HCM Unsignedized Intersection Capacity Analysis 6: Tanbark Road & Apricot Glen Drive								2030 AM Total 05-02-2023								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	W	W	W	W	W	W		Lane Configurations	W	W	W	W	W	W		
Traffic Volume (vph)	6	23	33	19	18	11		Traffic Volume (veh/h)	6	23	33	19	18	11		
Future Volume (vph)	6	23	33	19	18	11		Future Volume (veh/h)	6	23	33	19	18	11		
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750		Sign Control	Stop	Free	Free	Free	Free	Free		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		Grade	0%	0%	0%	0%	0%	0%		
Fit	0.895	0.950						Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Fit Protected	0.989	0						Hourly flow rate (vph)	7	25	36	21	20	12		
Satd. Flow (prot)	1519	0	1630	0	0	1664		Pedestrians								
Fit Permitted	0.989							Lane Width (m)								
Satd. Flow (perm)	1519	0	1630	0	0	1664		Walking Speed (m/s)								
Link Speed (kh)	50	50						Percent Blockage								
Link Distance (m)	197.4	137.4						Right turn flare (veh)								
Travel Time (s)	14.2	9.9						Median type								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		Upstream signal (m)								
Adj. Flow (vph)	7	25	36	21	20	12		PX, platoon unblocked								
Shared Lane Traffic (%)								vC, conflicting volume								
Lane Group On Flow (vph)	32	0	57	0	0	32		vC1, stage 1 conf vol								
Enter Blocked Intersection	No	No	No	No	No	No		vC2, stage 2 conf vol								
Lane Alignment	Left	Right	Left	Right	Left	Left		vCu, unblocked vol								
Median Width(m)	3.6							vC, single (s)								
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0		vC, 2 stage (s)								
Crosswalk Width(m)	4.8	4.8						If (s)								
Two way Left Turn Lane								p0 queue free %								
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11		CM capacity (veh/h)								
Turning Speed (kh)	25	15	15	25				Direction Lane #	WB 1	NB 1	SB 1					
Sign Control	Stop	Free						Volume / Total	32	57	32					
Intersection Summary								Volume Left	7	0						
Area Type	Other								Volume Right	25	21	0				
Control L Type: Unsignalized									cSH	980	1700	1547				
Intersection Capacity Utilization 18.4%									Volume to Capacity	0.03	0.03	0.01				
Analysis Period (min) 15									Queue Length 95th (m)	0.8	0.0	0.3				
									Control Delay (s)	8.8	0.0	4.6				
									Lane LOS	A	A	A				
									Approach Delay (s)	8.8	0.0	4.6				
									Approach LOS	A						
									Intersection Summary							
									Average Delay	3.5						
									Intersection Capacity Utilization	18.4%						
									Analysis Period (min)	15						
									ICU Level of Service	A						

Lanes, Volumes, Timings
7: Four Mile Creek Road & Creekside Drive

2030 AM Total
05-02-2023

HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2030 AM Total
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	6	52	19	437	404	11
Traffic Volume (vph)	6	52	19	437	404	11
Future Volume (vph)	1750	1750	1750	1750	1750	1750
Peak Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.880	0.996				
Fit Protected	0.995	0.988				
Satd. Flow (prot)	1502	0	0	1712	1709	0
Fit Permitted	0.995	0.998				
Satd. Flow (perm)	1502	0	0	1712	1709	0
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	9.2	7.0	6.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	57	21	475	439	12
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	64	0	0	496	451	0
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	
Turning Speed (kh)	25	15	25	15	15	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control l Type: Unsignedized						
Intersection Capacity Utilization 52.2%						
Analysis Period (min) 15						

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HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

2030 AM Total
05-02-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	6					
Traffic Volume (vph)	52	19	437	404	11	
Future Volume (vph)	52	19	437	404	11	
Peak Flow (vphpl)	1750	1750	1750	1750	1750	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Fit	0.880	0.996				
Fit Protected	0.995	0.988				
Satd. Flow (prot)	1502	0	0	1712	1709	0
Fit Permitted	0.995	0.998				
Satd. Flow (perm)	1502	0	0	1712	1709	0
Link Speed (kh)	50	50	50	50	50	
Link Distance (m)	117.7	96.9	90.2			
Travel Time (s)	8.5	9.2	7.0	6.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	7	57	21	475	439	12
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	64	0	0	496	451	0
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	
Turning Speed (kh)	25	15	25	15	15	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control l Type: Unsignedized						
Intersection Capacity Utilization 52.2%						
Analysis Period (min) 15						

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HCM Unsignedized Intersection Capacity Analysis						
1: Tanbark Road & York Road						
Movement	EB-L	EBT	EBS	WBL	WBT	Free
Lane Configurations	11	345	94	29	246	246
Traffic Volume (veh/h)	11	345	94	29	246	246
Sign Control		Free		0%		Free
Grade		0%		0%		0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Holiday flow rate (rph)	12	375	102	32	267	267
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockages						
Right turn flare (veh)						
Median type		None				None
Median storage veh						
Upstream Signal (m)						
px, platoon unblocked						
px, conflicting volume						
vc1, stage 1 conf vol						
vc2, stage 2 conf vol						
vc1, unblocked vol						
ic, single s						
ic, 2 stage s						
if (s)	2.2					2.3
p0 queue free %	99					97
cm capacity (veh/h)	1295					1065
Direction, Lane #	EB-1	WB-1	NB-1	SB-1		
Volume Total	489	311	96	24		
Volume Left	12	32	64	10		
Volume Right	102	12	25	10		
cSH	1295	1065	337	367		
Volume to Capacity	0.01	0.03	0.28	0.07		
Queue Length 85th (m)	0.2	0.7	9.2	1.7		
Control Delay (s)	0.3	1.1	19.9	15.5		
Lane LOS	A	A	C	C		
Approach Delay (s)	0.3	1.1	19.9	15.5		
Approach LOS		C	C	C		
Intersection Summary						
Average Delay				3.0		
Intersection Capacity Utilization				43.1%		ICU Level

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HCM Unsignedized Intersection Capacity Analysis						
2: Tanbark Road & Warner Road						
Movement	E BL	E BT	E BR	W BL	W BT	W BR
Lane Configurations	14	8	0	9	10	4
Traffic Volume (veh/h)	14	8	0	9	10	4
Future Volume (Veh/h)	14	8	0	9	10	4
Sign Control	Skip	Skip	Skip	Skip	Skip	Skip
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	9	0	10	11	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream Signal (m)						
px, platoon unblocked						
px, conflicting volume						
vc1, stage 1 conf vol						
vc2, stage 2 conf vol						
vc1, unblocked vol						
vc1, single (s)						
vc2, 2 stage (s)						
f (s)	3.5	4.0	3.3	3.5	4.1	3.4
p0 queue free %	98	99	100	99	98	99
cm1 capacity (veh/h)	688	667	975	717	636	717
Direction, Lane #	EB 1	WB 1	NB 1	SB 1		
Volume Total	24	36	63	133		
Volume Left	15	10	0	34		
Volume Right	0	15	20	3		
cSH	680	781	1507	1553		
Volume to Capacity	0.04	0.05	0.00	0.02		
Queue Length 85th (m)	0.9	1.2	0.0	0.5		
Control Delay (s)	10.5	9.8	0.0	2.0		
Lane LOS	B	A	A	A		
Approach Delay (s)	10.5	9.8	0.0	2.0		
Approach LOS	B	A				
Intersection Summary						
Average Delay				3.4		
Intersection Capacity Utilization				23.3%		ICU Level

HCM Unsignedized Intersection Capacity Analysis							
3: Tanbark Road & Pinecroft Drive							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y	Y	Y	Y	Y	Y	
Traffic Volume (Veh/h)	0	9	47	2	6	76	
Future Volume (Veh/h)	0	9	47	2	6	76	
Sign Control	Stop	Free					Free
Grade	0%	0%					0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	10	51	2	7	83	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	Median storage veh		None		None		
Upstream signal (m)							
PX, platoon unblocked							
VC, conflicting volume	149	52					53
VC1, stage 1 cont vol							
VC2, stage 2 cont vol							
VCu, unblocked vol	149	52					53
IC, single (s)	6.4	6.2					4.1
IC, 2 stages (s)							
IF (s)	3.5	3.3					2.2
p0 queue free %	100	99					100
cw capacity (veh/h)	844	1021					1566
Direction, Lane #	WB 1	NB 1	SB 1				
Volume, Total	10	53	90				
Volume, Left	0	0	0				
Volume, Right	10	2	0				
eSH	1021	1700	1566				
Volume to Capacity	0.01	0.03	0.00				
Queue Length 56th (m)	0.2	0.0	0.1				
Control Delay (s)	8.6	0.0	0.6				
Lane LOS	A	A	A				
Approach LOS	A	8.6	0.0	0.6			
Intersection Summary							
Average Delay							0.9
Intersection Capacity Utilization							18.9%
Analysis Period (min)							15
ICU Level of Service							A

Lanes, Volumes, Timings
4: Tanbark Road & Hickory Avenue

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HCM Unsignedized Intersection Capacity Analysis
4: Tanbark Road & Hickory Avenue

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	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	11	8	11	40	61	14
Traffic Volume (vph)	11	8	11	40	61	14
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.942	0.972	0.989	0.975		
Fit Protected	0.972	0	0.989	0		
Satd. Flow (prot)	1740	0	1795	1852	0	
Fit Permitted	0.972		0.989			
Satd. Flow (perm)	1740	0	1795	1852	0	
Link Speed (kh)	50	50	50	50		
Link Distance (m)	1296	99.8	205.1			
Travel Time (s)	9.3	7.2	14.8			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	0%	6%	0%	0%	
Adj. Flow (vph)	12	9	12	43	66	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	55	81	0
Enter Blocked Intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00		
Turning Speed (kph)	25	15	25	15		
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 19.4%						
Analysis Period (min) 15						

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	EBL	EBR	NBL	NBT	SBT	SBR
Movement						
Lane Configurations	W					
Traffic Volume (veh/h)	11	8	11	40	61	14
Future Volume (veh/h)	11	8	11	40	61	14
Peak Hour Factor						
Sign Control	Stop				Free	Free
Grade	0%					
Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	9	12	43	66	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	None
Median storage (veh)						
Upstream signal (m)						
PX, platoon unblocked						
VC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol					140	74
IC, single (s)					6.4	6.2
IC, 2 stage (s)					4.1	
If (s)						
p0 queue free %					3.5	3.3
CM capacity (veh/h)					99	99
Direction Lane #	EB 1	NB 1	SB 1		850	994
Volume Total	21	55	81			
Volume Left	12	12	0			
Volume Right	9	0	15			
cSH					907	1700
Volume to Capacity					0.02	0.01
Queue Length 95th (m)					0.6	0.05
Control Delay (s)					9.1	1.7
Lane LOS	A	A	A			
Approach Delay (s)					9.1	1.7
Approach LOS	A					
Intersection Summary						
Average Delay					1.8	
Intersection Capacity Utilization					19.4%	
Analysis Period (min)					15	
ICU Level of Service						A

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Lanes, Volumes, Timings
5: Warner Road & Angels Drive

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	EBL	EBC	EBR	WBL	WBC	WBR	NBL	NBC	SBL	SBC
Lane Group										
Lane Configurations	4	8	1	15	11	2	0	1	9	4
Traffic Volume (vph)	4	8	1	15	11	2	0	1	9	4
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor										
Ped/Bike Factor	Fit	0.990	0.991	0.877	0.981					
Fit Protected	0.986	0.974	0.972							
Satd. Flow (prot)	0	1852	0	0	1746	0	0	1634	0	0
Fit Permitted	0.986	0.974	0.972							
Satd. Flow (perm)	0	1852	0	0	1746	0	0	1634	0	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	4	9	1	16	12	2	0	1	10	4
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	14	0	0	30	0	0	11	0	7
Enter Blocked Intersection	No									
Lane Alignment	Left	Right								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane										
Headway Factor										
Turning Speed (kph)	25	100	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary										
Area Type:	Other									
Control Type: Unsignalized										
Intersection Capacity Utilization 14.1%										
Analysis Period(min) 15										

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HCM Unsignedized Intersection Capacity Analysis
5: Warner Road & Angels Drive

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	EBL	EBC	EBR	WBL	WBC	WBR	NBL	NBC	SBL	SBT
Lane Group										
Lane Configurations	4	8	1	15	11	2	0	1	9	4
Traffic Volume (vph)	4	8	1	15	11	2	0	1	9	4
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Peak Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor										
Ped/Bike Factor	Fit	0.990	0.991	0.877	0.981					
Fit Protected	0.986	0.974	0.972							
Satd. Flow (prot)	0	1852	0	0	1746	0	0	1634	0	0
Fit Permitted	0.986	0.974	0.972							
Satd. Flow (perm)	0	1852	0	0	1746	0	0	1634	0	0
Link Speed (kph)	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	191.9	207.8	207.8	103.2	103.2	103.2	131.4	131.4	131.4	131.4
Travel Time (s)	13.8	15.0	15.0	7.4	7.4	7.4	9.5	9.5	9.5	9.5
Confli. Pedcs. (#/h)	1									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	10%	0%	2%	2%	33%	2%
Adj. Flow (vph)	4	9	1	16	12	2	0	1	10	4
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	14	0	0	30	0	0	11	0	7
Enter Blocked Intersection	No									
Lane Alignment	Left	Right								
Median Width(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane										
Headway Factor										
Turning Speed (kph)	25	100	100	100	100	100	100	100	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary										
Area Type:	Other									
Control Type: Unsignalized										
Intersection Capacity Utilization 14.1%										
Analysis Period(min) 15										

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Lanes, Volumes, Timings
6: Tanbark Road & Apricot Glen Drive

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HCM Unsignedized Intersection Capacity Analysis
6: Tanbark Road & Apricot Glen Drive

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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	W	W	W	W	W	W
Lane Configurations	18	42	16	10	29	29
Traffic Volume (vph)	18	42	16	10	29	29
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.906	0.947				
Fit Protected	0.985	0	1764	0	0	1818
Satd. Flow (prot)	1662	0	1764	0	0	1818
Fit Permitted	0.985					
Satd. Flow (perm)	1662					
Link Speed (kh)	50	50	50	50	50	50
Link Distance (m)	112.3	170.0			99.8	
Travel Time (s)	8.1	12.2			7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	46	17	11	32	32
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	66	0	28	0	0	64
Enter Blocked intersection	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	
Median Width(m)	3.6		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kh)	25	15	15	25		
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 20.0%						
Analysis Period (min) 15						

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Volume (veh/h)	18	42	16	10	29	29
Future Volume (veh/h)	18	42	16	10	29	29
Sign Control			Stop	Free		Free
Grade			0%	0%		0%
Peak-Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	46	17	11	32	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
PX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
If (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction Lane #	WB 1	NB 1	SB 1			
Volume Total	66	28	64			
Volume Left	20	0	32			
Volume Right	46	11	0			
cSH	987	1700	1585			
Volume to Capacity	0.07	0.02	0.02			
Queue Length 95th (m)	1.7	0.0	0.5			
Control Delay (s)	8.9	0.0	3.7			
Lane LOS	A	A	A			
Approach Delay (s)	8.9	0.0	3.7			
Approach LOS	A					
Intersection Summary						
Average Delay	5.2					
Intersection Capacity Utilization	20.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

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Lanes, Volumes, Timings
7: Four Mile Creek Road & Creekside Drive

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HCM Unsignedized Intersection Capacity Analysis
7: Four Mile Creek Road & Creekside Drive

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	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W	9	53	36	350	422
Traffic Volume (vph)		9	53	36	422	6
Future Volume (vph)		9	53	350	422	6
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.885	0.993	0.995	0.995	0.998	0.998
Fit Protected	0.993	0	0	0	1853	1859
Satd. Flow (prot)	1637	0	0	0	1853	1859
Fit Permitted	0.993				0.995	0
Satd. Flow (perm)	1637	0	0	0	1853	1859
Link Speed (kph)	50	50	50	50	50	50
Link Distance (m)	132.8	9.6	97.5	91.5	6.6	6.6
Travel Time (s)		0.92	0.92	0.92	0.92	0.92
Peak Hour Factor		10	58	39	380	459
Adj. Flow (vph)						7
Shared Lane Traffic (%)						
Lane Group n Flow (vph)	68	0	0	419	466	0
Enter Blocked intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	
Median Width(m)	3.6		0.0	0.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	4.8		4.8	4.8		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	
Turning Speed (kph)	25	15	25	15	15	
Sign Control	Stop		Free	Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignedized						
Intersection Capacity Utilization 56.8%						
Analysis Period (min) 15						

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	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	9	53	36	350	422
Traffic Volume (vph)		9	53	36	422	6
Future Volume (vph)		9	53	350	422	6
Peak Hour Factor						
Sign Control	Stop					
Grade	0%					
Peak-Hour Factor	0.92					
Hourly flow rate (vph)	10					
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
PX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
If (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction Lane #	EB 1	NB 1	SB 1			
Intersection Summary						
Average Delay	1.4					
Intersection Capacity Utilization	56.8%					
Analysis Period (min)	15					

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