

MEMORANDUM

To: Town of Castle Rock, Public Works Department

From: Cassie Slade, PE, PTOE

Date: May 8, 2026

Project: Dawson Trails Multi-Family within Planning Area D-1 North

Subject: Traffic Conformance Letter

Executive Summary

The latest site plan shows that the multi-family site of Planning Area D-1 will include 324 apartments, which is 29 fewer units than in the Master Traffic Impact Study (MTS) and 26 fewer units than was included in Planning Area D-1 Traffic Conformance Letter (12/6/2024). The MTS Supplemental Analysis for Collector Road (2/9/2026) provides the daily roadway volumes through Dawson Trails and included the higher number of multi-family units as presented with Planning Area D-1. This traffic analysis for the Planning Area D-1 Multi-Family site estimated that there will be fewer trips than shown in the MTS. There will be approximately 1,373 daily trips with 117 vehicle trips in the AM peak hour, 117 vehicle trips in the PM peak hour, and 97 vehicle trips in the Saturday peak hour. This is approximately 44% less than the trips for the multi-family section of Planning Area D-1 as assumed in the MTS. The reduction is also a result of utilizing the trip rates for multi-family mid-rise instead of low-rise, which was used in the MTS for a conservative estimate.

Per the Dawson Trails Filing No. 2 Infrastructure Plan (CD23-0045), the collector roads will be constructed prior to the completion of Planning Area D-1 and the collectors will connect Dawson Trails Boulevard to local streets into each planning area. Blanca Peak Parkway will be extended west from Dawson Trails Boulevard which will lead to the proposed residential community of Planning Area D-1. Blanca Peak Parkway will be a major collector from Dawson Trails Boulevard to Dawson Plaza Street (~606.8 feet) and then transition to a minor collector west of Dawson Plaza Street. The site plan for Planning Area D-1 Multi-Family includes one (1) full-movement, side-street stop-controlled accesses on Dawson Plaza Street and one (1) right-in, right-out access on Dawson Trails Boulevard.

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The capacity analysis indicated that the access intersections in the Year 2040 with full buildout of Dawson Trails will operate overall at LOS A in both peak hours with all movements operating at LOS D or better. The 95th percentile queues were calculated to be one vehicle or less and the auxiliary lanes were designed to accommodate the queues.

The most current site plan for Planning Area D-1 Multi-Family is consistent with the assumptions of the MTS and previous analysis for Planning Area D-1 with fewer homes and trips than estimated for this parcel. **It is anticipated that the future planned roadway network and intersections can accommodate the project trips without the need for additional analysis or mitigation measures.**

Introduction

The Fox Tuttle Transportation Group has prepared this traffic conformance letter for the proposed development of multi-family apartments located in the northern portion of Planning Area D (D-1) of the Dawson Trails development in Castle Rock, Colorado. The site is located southwest of the intersection of Blanca Peak Parkway and Dawson Trails Boulevard, as shown on **Figure 1**. This filing of Dawson Trails plans to include 324 multi-family dwelling units, with 134 one-bedroom units, 142 two-bedroom units, and 48 three-bedroom units. The project will provide roadway connectivity to Dawson Plaza Street, which is being constructed with the single-family homes approved in Planning Area D-1 (SDP23-0040 and CD-25-0009). It is proposed that a right-in, right-out access be provided on Dawson Trails Boulevard.



Figure 1. Vicinity Map

The purpose of this "traffic conformance letter" is to determine if the proposed use is significantly different than the trip generation assumptions for this site as analyzed in the "Master" study and Planning Area D-1 study, as well as to identify if additional traffic analysis is necessary.

Comparison to Master Traffic Study

A "Master" transportation study¹ (MTS) was previously prepared for the entire 2,063± acres of Dawson Trails that will include a mix of residential, commercial, office, light industrial, schools, and recreation. The MTS assumed that the northern portion of Planning Area D would include 353 multi-family apartments on this portion of the property. The MTS focused on the full movement intersections along Dawson Trails Boulevard and did not evaluate access intersections or collector/collector intersections since this detail would be more appropriate in traffic studies for phases or specific projects.

The detailed analysis in the Planning Area D-1 Traffic Conformance Letter evaluated the intersections along the adjacent collector and local streets that will serve Planning Area D-1, including the multi-family development. The Planning Area D-1 Traffic Conformance Letter assumed that there would be up to 350 multi-family units and assigned 100% of the traffic through the primary intersection of Blanca Peak Parkway and Dawson Plaza Street.

The latest site plan shows that the multi-family portion of Planning Area D-1 will include 324 multi-family homes, which is 29 fewer units than in the MTS and 26 fewer units than the Planning Area D-1 Traffic Conformance Letter. Note that the remaining portions of Planning Area D are anticipated to be single-family homes, which will be completed in future phases.

Trip Generation

To establish the volume of trips associated with the proposed project, the data contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual² for "Multifamily (Mid-Rise) Housing" was applied. Note that the MTS applied rates for "low-rise" for a conservative estimate and to accommodate the possibility of townhomes instead of apartments. The Planning Area D-1 analysis and the current analysis applied "mid-rise" rates since the site plan is known.

The proposed land use is estimated to mostly be new trips, known as 'primary trips.' These trips are made specifically to visit the site and are considered "new" trips. Primary trips would not have been made if the proposed project had not existed. Therefore, this is the only type of trip that increases the number of trips made on a regional basis.

¹ Dawson Trails Master Transportation Study. Fox Tuttle Transportation Group, LLC. June 2022.

² Trip Generation Manual. 11th Edition. Institute of Transportation Engineers. Washington, DC. 2021. Updated version was released in September 2025 and is being applied to the latest analysis. The MTS utilized the 10th edition since that was the most current at the time.

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Table 1 summarizes and compares the trip generation estimated from the *MTS*, Planning Area D-1, and the latest site plan for the multi-family homes within Planning Area D-1 for weekday daily, weekday AM, weekday PM, and Saturday peak periods.

Table 1. Trip Generation Summary and Comparison

Plannin g Area	Land Use	Size	Unit	Non- Auto Factor	Internal Capture Adjust	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips				Saturday Peak Hour Trips																																			
						Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out	Rate	Peak Factor	Total	In	Out																															
Master Transportation Study*																																																					
D-1 North	ITE 221 - Multi-Family Housing (Low-Rise)	353	Dwelling Units	0.95	1.00	7.32	2,455	1,228	1,227	0.46	154	35	119	0.56	188	118	70	0.70	0.875	205	100	105																															
Planning D-1 North Traffic Conformance Letter**																																																					
D-1 North	ITE 221 - Multi-Family Housing (Mid-Rise)	350	Dwelling Units	0.95	1.00	4.54	1,510	755	755	0.37	123	28	95	0.39	130	79	51	0.39	0.875	113	58	55																															
Updated Multi-Family Plan***																																																					
D-1 North	ITE 221 - Multi-Family Housing (Mid-Rise)	324	Dwelling Units	0.95	1.00	4.46	1,373	687	686	0.38	117	27	90	0.38	117	75	42	0.36	0.875	97	49	48																															
Difference in Trips (MTS vs. Updated)						-1,082				-541				-541				-37				-8				-29				-71				-43				-28				-108				-51				-57			
Difference in Trips (PA D-1 vs. Updated)						-137				-68				-69				-6				-1				-5				-13				-4				-9				-16				-9				-7			

* Source : ITE Trip Generation Manual and Handbook, 10th Edition, 2017.

** Source : ITE Trip Generation Manual and Handbook, 11th Edition, 2021.

*** Source : ITE Trip Generation Manual and Handbook, 12th Edition, 2025.

The latest site plan has fewer trips than was estimated in the *MTS* and in the *Planning Area D-1 Traffic Conformance Letter* for the multi-family portion of Planning Area D. The *MTS* included up to 1,938 dwelling units in the entirety of Planning Area D. Planning for the remaining property of Planning Area D has not been developed and will be evaluated with a future submittal. The reduction in trips for the northern portion of Planning Area D may be absorbed with the future phase of this area.

There will only be a positive impact on the intersections adjacent to Planning Area D-1 Multi-Family site since traffic volumes are being reduced.

Proposed Access

The Dawson Trails development and the Town of Castle Rock have various infrastructure packages that provide construction documents for the arterial and collector roadways within the property. The Town is currently constructing Dawson Trails Boulevard and the Crystal Valley Interchange, and is partially opened for travel as the interchange and roadways continue to be finalized. The portion of Dawson Trails Boulevard that is adjacent to Planning Area D-1 Multi-Family site is completed and opened for travel. The Dawson Trails development is currently constructing the first two

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infrastructure packages that are north of the multi-family site. Infrastructure Filing 2 (CD23-0045) includes the completion of Blanca Peak Parkway through Planning Area D, which will be completed prior to the completion of homes.

Blanca Peak Parkway will be a major collector for the first 606.8 feet west of Dawson Trails Boulevard and then transition to a minor collector west of Dawson Plaza Street (first intersection west of Dawson Trails Boulevard). Dawson Plaza Street will be a mixed-local street that will extend from Quandary Peak Drive, through Blanca Peak Parkway, and into Planning Area D-1.

The site plan for Planning Area D-1 Multi-Family site plan indicates there will be one (1) full-movement, side-street stop-controlled intersection on Dawson Plaza Street and a secondary access on Dawson Trails Boulevard (restricted to right-in, right-out).

The forecasted traffic through the intersection of Blanca Peak Parkway and Dawson Plaza Street was presented in the Planning Area D-1 Traffic Conformance Letter. These were adjusted to accommodate the reductions in trips associated with the Planning Area D-1 Multi-Family (as presented in **Table 1**) as well as the addition of a right-in, right-out access on Dawson Trails Boulevard. The updated estimated turning volumes are shown on **Figure 2** for the listed access intersections:

1. Blanca Peak Parkway and Dawson Plaza Street

- Four-legged intersection
- Side-Street Stop-Control [*northbound and southbound on Dawson Plaza Street*]
- Free-flow on Blanca Peak Parkway
- Left-turn lanes on all approaches
- Right-turn lanes on the northbound and westbound approaches

2. Dawson Plaza Street and Prudhomme Drive / Multi-family Road

- Three-legged intersection [*no south leg*]
- Side-Street Stop-Control [*eastbound on Prudhomme Drive and westbound on Multi-family Access*]
- Free-flow on Dawson Plaza Street
- Single lane approaches, no auxiliary lanes

3. Dawson Trails Boulevard and Multi-Family Access (right-in, right-out)

- Side-Street Stop-Control [*eastbound on Multi-Family Access*]
- No auxiliary lanes proposed

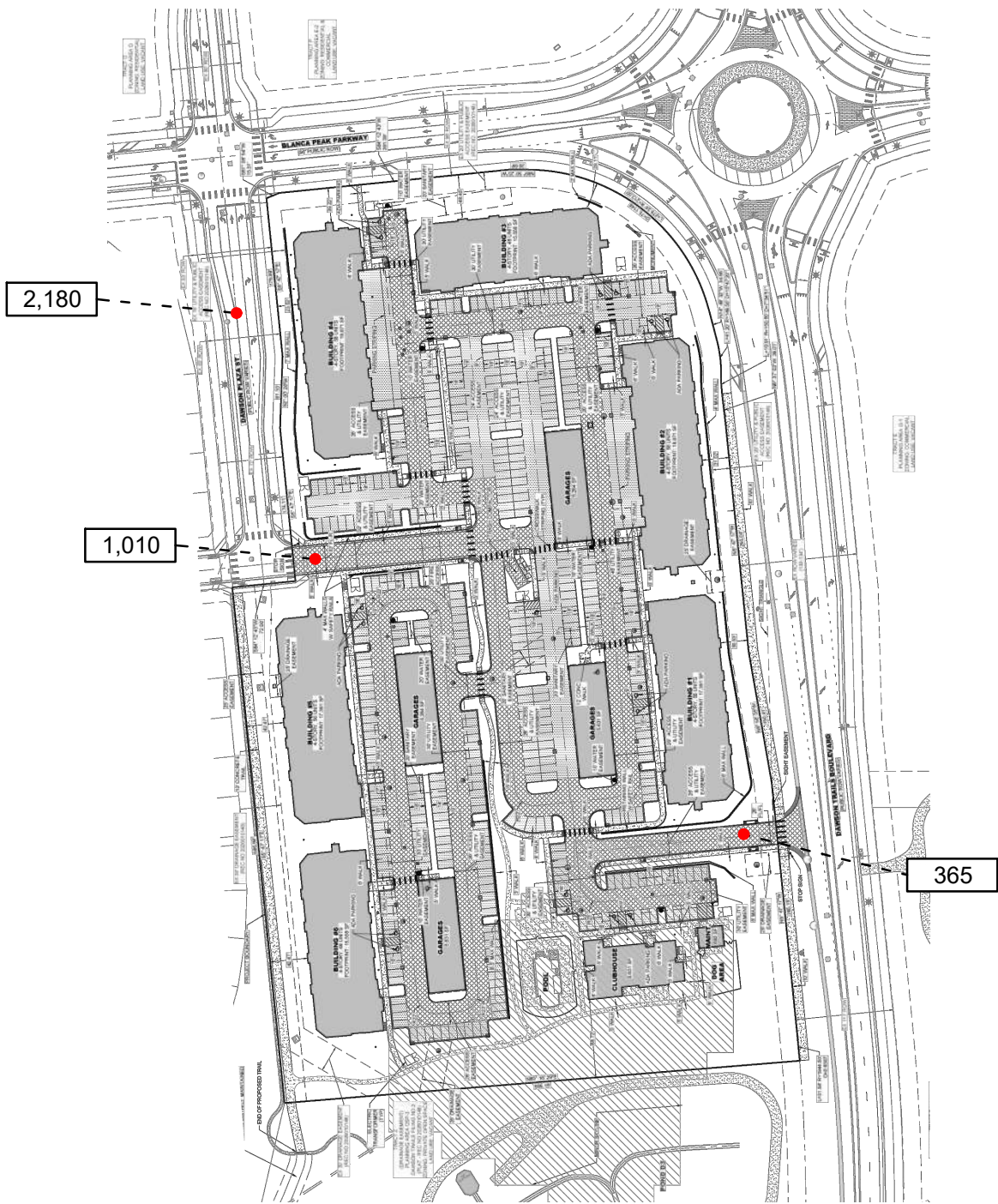
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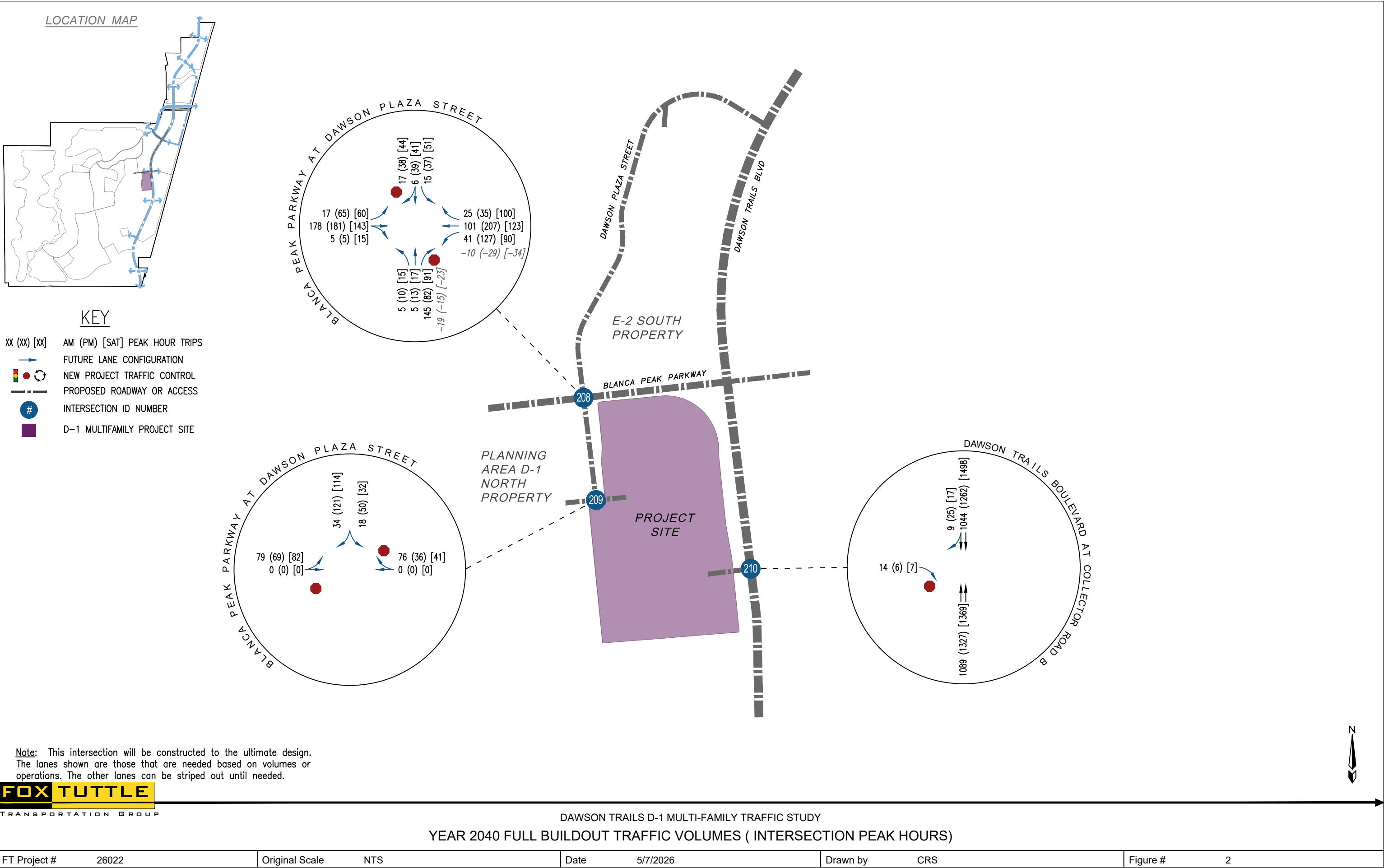
The planned lane configuration and traffic control for each intersection is shown at the study intersections. The intersection design for Blanca Peak Parkway at Dawson Plaza Street was determined and approved in the *Planning Area D-1 Traffic Conformance Letter*. The other two study intersections were found to operate acceptably without separate turn lanes.

Figure 3 provides the estimated volumes at full buildout along the internal roadways. The analysis indicates that Dawson Plaza Street south of Blanca Peak Parkway has been designed as a Residential Collector with volumes estimated to be approximately 2,160 vehicles per day (vpd). This roadway volume has been reduced since the previous analysis due to a reduction in multi-family units and the addition of access on Dawson Trails Boulevard. The internal local roadways were estimated to have less than 1,000 vpd. The roadway designs will accommodate the volumes associated with Planning Area D-1 Multi-Family.



XX,XXX

WEEKDAY DAILY TRAFFIC VOLUME



Capacity Analysis

A capacity analysis was conducted for the AM and PM peak hour for the intersections to be utilized by those living in the Planning Area D-1 Multi-Family site with volumes including the full buildout of the Dawson Trails community with maximum density and inclusion of background growth. Refer to **Table 2** for the estimated delays, level-of-services, 95th percentile queues, and v/c ratios. This table shows that all the access intersections in the Year 2040 with full buildout will operate overall at LOS A in both peak hours with all movements operating at LOS D or better. The 95th percentile queues were calculated to be one vehicle or less and the auxiliary lanes were designed to accommodate the queues.

Table 2. Estimated Peak Hour LOS and Queues

Intersection and Lanes Groups	2040 Bkgrd + Full Build Out											
	AM Peak				PM Peak				Sat Peak			
	Delay	LOS	95th % Queue	v/c ratio	Delay	LOS	95th % Queue	v/c ratio	Delay	LOS	95th % Queue	v/c ratio
STOP SIGN CONTROL												
208. Blanca Peak Pkwy at Dawson Plaza St	5	A			6	A			6	A		
Eastbound Left	8	A	0'	0.01	8	A	5'	0.05	8	A	5'	0.05
Eastbound Through+Right	0	A	0'	0.00	0	A	0'	0.00	0	A	0'	0.00
Westbound Left	8	A	3'	0.03	8	A	8'	0.10	8	A	5'	0.07
Westbound Through	0	A	0'	0.00	0	A	0'	0.00	0	A	0'	0.00
Westbound Right	0	A	0'	0.00	0	A	0'	0.00	0	A	0'	0.00
Northbound Left [Stop]	12	B	0'	0.01	25	D	5'	0.06	18	C	5'	0.06
Northbound Through [Stop]	13	B	0'	0.01	21	C	5'	0.06	17	C	5'	0.06
Northbound Right [Stop]	10	B	18'	0.19	10	A	10'	0.11	10	A	10'	0.11
Southbound Left [Stop]	14	B	3'	0.04	27	D	18'	0.20	20	C	18'	0.19
Southbound Through+Right [Stop]	10	A	3'	0.03	17	C	20'	0.22	14	B	15'	0.18
209. Dawson Plaza St at D-1 Multi-Family Rd	8	A			5	A			5	A		
Eastbound Left+Through [Stop]	10	B	10'	0.11	11	B	9'	0.11	11	B	10'	0.12
Westbound Through+Right [Stop]	9	A	6'	0.08	8	A	3'	0.04	9	A	3'	0.04
Southbound Left+Right	3	A	1'	0.01	2	A	3'	0.03	2	A	2'	0.02
210. Dawson Trails Blvd at D-1 MF Access (RIRO)	0	A			0	A			0	A		
Eastbound Right [Stop]	13	B	3'	0.03	15	B	3'	0.02	17	C	3'	0.02
Northbound Through	0	A	0'	0.00	0	A	0'	0.00	0	A	0'	0.00
Southbound Through+Right	0	A	0'	0.00	0	A	0'	0.00	0	A	0'	0.00

Note: Delay represented in average seconds per vehicle.

Multi-Modal

Dawson Trails will provide an extensive trail and multi-modal network to encourage the community to reduce vehicular travel and to provide amenities for recreation. **Figure 4** provides a conceptual plan for the trail network in and around Planning Area D-1 and the connectivity to Planning Area B and Dawson Trails Boulevard. Refer to the plan set for more details on the pedestrian and bicycle network.

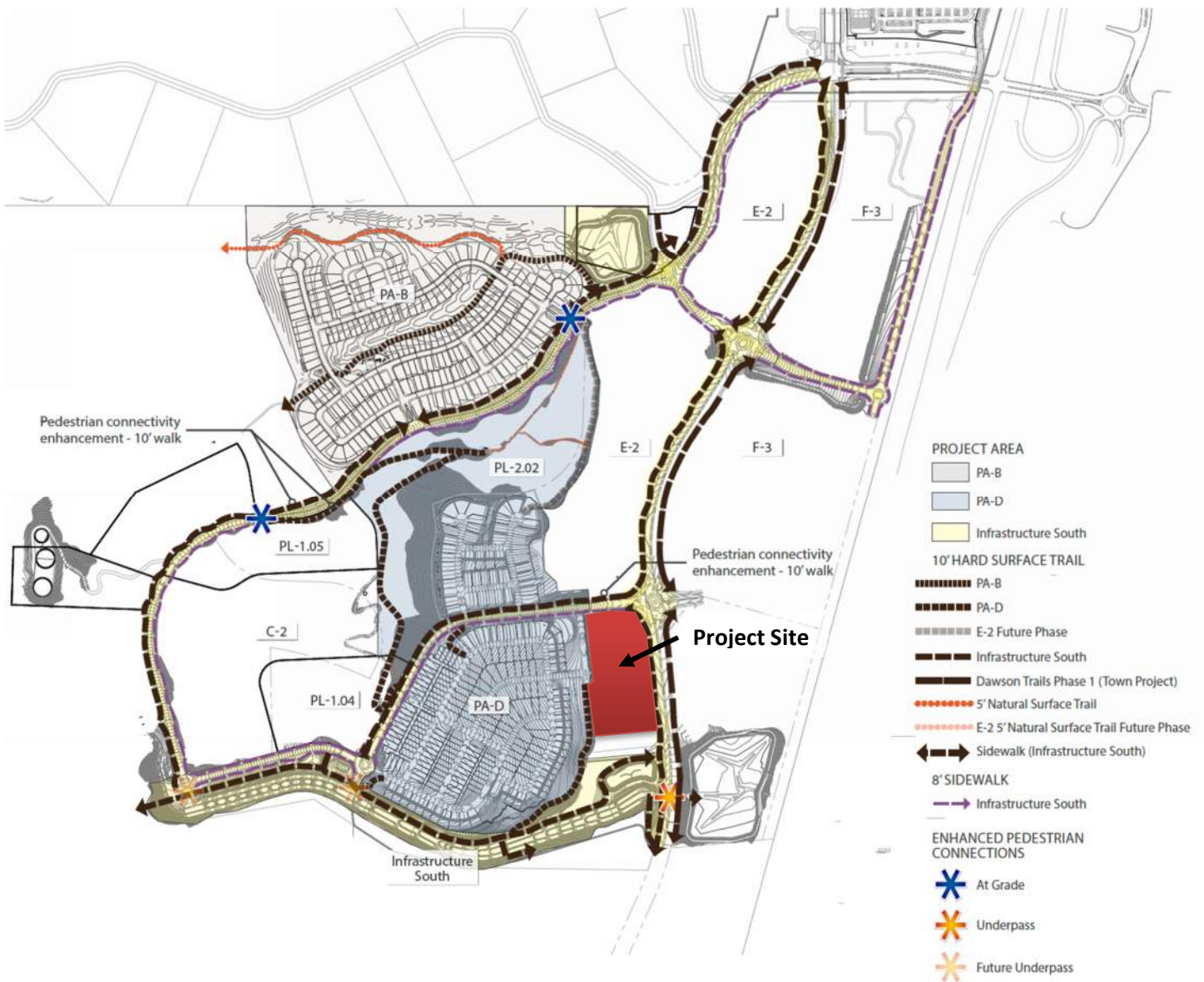


Figure 4. Proposed Multi-Modal Network

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Conclusions

The most current site plan for the Planning Area D-1 Multi-Family site is consistent with the assumptions of the MTS and previous study for Planning Area D-1 with fewer homes and trips than estimated for this parcel. **It is anticipated that the future planned roadway network and intersections can accommodate the project trips without the need for additional analysis or mitigation measures.**

Hopefully, the contents of this memorandum are helpful. If you have any questions, please give me a call.

Sincerely,

FOX TUTTLE TRANSPORTATION GROUP, LLC



Cassie Slade, P.E., PTOE
Principal



Attachments:

Intersection Capacity Analysis Worksheets

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	178	5	41	101	25	5	5	145	15	6	17
Future Vol, veh/h	17	178	5	41	101	25	5	5	145	15	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	0	150	-	175	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	193	5	45	110	27	5	5	158	16	7	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	199	0	0	435	459	196	432	435	110
Stage 1	-	-	-	-	-	-	233	233	-	199	199	-
Stage 2	-	-	-	-	-	-	202	226	-	233	236	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1373	-	-	531	498	845	534	515	944
Stage 1	-	-	-	-	-	-	770	712	-	803	736	-
Stage 2	-	-	-	-	-	-	800	717	-	770	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1447	-	-	1373	-	-	491	476	845	410	492	944
Mov Cap-2 Maneuver	-	-	-	-	-	-	491	476	-	410	492	-
Stage 1	-	-	-	-	-	-	760	703	-	777	713	-
Stage 2	-	-	-	-	-	-	752	694	-	613	701	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.64	1.89	10.38	11.57
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	491	476	845	1447	-	-	1373	-	-	410	761
HCM Lane V/C Ratio	0.011	0.011	0.187	0.013	-	-	0.032	-	-	0.04	0.033
HCM Ctrl Dly (s/v)	12.4	12.6	10.2	7.5	-	-	7.7	-	-	14.1	9.9
HCM Lane LOS	B	B	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	0	0.7	0	-	-	0.1	-	-	0.1	0.1

HCM Unsignalized Intersection Capacity Analysis 2040 Bkgrd+Project - AM Peak 05/07/2026

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	0	0	76	18	34
Future Volume (Veh/h)	79	0	0	76	18	34
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	86	0	0	83	20	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	142	59	77	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142	59	77	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	89	100	100	92	99	
cM capacity (veh/h)	758	822	803	1085	1623	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	86	83	57			
Volume Left	86	0	20			
Volume Right	0	83	37			
cSH	758	1085	1623			
Volume to Capacity	0.11	0.08	0.01			
Queue Length 95th (ft)	10	6	1			
Control Delay (s/veh)	10.4	8.6	2.6			
Lane LOS	B	A	A			
Approach Delay (s/veh)	10.4	8.6	2.6			
Approach LOS	B	A				
Intersection Summary						
Average Delay			7.8			
Intersection Capacity Utilization			21.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	0	1089	1044	9
Future Vol, veh/h	0	14	0	1089	1044	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	0	1184	1135	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	572	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	463	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	463	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	13.04	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 463		-	-		
HCM Lane V/C Ratio	- 0.033		-	-		
HCM Ctrl Dly (s/v)	- 13		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	181	5	127	207	35	10	13	82	37	39	38
Future Vol, veh/h	65	181	5	127	207	35	10	13	82	37	39	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	0	150	-	175	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	197	5	138	225	38	11	14	89	40	42	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	263	0	0	202	0	0	863	880	199	846	845	225
Stage 1	-	-	-	-	-	-	341	341	-	501	501	-
Stage 2	-	-	-	-	-	-	522	539	-	345	343	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1301	-	-	1370	-	-	275	286	842	282	300	814
Stage 1	-	-	-	-	-	-	674	639	-	552	543	-
Stage 2	-	-	-	-	-	-	538	522	-	670	637	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	1370	-	-	190	243	842	204	255	814
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	243	-	204	255	-
Stage 1	-	-	-	-	-	-	638	604	-	496	488	-
Stage 2	-	-	-	-	-	-	419	469	-	554	602	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.05	2.73	12.6	20.17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	190	243	842	1301	-	-	1370	-	-	204	386
HCM Lane V/C Ratio	0.057	0.058	0.106	0.054	-	-	0.101	-	-	0.197	0.217
HCM Ctrl Dly (s/v)	25.1	20.7	9.8	7.9	-	-	7.9	-	-	27	16.9
HCM Lane LOS	D	C	A	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.2	0.2	0.4	0.2	-	-	0.3	-	-	0.7	0.8

HCM Unsignalized Intersection Capacity Analysis 2040 Bkgrd+Project - PM Peak 05/07/2026

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	0	0	36	50	121
Future Volume (Veh/h)	69	0	0	36	50	121
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	75	0	0	39	54	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	213	174	240	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213	174	240	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	89	100	100	96	97	
cM capacity (veh/h)	699	695	639	1085	1623	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	75	39	186			
Volume Left	75	0	54			
Volume Right	0	39	132			
cSH	699	1085	1623			
Volume to Capacity	0.11	0.04	0.03			
Queue Length 95th (ft)	9	3	3			
Control Delay (s/veh)	10.8	8.4	2.3			
Lane LOS	B	A	A			
Approach Delay (s/veh)	10.8	8.4	2.3			
Approach LOS	B	A				
Intersection Summary						
Average Delay		5.2				
Intersection Capacity Utilization		27.4%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	
Traffic Vol, veh/h	0	6	0	1327	1262	25
Future Vol, veh/h	0	6	0	1327	1262	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	1442	1372	27
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	699	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	382	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	382	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	14.59	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 382		-	-		
HCM Lane V/C Ratio	- 0.017		-	-		
HCM Ctrl Dly (s/v)	- 14.6		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	143	15	90	123	100	15	17	91	51	41	44
Future Vol, veh/h	60	143	15	90	123	100	15	17	91	51	41	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	0	150	-	175	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	155	16	98	134	109	16	18	99	55	45	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	172	0	0	646	732	164	624	632	134
Stage 1	-	-	-	-	-	-	294	294	-	329	329	-
Stage 2	-	-	-	-	-	-	352	438	-	295	302	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1324	-	-	1405	-	-	385	348	881	398	398	915
Stage 1	-	-	-	-	-	-	714	670	-	684	646	-
Stage 2	-	-	-	-	-	-	665	579	-	713	664	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	1405	-	-	286	308	881	296	352	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	308	-	296	352	-
Stage 1	-	-	-	-	-	-	679	637	-	636	601	-
Stage 2	-	-	-	-	-	-	543	538	-	585	631	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	2.16			2.23			11.75			15.92		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	286	308	881	1324	-	-	1405	-	-	296	516
HCM Lane V/C Ratio	0.057	0.06	0.112	0.049	-	-	0.07	-	-	0.188	0.179
HCM Ctrl Dly (s/v)	18.4	17.4	9.6	7.9	-	-	7.8	-	-	20	13.5
HCM Lane LOS	C	C	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.2	0.4	0.2	-	-	0.2	-	-	0.7	0.6

HCM Unsignalized Intersection Capacity Analysis 2040 Bkgrd+Project - Sat Peak 05/07/2026

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	82	0	0	41	32	114
Future Volume (Veh/h)	82	0	0	41	32	114
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	89	0	0	45	35	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	177	132	194	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177	132	194	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	88	100	100	96	98	
cM capacity (veh/h)	740	742	686	1085	1623	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	89	45	159			
Volume Left	89	0	35			
Volume Right	0	45	124			
cSH	740	1085	1623			
Volume to Capacity	0.12	0.04	0.02			
Queue Length 95th (ft)	10	3	2			
Control Delay (s/veh)	10.5	8.5	1.7			
Lane LOS	B	A	A			
Approach Delay (s/veh)	10.5	8.5	1.7			
Approach LOS	B	A				
Intersection Summary						
Average Delay		5.4				
Intersection Capacity Utilization		26.7%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Vol, veh/h	0	7	0	1369	1498	17
Future Vol, veh/h	0	7	0	1369	1498	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	1488	1628	18
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	823	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	316	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	316	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Ctrl Dly, s/v	16.66	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	316	-	-		
HCM Lane V/C Ratio	-	0.024	-	-		
HCM Ctrl Dly (s/v)	-	16.7	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.1	-	-		