

Memo

Date: Thursday, May 12, 2022

Project: Terrace Development

To: Travis Russell, Morgan Group

From: Leslie Pollack, P.E., PTOE, HDR Engineering, Inc.

Subject: Terrace Development Driveway Operations

Introduction

The Terrace development is located northeast of the intersection of RM 620 and Bee Cave Parkway in Bee Cave, Texas, as shown in Figure 1. The development is anticipated to consist of two sites, South Site and North Site, with the following proposed land uses:

- 60 dwelling units of low-rise multi-family housing (South Site)
- 370 dwelling units of mid-rise multi-family housing (North Site)

The development is expected to be complete by 2024. As shown in Figure 1, access is proposed to the South Site via one right-in, right-out driveway (Driveway A) and one full-purpose driveway (Driveway B) on Bee Cave Parkway. Access to the North Site is proposed via one full-purpose driveway (Driveway C) and one right-in, right-out driveway (Driveway D) on Bee Cave Parkway. A secondary right-in, right-out driveway (Driveway E) on RM 620 is under evaluation.

The purpose of this memorandum is to document the current driveway operations and the impact of the addition of Driveway E on area traffic operations.

Site Generated Traffic

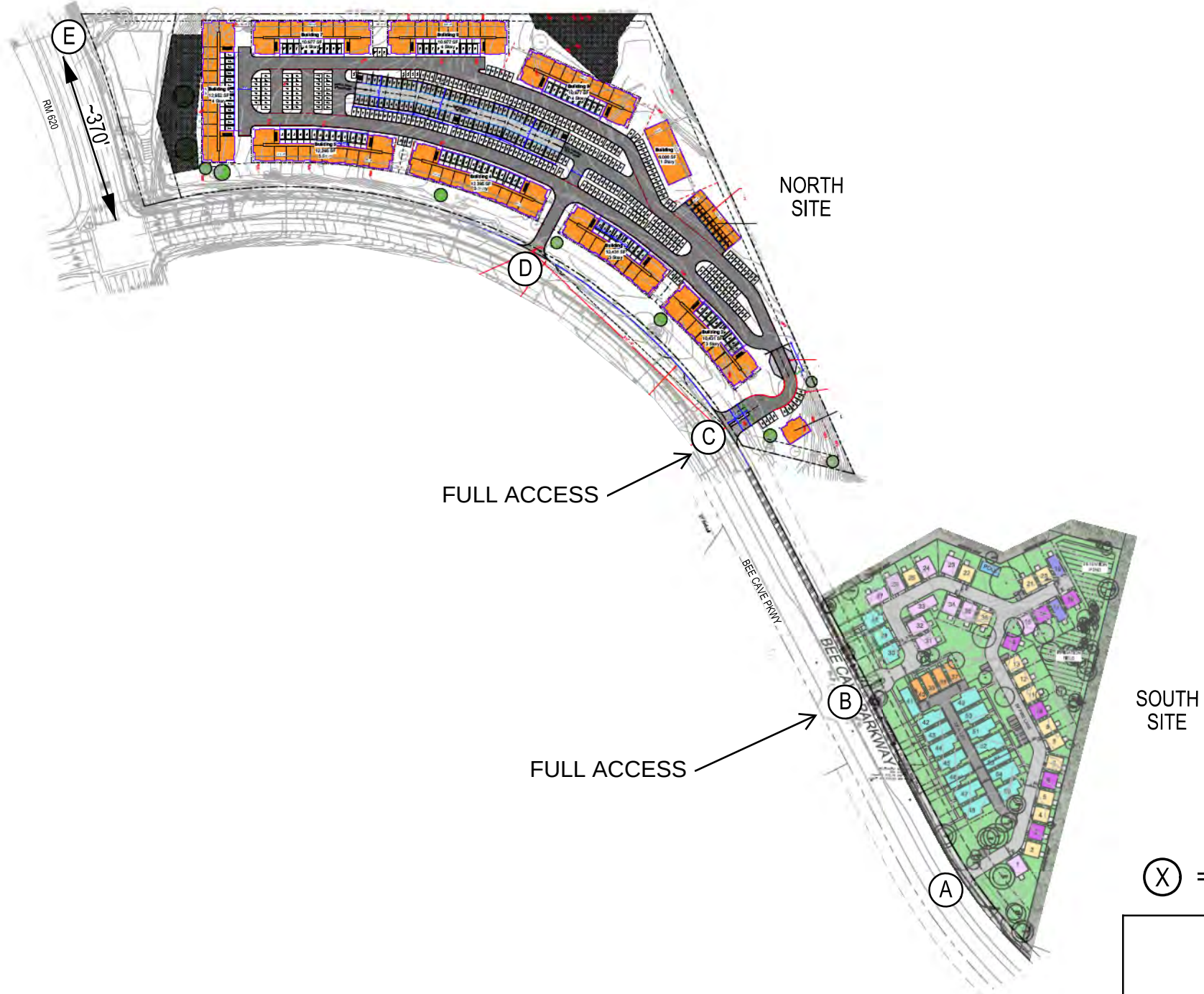
Determining the site generated traffic, or the traffic that will be generated due to the development of the proposed project, was a major element of this analysis. Unadjusted total trips per day, as well as the peak hour traffic associated with the project, were estimated using recommendations and data contained in the Institute of Transportation Engineers Trip Generation, 10th Edition (Ref. 6).

Table 1. Summary of Unadjusted Daily and Peak Hour Trip Generation

Site	Land Use Code	Land Use	Units	Trip Generation Method	Weekdays	AM Peak		PM Peak	
					Trips	Enter	Exit	Enter	Exit
South Site	220	Multifamily Housing (Low-Rise)	60 DU	Fitted Curve	413	6	23	23	14
North Site	221	Multifamily Housing (Mid-Rise)	370 DU	Rate	2,015	34	99	99	64
Total					2,428	40	122	122	78

Background Traffic

To account for the impact of the COVID-19 pandemic on traffic volumes, the turning movement volumes collected in 2021 were compared with volume data collected in 2019. A three (3) percent annual growth rate was applied to the 2019 data and a COVID-19 adjustment factor was formulated by dividing the adjusted 2019 traffic counts by the existing 2021 traffic counts for each intersection.



(X) = SITE DRIVEWAY

FIGURE 1
CONCEPTUAL SITE PLAN

Using an average adjustment factor for all intersections, COVID-adjustment factors of 1.06 and 1.13 were calculated for the AM and PM peak hours, respectively. The adjustment factors were applied to the existing traffic counts to obtain 2021 existing “adjusted” traffic conditions.

In order to estimate 2024 forecasted (without site) traffic volumes, it is necessary to perform two steps. The first is to apply a growth rate to the 2021 existing “adjusted” counts. Based on discussion with the City, a three (3) percent annual growth rate was assumed for the study.

The second step is to add traffic resulting from other projects in the area that are anticipated to be completed prior to buildout of this site. The following “other” projects were included:

- The Backyard
- The Village at Spanish Oaks (20% assumed)

Directional Distribution

The next step involved distribution of the site generated trips to appropriate geographic directions and logical connecting roadways. The major thoroughfares that have a direct bearing on the accessibility of the project have been previously identified. Traffic counts provided the basis for the overall directional distribution of traffic approaching and departing both the North Site and the South Site, as summarized in Table 2.

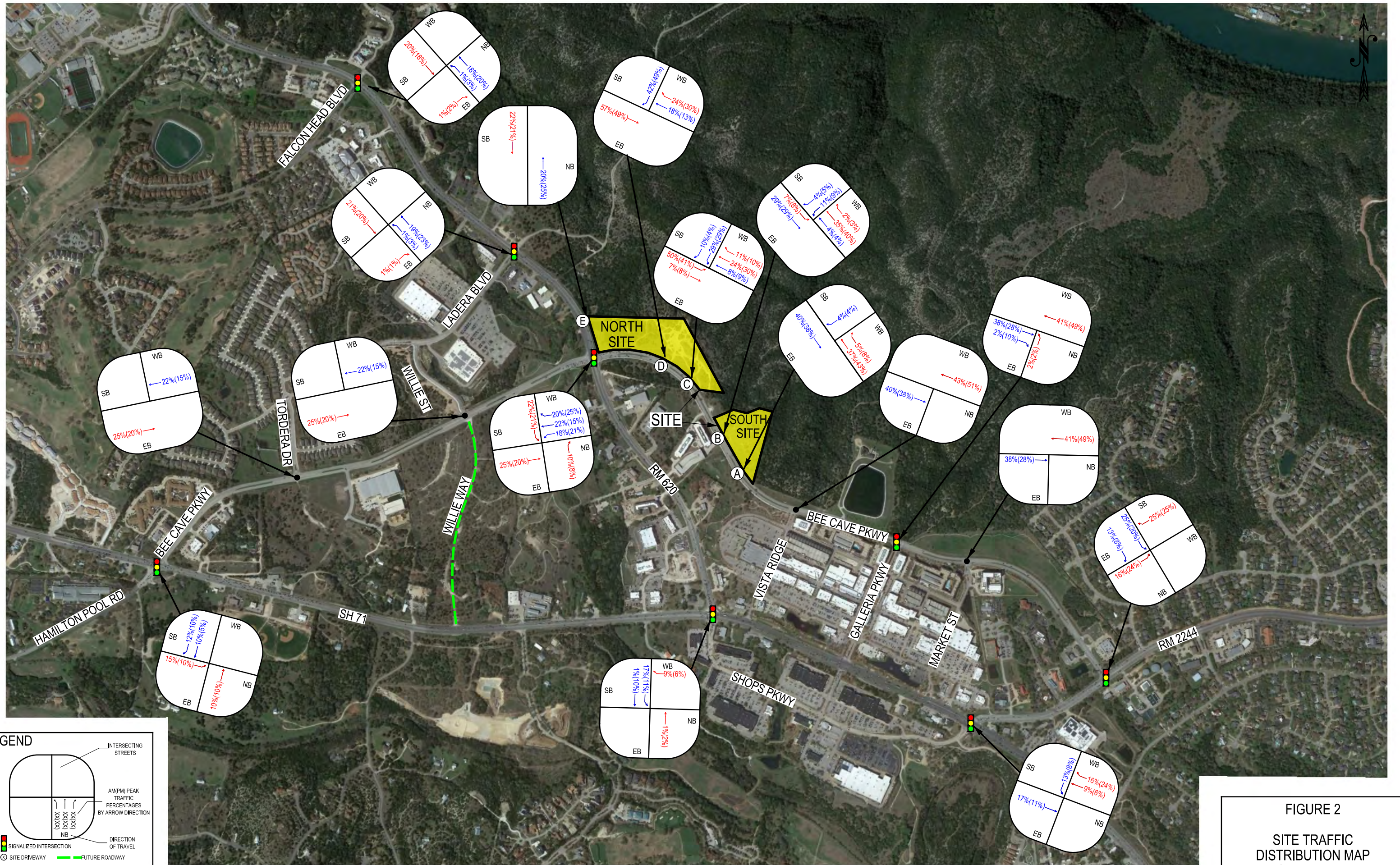
Table 2. Forecasted Overall Directional Distribution of Site-Oriented Traffic

Direction/Roadway	Percent of Site Traffic			
	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
East SH 71	25.0%	30.0%	30.0%	19.0%
West SH 71	15.0%	12.0%	10.0%	10.0%
RM 620	20.0%	18.0%	18.0%	20.0%
RM 2244	25.0%	25.0%	25.0%	20.0%
Hamilton Pool Rd.	10.0%	10.0%	10.0%	5.0%
West Ladera Blvd.	1.0%	1.0%	1.0%	3.0%
West Falcon Head Blvd.	1.0%	1.0%	2.0%	3.0%
Galleria Pkwy.	2.0%	2.0%	2.0%	10.0%
Shops Pkwy.	1.0%	1.0%	2.0%	10.0%
Total	100%	100%	100%	100%

Given the total site generated traffic and the directional distribution by approach, the next step in the process is to assign the traffic destined to and from the project to the most likely travel paths. This step was performed by investigating a number of alternative travel patterns, as well as ingress/egress points along the project boundaries. Primary consideration was given to the traffic flow and safety of the major roadways. The site traffic distribution by entering and exiting traffic is shown in Figure 2.

Site Driveway Analysis

The Terrace development is proposed to be accessed by four driveways on Bee Cave Parkway, with no internal connection between the South and North Sites. One additional driveway on RM 620 is under evaluation. The driveways are proposed to operate as follows:



- South Site
 - o Driveway A – right-in, right-out
 - o Driveway B – full purpose
- North Site
 - o Driveway C – full-purpose
 - o Driveway D – right-in, right-out
 - o Driveway E – right-in, right-out driveway under evaluation

Table 3 shows the expected delay for left-turning vehicles out of the Terrace development at Driveways B and C. A signal is not anticipated to be warranted at either location.

Table 3. 2024 Site Plus Forecasted Minor Street Left-Turn Movement Delay

Intersection	AM	PM
	Delay (sec/veh)	Delay (sec/veh)
Bee Cave Parkway and Driveway B	60.2	155.4
Bee Cave Parkway and Driveway C	100.9	429.7

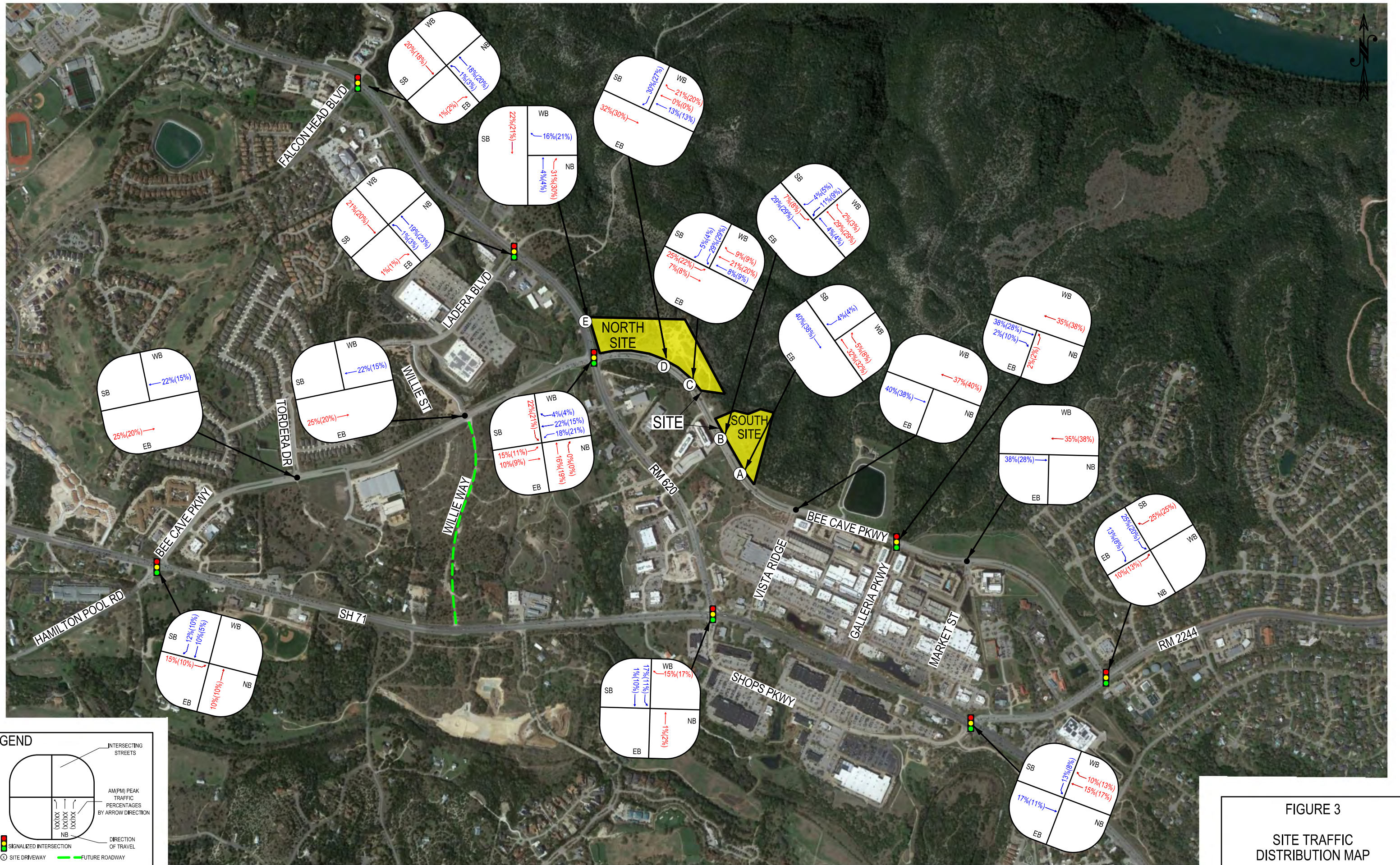
During the PM peak, the average left-turn delay per vehicle is more than two minutes at Driveway B and 7 minutes at Driveway C due to insufficient gaps in traffic on Bee Cave Parkway.

Proposed RM 620 Driveway

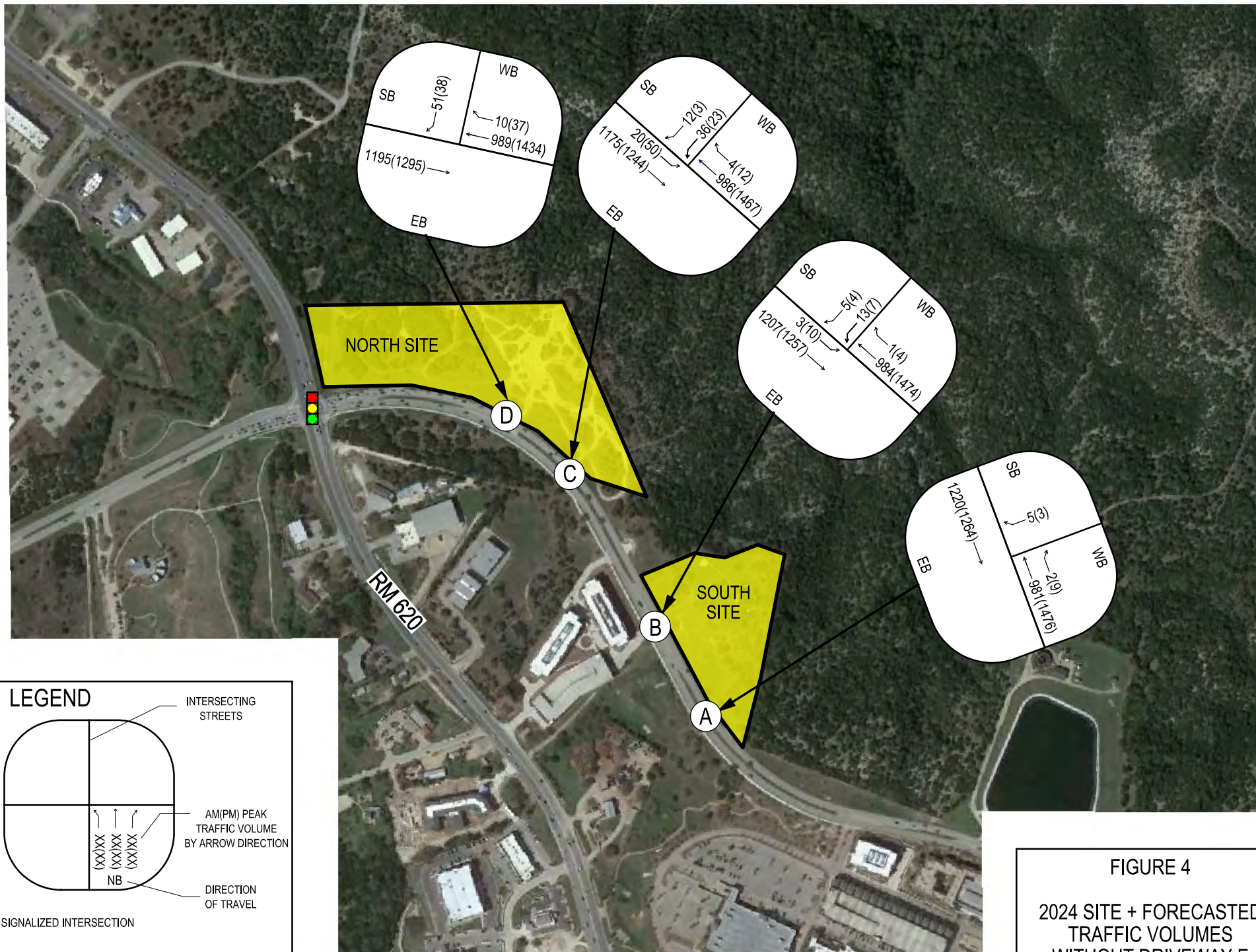
Driveway E would be constructed as a right-in, right-out driveway on the northern property line of the Terrace development, approximately 370' north of Bee Cave Parkway on the east side of RM 620. The posted speed limit on RM 620 in the vicinity of the site is 55 miles per hour. The TxDOT Access Management Manual recommends a driveway spacing of 425' (edge to edge) at the posted speed limit. The TxDOT Roadway Design Manual recommends construction of a deceleration lane of 540' in length at the driveway. There is insufficient space to construct a full-length deceleration lane. Even assuming a 20 mph speed differential, the shortened deceleration lane (375') is still greater than the available space. A short taper was assumed to be constructed at Driveway E on RM 620 to facilitate vehicles entering the driveway and would be detailed during the design phase, if required.

Traffic accessing the North Site of the Terrace development was redistributed to utilize Driveway E on RM 620 in addition to Driveway C and Driveway D on Bee Cave Parkway. The overall directional distribution was not changed; however, the number of vehicles entering Driveway C and Driveway D was adjusted to reflect the additional access point. Driveway E will serve vehicles entering the North Site from SH 71, Hamilton Pool Road, Hill Country Galleria, Shops at the Galleria, and RM 2244 and vehicles exiting the Site to north RM 620, Ladera Boulevard, and Falcon Head Boulevard. 12 and 36 entering vehicles and 20 and 17 exiting vehicles would be relocated to Driveway E in the AM and PM peak periods, respectively.

Figure 3 shows the site traffic distribution of entering and exiting traffic with Driveway E. Figure 4 shows the 2024 site plus forecasted volumes without Driveway E, and Figure 5 shows the 2024 site plus forecasted volumes with Driveway E. The Level of Service (LOS) and delay results for the minor street approaches are presented in Table 4. Table 5 compares the LOS and delay results for the eastbound and southbound left-turn movements at Driveway B and Driveway C with and without Driveway E.

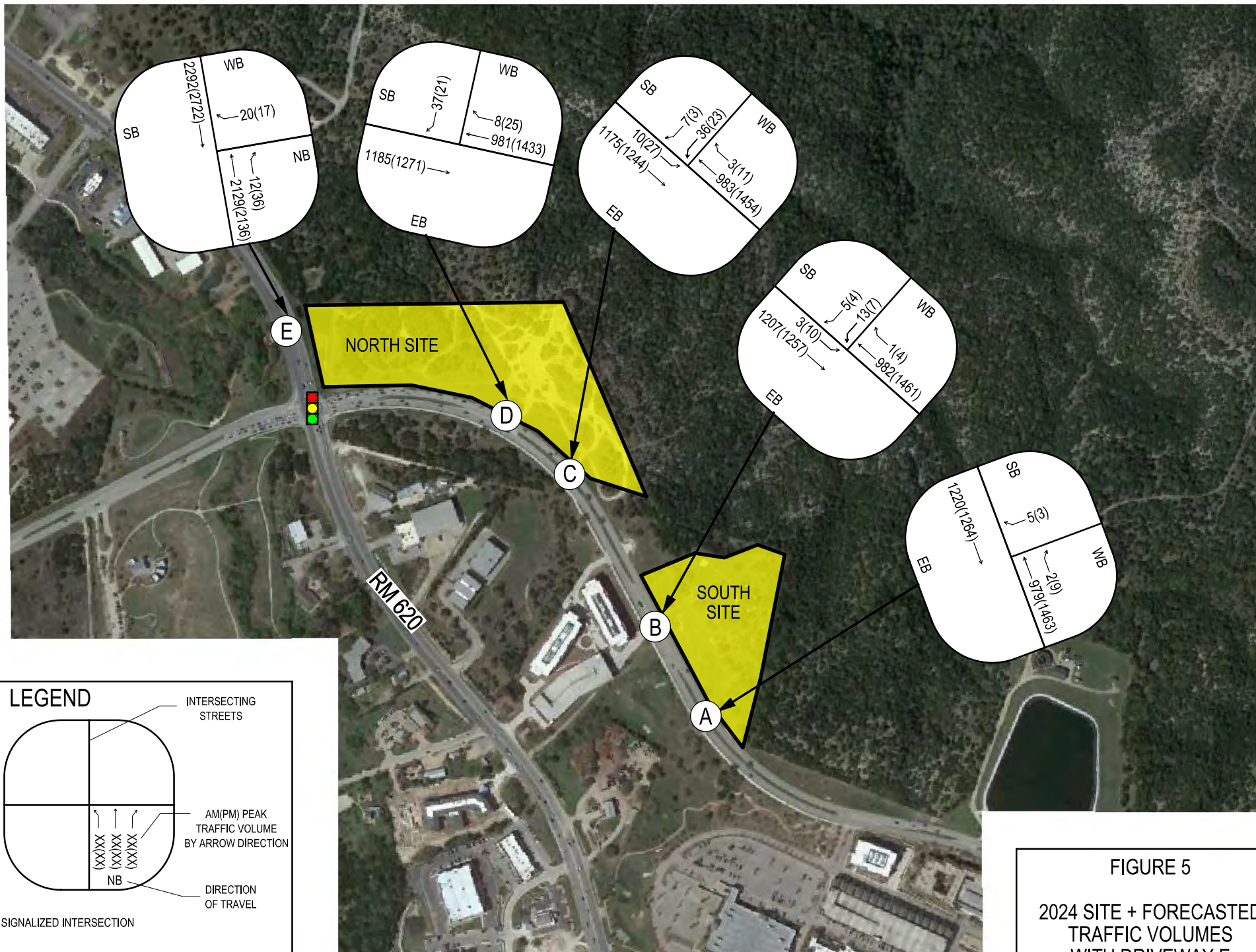


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FIGURE 4
2024 SITE + FORECASTED
TRAFFIC VOLUMES
WITHOUT DRIVEWAY E



Background Map Copyrighted by Google, 2022

FIGURE 5
2024 SITE + FORECASTED
TRAFFIC VOLUMES
WITH DRIVEWAY E

Table 4. 2024 Site Plus Forecasted Minor Street Approach Level of Service Comparison

Intersection	Without Driveway E				With Driveway E			
	AM Peak		PM Peak		AM Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Bee Cave Parkway and Driveway A	B	12.4	C	16.2	B	12.4	C	16.1
Bee Cave Parkway and Driveway B	E	46.9	F	104.8	E	46.9	F	101.1
Bee Cave Parkway and Driveway C	F	78.8	F	382.0	F	78.0	F	269.8
Bee Cave Parkway and Driveway D	B	13.4	C	17.6	B	13.0	C	16.7
RM 620 and Driveway E	N/A	N/A	N/A	N/A	D	26.4	D	26.2

Table 5. 2024 Site Plus Forecasted Left-turn Movement Level of Service Comparison

Intersection	Movement	Without Driveway E				With Driveway E			
		AM Peak		PM Peak		AM Peak		PM Peak	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Bee Cave Parkway and Driveway B	Eastbound	B	10.6	B	14.2	B	10.6	B	10.7
	Southbound	F	60.2	F	155.4	F	60.2	F	149.6
Bee Cave Parkway and Driveway C	Eastbound	B	10.8	C	15.3	B	10.7	B	14.5
	Southbound	F	100.9	F	429.7	F	90.7	F	302.9

Summary and Recommendations

- The average delay for vehicles turning left out of Driveway B and Driveway C is approximately 2.5 minutes and 7 minutes, respectively, due to insufficient gaps in traffic on Bee Cave Parkway.
- Driveway B and Driveway C minor street approaches operate at LOS F during the PM peak hour with and without Driveway E. The driveways do not meet the 75 vehicle threshold needed to warrant a signal.
- If constructed, 32 and 53 vehicles are projected to utilize Driveway E during the AM and PM peak hours, respectively.
- With vehicles rerouting from Bee Cave Parkway to SH 71 and RM 620 to utilize Driveway E, the average delays for left-turning vehicles at Driveway B and Driveway C do see a reduction. The minor street left-turn movement average delays at Driveway B and Driveway C are approximately 2.5 minutes and 5 minutes, respectively.
- Based on field observation and a review of signal timing, the RM 620 and Bee Cave Parkway traffic signal provides continuous flow of northbound through vehicles at Driveway E during the peak periods. This would create delay for vehicles exiting the proposed Driveway E, as they would have difficulty finding gaps in the traffic on RM 620, during peak periods. Lesser delays are anticipated for vehicles exiting Driveway E during off peak times.
- Driveway E would be constructed approximately 370' north of Bee Cave Parkway and does not meet TxDOT Access Management Manual driveway spacing requirements.
- A full-length deceleration lane cannot be accommodated at the proposed Driveway E location.

- Progression of the westbound to northbound right-turn movement from Bee Cave Parkway onto RM 620 should be prioritized at this location.

The addition of Driveway E provides peak period delay reduction to Driveway C traffic operations. However, Driveway E must be located closer than desirable to Bee Cave Parkway with a shortened deceleration length. Construction of Driveway E is not essential to operations of the Terrace Development.

2024 S+F AM

HCM 6th TWSC
43: Bee Cave Parkway & Driveway A

Terrace TIA Update

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1220	981	2	0	5
Future Vol, veh/h	0	1220	981	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1326	1066	2	0	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	534
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	-	-	-	0	491
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	491
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SW		
HCM Control Delay, s	0	0		12.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBRSWLn1			
Capacity (veh/h)	-	-	-	491		
HCM Lane V/C Ratio	-	-	-	0.011		
HCM Control Delay (s)	-	-	-	12.4		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th TWSC
36: Bee Cave Parkway & Driveway B

Terrace TIA Update

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1207	984	1	13	5
Future Vol, veh/h	3	1207	984	1	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	3	1312	1070	1	14	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1071	0	-	0	1733	536
Stage 1	-	-	-	-	1071	-
Stage 2	-	-	-	-	662	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	647	-	-	-	79	489
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	647	-	-	-	79	489
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	475	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		46.9		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	647	-	-	-	79	489
HCM Lane V/C Ratio	0.005	-	-	-	0.179	0.011
HCM Control Delay (s)	10.6	-	-	-	60.2	12.4
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

HCM 6th TWSC
33: Bee Cave Parkway & Driveway C

Terrace TIA Update

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1175	986	4	36	12
Future Vol, veh/h	20	1175	986	4	36	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	22	1277	1072	4	39	13
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1076	0	-	0	1757	538
Stage 1	-	-	-	-	1074	-
Stage 2	-	-	-	-	683	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	644	-	-	-	76	488
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	463	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	644	-	-	-	73	488
Mov Cap-2 Maneuver	-	-	-	-	73	-
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	463	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		78.8		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	644	-	-	-	73	488
HCM Lane V/C Ratio	0.034	-	-	-	0.536	0.027
HCM Control Delay (s)	10.8	-	-	-	100.9	12.6
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3	0.1

HCM 6th TWSC
37: Bee Cave Parkway & Driveway D

Terrace TIA Update

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1195	989	10	0	51
Future Vol, veh/h	0	1195	989	10	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1299	1075	11	0	55
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	543
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	-	-	-	0	484
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	484
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		13.4	
HCM LOS					B	
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	484		
HCM Lane V/C Ratio	-	-	-	0.115		
HCM Control Delay (s)	-	-	-	13.4		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.4		

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

Terrace TIA Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	534	322	60	55	325	614	40	1000	39	835	866	591
Future Volume (vph)	534	322	60	55	325	614	40	1000	39	835	866	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	255		0	165		0	245		385	400		465
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.986			0.967	0.850			0.850			0.850
Flt Protected	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (prot)	1648	3247	0	1811	1695	1539	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (perm)	1648	3247	0	1811	1695	1539	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8	113			108			609
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1600			824			1100			741	
Travel Time (s)		24.2			12.5			13.6			9.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	551	332	62	57	335	633	41	1031	40	861	893	609
Shared Lane Traffic (%)	45%					15%						
Lane Group Flow (vph)	303	642	0	57	430	538	41	1031	40	861	893	609
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	Left	Right
Median Width(ft)		18			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

Terrace TIA Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	32.8	32.8		13.0	13.0		13.5	21.5	21.5	13.5	31.5	31.5
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	20.0	20.0									18.0	18.0
Pedestrian Calls (#/hr)	0	0									0	0
Act Effct Green (s)	23.7	23.7		15.5	15.5	60.5	6.2	38.9	38.9	38.9	73.8	73.8
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.53	0.53
v/c Ratio	1.09	1.16		0.28	2.22	0.74	0.55	1.06	0.08	0.91	0.48	0.52
Control Delay	133.1	139.2		61.3	590.8	32.9	100.2	89.3	0.4	38.9	7.2	2.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.1	139.2		61.3	590.8	32.9	100.2	89.3	0.4	38.9	7.2	2.0
LOS	F	F		E	F	C	F	F	A	D	A	A
Approach Delay		137.2			268.5			86.5			17.4	
Approach LOS		F			F			F			B	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.22

Intersection Signal Delay: 99.6

Intersection LOS: F

Intersection Capacity Utilization 117.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: RM 620 & Bee Cave Parkway



2024 S+F PM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1264	1476	9	0	3
Future Vol, veh/h	0	1264	1476	9	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1374	1604	10	0	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	807
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	-	-	-	0	324
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	324
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		16.2		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	324		
HCM Lane V/C Ratio	-	-	-	0.01		
HCM Control Delay (s)	-	-	-	16.2		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th TWSC
36: Bee Cave Parkway & Driveway B

The Terrace TIA Update

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1257	1474	4	7	4
Future Vol, veh/h	10	1257	1474	4	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	11	1366	1602	4	8	4
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1606	0	-	0	2309	803
Stage 1	-	-	-	-	1604	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	403	-	-	-	32	326
Stage 1	-	-	-	-	150	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	403	-	-	-	31	326
Mov Cap-2 Maneuver	-	-	-	-	31	-
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	451	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		104.8		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	403	-	-	-	31	326
HCM Lane V/C Ratio	0.027	-	-	-	0.245	0.013
HCM Control Delay (s)	14.2	-	-	-	155.4	16.2
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0

HCM 6th TWSC
33: Bee Cave Parkway & Driveway C

The Terrace TIA Update

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	1244	1467	12	23	3
Future Vol, veh/h	50	1244	1467	12	23	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	54	1352	1595	13	25	3
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1608	0	-	0	2386	804
Stage 1	-	-	-	-	1602	-
Stage 2	-	-	-	-	784	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	402	-	-	-	28	326
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	410	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	402	-	-	-	~ 24	326
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	410	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		\$ 382		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	402	-	-	-	24	326
HCM Lane V/C Ratio	0.135	-	-	-	1.042	0.01
HCM Control Delay (s)	15.3	-	-	-	\$ 429.7	16.2
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.5	-	-	-	3.1	0
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 6th TWSC
37: Bee Cave Parkway & Driveway D

The Terrace TIA Update

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1295	1434	37	0	38
Future Vol, veh/h	0	1295	1434	37	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1408	1559	40	0	41
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	800
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	-	-	-	0	328
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	328
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		17.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	328		
HCM Lane V/C Ratio	-	-	-	0.126		
HCM Control Delay (s)	-	-	-	17.6		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.4		

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	3	456	386	104	37	484	853	137	844	47	718	1337
Future Volume (vph)	3	456	386	104	37	484	853	137	844	47	718	1337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		255		0	165		0	245		385	400	
Storage Lanes		1		0	1		1	1		1	2	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95
Fr't			0.978			0.969	0.850			0.850		
Flt Protected		0.950	0.985		0.950			0.950			0.950	
Satd. Flow (prot)	0	1648	3234	0	1811	1698	1539	1694	3505	1620	3400	3505
Flt Permitted		0.412	0.985		0.950			0.950			0.950	
Satd. Flow (perm)	0	715	3234	0	1811	1698	1539	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			11			8	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			838			1100			609
Travel Time (s)			23.7			12.7			13.6			7.5
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	3	470	398	107	38	499	879	141	870	48	740	1378
Shared Lane Traffic (%)		45%					15%					
Lane Group Flow (vph)	0	261	717	0	38	631	747	141	870	48	740	1378
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	666
Future Volume (vph)	666
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	465
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	364
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	687
Shared Lane Traffic (%)	
Lane Group Flow (vph)	687
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3	3 1	5	2		1	6
Permitted Phases	4									2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	32.8	32.8	32.8		13.0	13.0		13.5	21.5	21.5	13.5	31.5
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	52.0	52.0	34.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	37.1%	37.1%	24.3%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	45.9	45.9	27.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0	7.0	7.0									7.0
Flash Dont Walk (s)	20.0	20.0	20.0									18.0
Pedestrian Calls (#/hr)	0	0	0									0
Act Effct Green (s)		16.7	16.7		26.5	26.5	60.5	8.9	45.9	45.9	27.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.43	0.06	0.33	0.33	0.20	0.46
v/c Ratio		3.07	1.82		0.11	1.93	1.02	1.32	0.76	0.08	1.09	0.85
Control Delay		982.1	415.1		48.1	459.3	73.1	232.0	44.0	1.9	82.0	17.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		982.1	415.1		48.1	459.3	73.1	232.0	44.0	1.9	82.0	17.8
LOS		F	F		D	F	E	F	D	A	F	B
Approach Delay			566.4			244.5			67.1			31.2
Approach LOS			F			F			E			C

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 6 (4%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.07

Intersection Signal Delay: 169.2

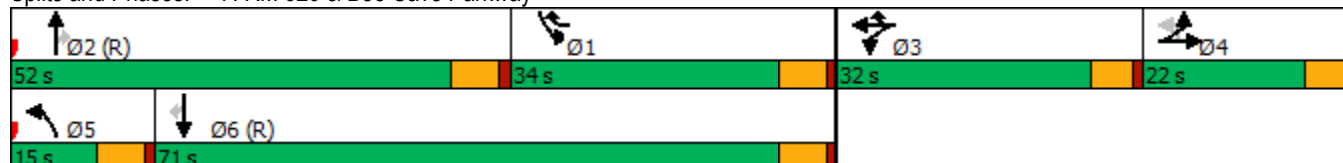
Intersection LOS: F

Intersection Capacity Utilization 129.0%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: RM 620 & Bee Cave Parkway





Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	31.5
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	18.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.71
Control Delay	3.2
Queue Delay	0.0
Total Delay	3.2
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

2024 S+F AM with Driveway E

HCM 6th TWSC
43: Bee Cave Parkway & Driveway A

Terrace TIA Update

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1220	979	2	0	5
Future Vol, veh/h	0	1220	979	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1326	1064	2	0	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	533
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	-	-	-	0	491
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	491
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SW		
HCM Control Delay, s	0	0		12.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBRSWLn1			
Capacity (veh/h)	-	-	-	491		
HCM Lane V/C Ratio	-	-	-	0.011		
HCM Control Delay (s)	-	-	-	12.4		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th TWSC
36: Bee Cave Parkway & Driveway B

Terrace TIA Update

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1207	982	1	13	5
Future Vol, veh/h	3	1207	982	1	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	3	1312	1067	1	14	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1068	0	-	0	1730	534
Stage 1	-	-	-	-	1068	-
Stage 2	-	-	-	-	662	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	648	-	-	-	79	491
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	648	-	-	-	79	491
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	475	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		46.9		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	648	-	-	-	79	491
HCM Lane V/C Ratio	0.005	-	-	-	0.179	0.011
HCM Control Delay (s)	10.6	-	-	-	60.2	12.4
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

HCM 6th TWSC
33: Bee Cave Parkway & Driveway C

Terrace TIA Update

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1175	983	3	36	7
Future Vol, veh/h	10	1175	983	3	36	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	11	1277	1068	3	39	8
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1071	0	-	0	1731	536
Stage 1	-	-	-	-	1070	-
Stage 2	-	-	-	-	661	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	647	-	-	-	79	489
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	647	-	-	-	78	489
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	475	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		78		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	647	-	-	-	78	489
HCM Lane V/C Ratio	0.017	-	-	-	0.502	0.016
HCM Control Delay (s)	10.7	-	-	-	90.7	12.5
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.1	0

HCM 6th TWSC
37: Bee Cave Parkway & Driveway D

Terrace TIA Update

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1185	981	8	0	37
Future Vol, veh/h	0	1185	981	8	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1288	1066	9	0	40
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	538
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	-	-	-	0	488
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	488
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13		
HCM LOS				B		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	488		
HCM Lane V/C Ratio	-	-	-	0.082		
HCM Control Delay (s)	-	-	-	13		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.3		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	2129	12	0	2292
Future Vol, veh/h	0	20	2129	12	0	2292
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	-	350	-	-
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	22	2314	13	0	2491
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1157	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	190	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	190	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	26.4	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	190		-		
HCM Lane V/C Ratio	-	0.114		-		
HCM Control Delay (s)	-	26.4		-		
HCM Lane LOS	-	D		-		
HCM 95th %tile Q(veh)	-	0.4		-		

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

Terrace TIA Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	540	316	60	55	325	594	40	1007	35	835	866	591
Future Volume (vph)	540	316	60	55	325	594	40	1007	35	835	866	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	255		0	165		0	245		385	400		465
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Fr't		0.985			0.968	0.850			0.850			0.850
Flt Protected	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (prot)	1648	3244	0	1811	1696	1539	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (perm)	1648	3244	0	1811	1696	1539	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8	113			108			609
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1600			824			1100			741	
Travel Time (s)		24.2			12.5			13.6			9.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	557	326	62	57	335	612	41	1038	36	861	893	609
Shared Lane Traffic (%)	45%					15%						
Lane Group Flow (vph)	306	639	0	57	427	520	41	1038	36	861	893	609
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	Left	Right
Median Width(ft)		18			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

Terrace TIA Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	32.8	32.8		13.0	13.0		13.5	21.5	21.5	13.5	31.5	31.5
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	20.0	20.0									18.0	18.0
Pedestrian Calls (#/hr)	0	0									0	0
Act Effct Green (s)	23.7	23.7		15.5	15.5	60.5	6.2	38.9	38.9	38.9	73.8	73.8
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.53	0.53
v/c Ratio	1.10	1.15		0.28	2.20	0.71	0.55	1.07	0.07	0.91	0.48	0.52
Control Delay	136.2	138.0		61.3	584.1	31.5	100.7	91.5	0.4	38.9	7.2	2.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.2	138.0		61.3	584.1	31.5	100.7	91.5	0.4	38.9	7.2	2.0
LOS	F	F		E	F	C	F	F	A	D	A	A
Approach Delay		137.4			268.2			88.9			17.4	
Approach LOS		F			F			F			B	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.20

Intersection Signal Delay: 99.4

Intersection LOS: F

Intersection Capacity Utilization 117.6%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: RM 620 & Bee Cave Parkway



2024 S+F PM with Driveway E

HCM 6th TWSC
43: Bee Cave Parkway & Driveway A

The Terrace TIA Update

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1264	1463	9	0	3
Future Vol, veh/h	0	1264	1463	9	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1374	1590	10	0	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	800
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	-	-	-	0	328
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	328
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		16.1		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	328		
HCM Lane V/C Ratio	-	-	-	0.01		
HCM Control Delay (s)	-	-	-	16.1		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th TWSC
36: Bee Cave Parkway & Driveway B

The Terrace TIA Update

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1257	1461	4	7	4
Future Vol, veh/h	10	1257	1461	4	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	11	1366	1588	4	8	4
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1592	0	-	0	2295	796
Stage 1	-	-	-	-	1590	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	408	-	-	-	33	330
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	408	-	-	-	32	330
Mov Cap-2 Maneuver	-	-	-	-	32	-
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	451	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		101.1		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	408	-	-	-	32	330
HCM Lane V/C Ratio	0.027	-	-	-	0.238	0.013
HCM Control Delay (s)	14.1	-	-	-	149.6	16.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0

HCM 6th TWSC
33: Bee Cave Parkway & Driveway C

The Terrace TIA Update

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1244	1454	11	23	3
Future Vol, veh/h	27	1244	1454	11	23	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	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	29	1352	1580	12	25	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1592	0	-	0	2320	796
Stage 1	-	-	-	-	1586	-
Stage 2	-	-	-	-	734	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	408	-	-	-	32	330
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	436	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	408	-	-	-	30	330
Mov Cap-2 Maneuver	-	-	-	-	30	-
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	436	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		269.8		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	408	-	-	-	30	330
HCM Lane V/C Ratio	0.072	-	-	-	0.833	0.01
HCM Control Delay (s)	14.5	-	-	-	302.9	16
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.8	0

HCM 6th TWSC
37: Bee Cave Parkway & Driveway D

The Terrace TIA Update

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1271	1433	25	0	21
Future Vol, veh/h	0	1271	1433	25	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	1382	1558	27	0	23
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	793
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	-	-	-	0	331
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	331
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		16.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	331		
HCM Lane V/C Ratio	-	-	-	0.069		
HCM Control Delay (s)	-	-	-	16.7		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.2		

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	17	2136	36	0	0
Future Vol, veh/h	0	17	2136	36	0	0
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	-	350	-	-
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	18	2322	39	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	1161	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	188	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	188	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	26.2	0	0			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	188	-		
HCM Lane V/C Ratio	-	-	0.098	-		
HCM Control Delay (s)	-	-	26.2	-		
HCM Lane LOS	-	-	D	-		
HCM 95th %tile Q(veh)	-	-	0.3	-		

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	3	469	373	104	37	484	837	137	867	37	718	1337
Future Volume (vph)	3	469	373	104	37	484	837	137	867	37	718	1337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		255		0	165		0	245		385	400	
Storage Lanes		1		0	1		1	1		1	2	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95
Frt			0.977			0.969	0.850			0.850		
Flt Protected		0.950	0.985		0.950			0.950			0.950	
Satd. Flow (prot)	0	1648	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Flt Permitted		0.414	0.985		0.950			0.950			0.950	
Satd. Flow (perm)	0	718	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			11			8	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			838			1100			609
Travel Time (s)			23.7			12.7			13.6			7.5
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	3	484	385	107	38	499	863	141	894	38	740	1378
Shared Lane Traffic (%)		45%					15%					
Lane Group Flow (vph)	0	269	710	0	38	628	734	141	894	38	740	1378
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	666
Future Volume (vph)	666
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	465
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	364
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	687
Shared Lane Traffic (%)	
Lane Group Flow (vph)	687
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lanes, Volumes, Timings
7: RM 620 & Bee Cave Parkway

The Terrace TIA Update

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3	3 1	5	2		1	6
Permitted Phases	4									2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	32.8	32.8	32.8		13.0	13.0		13.5	21.5	21.5	13.5	31.5
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	52.0	52.0	34.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	37.1%	37.1%	24.3%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	45.9	45.9	27.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0	7.0	7.0									7.0
Flash Dont Walk (s)	20.0	20.0	20.0									18.0
Pedestrian Calls (#/hr)	0	0	0									0
Act Effct Green (s)		16.7	16.7		26.5	26.5	60.5	8.9	45.9	45.9	27.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.43	0.06	0.33	0.33	0.20	0.46
v/c Ratio		3.16	1.80		0.11	1.92	1.01	1.32	0.78	0.06	1.09	0.85
Control Delay		1023.4	407.6		48.1	455.4	68.6	232.0	44.8	1.0	82.0	17.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		1023.4	407.6		48.1	455.4	68.6	232.0	44.8	1.0	82.0	17.8
LOS		F	F		D	F	E	F	D	A	F	B
Approach Delay			576.8			241.5			67.9			31.2
Approach LOS			F			F			E			C

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 6 (4%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.16

Intersection Signal Delay: 169.9

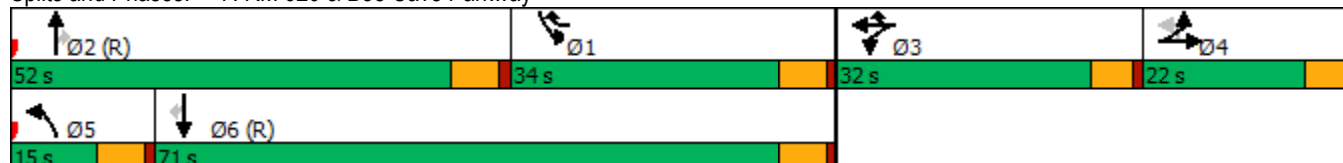
Intersection LOS: F

Intersection Capacity Utilization 128.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: RM 620 & Bee Cave Parkway





Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	31.5
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	18.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.71
Control Delay	3.2
Queue Delay	0.0
Total Delay	3.2
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	