



Traffic Impact Analysis

Violet Crown TIA

Travis County, Texas

Prepared for:

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KH Project No. 069289400

MyPermitNow No. TBD

First Submittal:

February 4, 2022



Santiago A. Araque Rojas

2/4/2022

Appendices

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Appendix A: TIA Determination Worksheet



TRAFFIC IMPACT ANALYSIS (TIA) DETERMINATION WORKSHEET

APPLICANT MUST FILL IN WORKSHEET PRIOR TO SUBMITTING FOR TIA DETERMINATION

PROJECT NAME: Violet Crown
 LOCATION: SH 71, Northwest of SH 71 & Southwest Parkway
 APPLICANT: Santiago Araque, P.E. TELEPHONE NO.: (512) 418-4514
 Fax:

APPLICATION STATUS: DEVELOPMENT ASSESSMENT PRELIMINARY PLAN PLATTING SITE PLAN

EXISTING:

TRACT NO.	TRACT ACRES	BUILDING SQ. FT.	ZONING	LAND USE	I.T.E. CODE	TRIP RATE	TRIPS PER DAY

PROPOSED

TRACT NO.	TRACT ACRES	BUILDING SQ. FT.	ZONING	LAND USE	I.T.E. CODE	TRIP RATE	TRIPS PER DAY
		638 Units		Multifamily Housing (High-Rise)	220	$T=7.56(X) - 40.86$	4,782
		120 KSF		General Office	710	$\ln(T) = 0.97$ $\ln(X) + 2.50$	1,266
		69.2 KSF		Shopping Center	820	$\ln(T) = 0.74\ln(X) + 2.89$	4,682
		110 Hitting Bays		Golf Driving Range	432	13.65	1,502
		5.2 KSF		Distillery	925	$11.36 (PM) = 59 PM / 0.09 =$	655

ABUTTING ROADWAYS


STREET NAME	PROPOSED ACCESS?	PAVEMENT WIDTH	CLASSIFICATION
SH 71	Yes	90'	Highway

FOR OFFICE USE ONLY

A traffic impact analysis is required. The consultant preparing the study must meet with a transportation planner to discuss the scope and requirements of the study before beginning the study.

A traffic impact analysis is NOT required. The traffic generated by the proposal does not meet or exceed the thresholds established in the Land Development Code.

The traffic impact analysis has been waived for the following reason(s):

REVIEWED BY:  DATE: October 26, 2021

DISTRIBUTION: FILE Dev. Services TxDOT
 City of Austin _____ City of Manor _____ City of Pflugerville
 City of Elgin _____

NOTE: A TIA determination must be made prior to submittal of any development application; therefore, this completed and reviewed form must accompany any subsequent application for the IDENTICAL project. CHANGES to the proposed project will REQUIRE a new TIA determination to be made.

Appendix B: TIA Scoping Document



TRAFFIC IMPACT ANALYSIS SCOPE AND STUDY AREA

Project Name: Violet Crown
Location: SH 71, Northwest of SH 71 & Southwest Parkway
Owner's Agent: Santiago Araque, P.E.

Date: November 24, 2021

Phone: (512) 418-4514

General: The TIA associated with this scope shall be prepared in accordance with the Travis County TIA guidelines (latest edition). This scope is valid for 6 months from the date indicated. If the TIA is not submitted within 6 months from the date indicated, the TIA will need to be rescoped.

Instructions: Sections I and II of the scope must be approved prior to formal submittal of a Traffic Impact Analysis (TIA). You may receive sign off of both sections concurrently or separately.

I. Data Collection

1. Background Information

- a. Proposed daily trip generation estimate for the proposed development.
- b. Location/Study area map that specifies major roadways and intersections within study area.
- c. The following adopted plans and public infrastructure improvement projects apply to this site:
 - Travis County 2045 Transportation Master Plan

2. Intersections Level of Service: Calculations for a.m. and p.m. peak hours must be performed for the following intersections, showing (a) existing traffic conditions and (b) projected traffic conditions, identifying site, non-site, and total traffic:

- a. SH 71 @ Southwest Parkway
- b. SH 71 @ Arroyo Canyon Drive
- c. SH 71 @ Preserve Way
- d. SH 71 @ Old Bee Cave Road/Thomas Springs Road
- e. Southwest Parkway @ Barton Creek Blvd/Travis Cook Rd
- f. All site driveways

Notes: Existing signal timings shall be used for the intersection unless alternative timing proposals are approved by TXDOT.

Analysis for each phase/year shall include:

- a. Level of Service by movements
- b. Delay by movements
- c. V/C by movements

- d. Queuing analysis with 95% queue length by movements, vs existing storage bay and/or distance from adjacent intersection(s)

3. Signal Warrants Analysis: a Signal Warrants analysis (existing, No-Build and Build) shall be performed for the following study area intersections showing 12 hrs of data including peak hrs:

- a. SH 71 & all Site Driveways

4. Sight Distance Analysis

- a. When proposed mitigation recommends a new traffic signal be installed, an analysis of the intersection sight distance and stopping sight distance to vehicles stopped in queue (back of queue) should be included.
- b. New Intersections or driveways must provide an analysis of the intersection's sight distance on all approaches.

5. Roadway Sizing Analysis

Roadway analysis must be performed to determine the size and type of roadway for the following roadway segments.

- a. SH 71 from Arroyo Canyon Drive to Old Bee Cave Road/Thomas Springs Road
- b. Thomas Springs Road from SH 71 to Circle Drive
- c. All connecting internal roadways.

6. Turn Lane Analysis

Turn lane analysis must be performed at all site driveways/roadways to determine if left or right turn lanes are needed to enter the site.

7. Analysis Phases/Years:

- a. Existing
- b. Future 2024

8. School Specific Traffic Assessment: N/A

- a. On-site queuing analysis
- b. Development of a safe route to school program
- c. Documentation that sufficient parking is available for Staff and Students who will be driving to school.

9. Other Considerations:

- a. Counts are to be taken when public schools are in session. If counts are taken while schools are not in session, mathematically determined adjustment factors may be used based on historic nearby traffic counts or as otherwise approved by County staff.
- b. Ensure automated traffic data captures demand. Manual observations or a multiple period analysis may be necessary.
- c. Capture and report data to calibrate model for existing operational analysis (i.e. queue length and approach/movement delay recommended) and discuss and illustrate model calibration (i.e. queue length and approach/movement delay recommended).
- d. Methodology for capacity and level of service shall be Highway Capacity Manual, latest edition.
- e. Discuss and illustrate methodology for trip distribution.

II. Study Assumptions

1. Data Assumptions The following assumptions must be included in the analysis. Any change in these assumptions must be approved by the transportation reviewer(s) prior to submittal of the TIA.

a. Background Traffic – The average annual growth rate shall be calculated using available sources and documented in the report and shall be calculated using the following standard formula and back solved to growth rate:

- i. “Newest reported volume = Old reported volume * (1+Growth rate) ^ number of years in between the two volumes”
- ii. The roadway used for computing growth rate should be of the same class of roadway as the development’s location and be as close as possible to the development.

b. Background Project: Background projects shall include:

Project Name	Case Number
Ammara MF	Travis County
Leif Johnson Ford	TXDOT

- c. Internal Trips /Transit Trips/Walking/Biking: 0%
- d. Pass by trip reductions: 0%

2. Trip Distribution: Site Trips shall be distributed for each proposed land use.

- a. Existing Trips and Forecasted Trips to be determined based on existing and historical data.
- b. Site Trips to be suggested based on proposed type of land use and an end user’s likely path given site location in relation to other generators and/or attractors.

3. TIAs with Count Data collected prior to 10/1/2021 - Due to COVID-19 conditions present at the time this scope was prepared, the use of new counts or counts over two years old must be **pre-approved** by Travis County prior to there use in the preparation of the TIA as scoped. In addition, any proposed adjustment methodology for these counts must also be **pre-approved** prior to obtaining the required traffic counts.


III. Submittal Requirements


- 1. The cover sheet of the TIA must include the Travis County MyPermitNow permit number, City of Austin Single Office Number (if applicable), and the owner’s name and contact information (e-mail and phone number).
- 2. Submit to Travis County the items specified below as follows:
 - a. For Completeness Check Review Submissions –Submit the electronic version only, including all attachments and files, please upload these to the Travis County Workspace portal at the following link: <https://workspaces.traviscountytexas.gov/messageportal#/dropoff>
 - b. For Full Review Submission - Submit the electronic version, including all attachments and files, please upload these to the Travis County Workspace portal at the following link:

<https://workspaces.traviscountytexas.gov/messageportal#/dropoff>. Submit one (1) "hard copy" as part of the review submission. Items delivered in-person on Wednesdays are received from 8:30 am to 4 pm. Once there, call [\(512\) 854-7633](tel:5128547633) for a TNR rep to meet you or your courier in the lobby by the Security desk. Alternatively, hard copies can also be shipped all week to PO Box 1748, 700 Lavaca Street, 5th Floor, Austin, Texas, 78701.

3. Submit to TXDOT electronically by Consultant Provided Method (Austin District) the items specified below.
4. Traffic modeling requirements:
 - a. All timing sheets obtained from various sources (TXDOT, etc.) are to be included in the Appendix of the TIA.
 - b. Submit electronically the following: PDF of the TIA, Synchro Network for all conditions analyzed and background DXF or aerial format. Synchro files must be in real world coordinates, Excel spreadsheets with, overall trip generation, internal and pass-by trip capture rates if applicable, site trip distribution & assignment within roadway network and site driveways.
 - c. All intersections must be modeled in one Synchro (latest edition) network (including unsignalized intersections).
 - d. Synchro printouts and analysis must be performed for the following scenarios and must be included in the appendix of the report in the following format:
 - Existing conditions (am + pm on one sheet),
 - Six (6) future conditions (for all years/phases identified in section I of this scope):
 - o (AM No-Build, AM Build, AM Build + Mitigation)
 - o (PM No-Build, PM Build, PM Build + Mitigation)
 - e. Intersection LOS by movements, Delay by movements, v/c by movements, and 95% queue length by movements in a tabular format (on 11"x17" sheets only) for different scenarios noted.
5. Maps/Plans/Exhibits
 - a. A proposed Site Plan.
 - b. A CAD or GIS file for the Development.
 - c. A map showing all bicycle routes, bus transit and bus stops within ½ mile of the site.
 - d. A map showing all background projects and trip generation for each project individually.
 - e. A map showing the location of all background projects collectively in relation to the proposed site.
 - f. A map/plan showing all roadways and driveways analyzed (labeled and dimensioned).
 - g. Exhibits of all intersections with roadway improvements (dimensioned), including above ground utilities called out.
 - h. Other Maps/Plans/Exhibits identified elsewhere in this scope or identified in the Travis County TIA Guidelines.

Any change in the assumptions provided for preparation of this scope may require a change in the scope. If the analysis or traffic volumes provided in the report indicate impacts to intersections or roadways that are not included in this scope, additional analysis may be required. For more detailed guidelines on preparation of the TIA, please see the Travis County TIA Guidelines (latest edition) or contact the undersigned.

Prepared by: 
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Prepared by: 
Scott Cunningham, P.E. Phone: (512) 832 – 7188
Email: Scott.Cunningham@txdot.gov

The Owner's Agent and the Applicant confirm that all the documents, reports and files will be prepared in accordance with the submittal requirements of this TIA Scope and the Travis County TIA guidelines (latest edition). The Owner's Agent and the Applicant confirm that comments received will not be cleared based on phone calls, e-mails or meetings. Formal updates must be submitted in order to receive clearance of issued comments.

Agreed to by: _____ Phone: (512) 418-4514
Santiago Araque, P.E. Email: Santiago.Araque@kimley-horn.com

Appendix C: Traffic Counts

TxDOT TCDS: Southwest Pkwy 227HP385 Location



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Record	1	of 1	Goto Record	go
Location ID	227HP385	MPO ID	90	
Type	SPOT	HPMS ID	HPMS ANNUAL SAMPLE	
SF Group	AUSTIN FC 4	Route Type	CR	
AF Group	CLASSIFIED FC -	Route	0000	
GF Group	AUSTIN FC 4	Active	Yes	
Class Dist Grp	227HP145	Category	ANNUAL ACR	
Seas Class Grp	AUSTIN			
WIM Group	Statewide			
QC Group	Volume Group 3			
Funct'l Class	(4)Minor Arterial			
Located On	Southwest Pkwy			
Loc On Alias	227AA0407			
More Detail				

STATION DATA

Directions: [2-WAY](#) [EB](#) [WB](#)

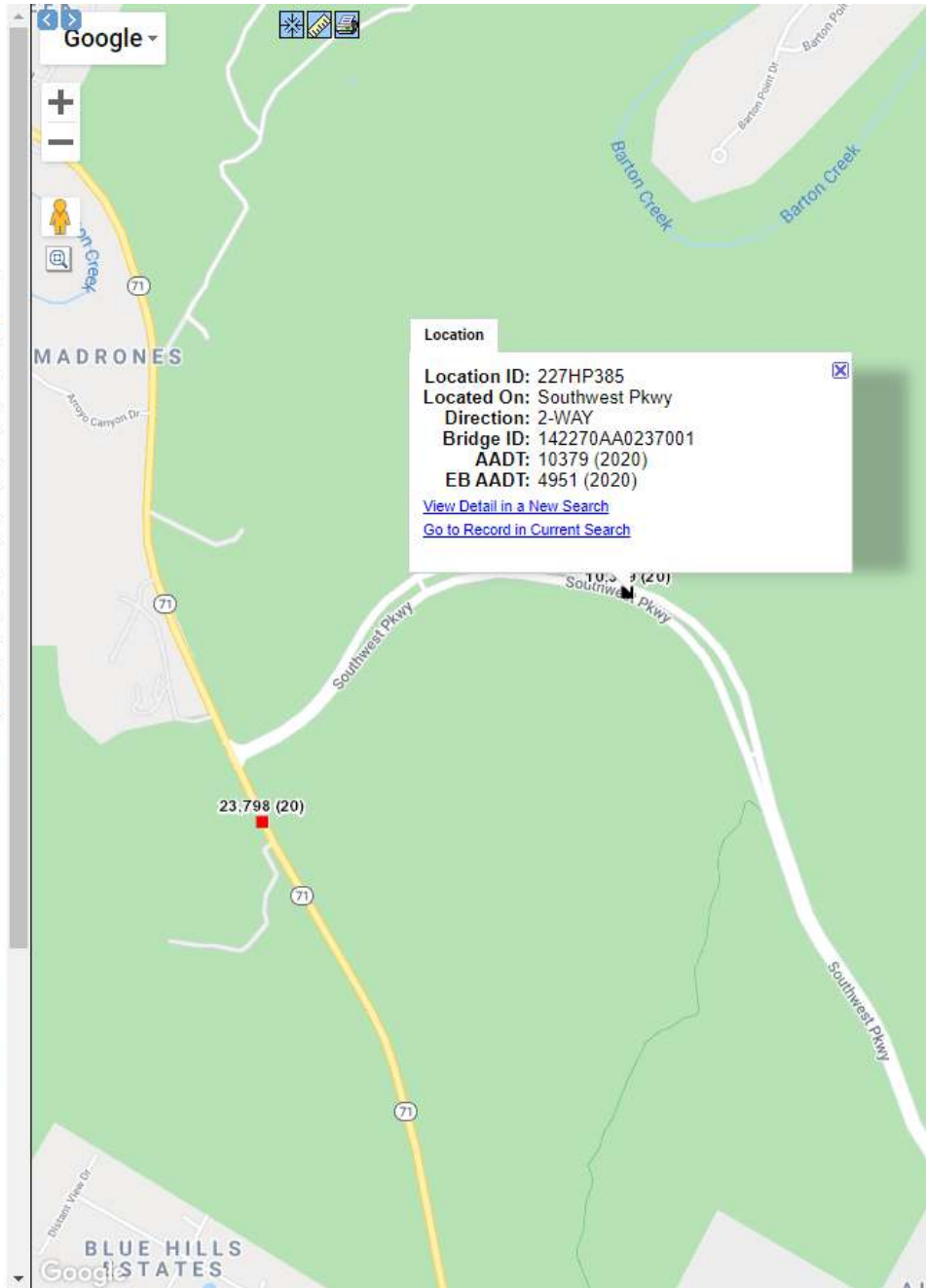
Year	AADT	DHV-30	K %	D %	PA	BC	Src
2020	10,379	938	9	54	9,794 (94%)	584 (6%)	
2019	25,250	2,303	9	60	23,968 (95%)	1,281 (5%)	
2018	21,464	2,318	11	68	20,373 (95%)	1,091 (5%)	
2017	21,943	2,366	11	68	20,839 (95%)	1,104 (5%)	
2016	20,932						

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Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT			
Date	Int	Total	
Wed 3/25/2020	15	10,498	
Mon 9/30/2019	15	22,269	
Mon 9/17/2018	-	20,116	
Mon 11/6/2017	15	21,704	
Wed 3/25/2015	15	20,050	

VOLUME TREND	
Year	Annual Growth
2020	-59%
2019	18%
2018	-2%
2017	5%
2016	5%
2015	22%
2010	-11%



Volume Count Report

LOCATION INFO

Location ID	227HP385
Type	SPOT
Funct'l Class	4
Located On	Southwest Pkwy
Loc On Alias	227AA0407
Direction	2-WAY
County	Travis
Community	-
MPO ID	90
HPMS ID	HPMS ANNUAL SAMPLE
Agency	Texas DOT

INTERVAL:15-MIN

Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	6	11	13	7	37
1:00-2:00	10	5	7	3	25
2:00-3:00	5	5	1	6	17
3:00-4:00	3	7	6	7	23
4:00-5:00	9	9	16	24	58
5:00-6:00	33	46	53	93	225
6:00-7:00	109	146	240	287	782
7:00-8:00	335	431	530	587	1,883
8:00-9:00	600	586	541	454	2,181
9:00-10:00	398	370	415	402	1,585
10:00-11:00	73	320	312	325	1,030
11:00-12:00	272	306	293	320	1,191
12:00-13:00	309	309	312	351	1,281
13:00-14:00	317	326	331	350	1,324
14:00-15:00	289	326	366	376	1,357
15:00-16:00	344	371	362	439	1,516
16:00-17:00	377	455	428	500	1,760
17:00-18:00	509	625	553	616	2,303
18:00-19:00	513	507	396	325	1,741
19:00-20:00	234	189	203	165	791
20:00-21:00	159	133	115	104	511
21:00-22:00	103	80	87	77	347
22:00-23:00	59	54	46	38	197
23:00-24:00	30	27	28	19	104
Total					22,269
AADT					25,250
AM Peak					07:45-08:45 2,314
PM Peak					17:15-18:15 2,307

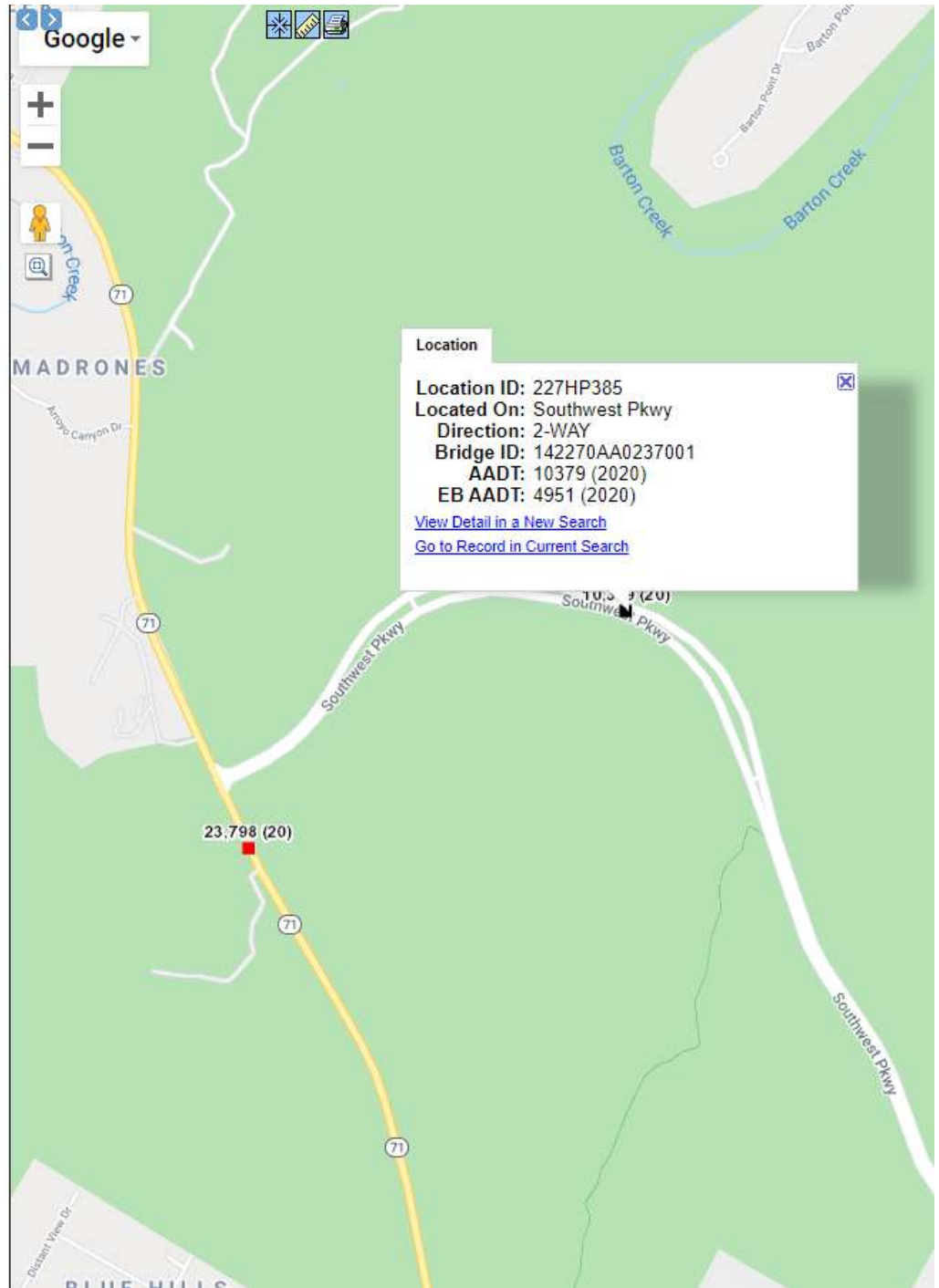
COUNT DATA INFO

Count Status	Accepted
Start Date	Mon 9/30/2019
End Date	Tue 10/1/2019
Start Time	10:00:00 AM
End Time	10:00:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	
Source	
Latitude, Longitude	

Count Navigation: << < > >> Count Type: VOLUME

Directions: 2-WAY EB WB

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TxDOT TCDS: SH 71 227H143 LOCATION



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Record	1	of 1	Goto Record	go
Location ID	227H143	MPO ID	90	
Type	SPOT	HPMS ID	ASSIGNED	
SF Group	AUSTIN FC 3	Route Type	SH	
AF Group	M1189	Route	0071	
GF Group	AUSTIN FC 3	Active	Yes	
Class Dist Grp	M1189_SE	Category	ANNUAL ACR	
Seas Class Grp	AUSTIN			
WIM Group	Statewide			
QC Group	Volume Group 4			
Funct'l Class	(3)Principal Arterial-Other			
Located On	SH0071			
Loc On Alias	SH0071-KG			
More Detail				

STATION DATA

Directions: **2-WAY** [EB](#) [WB](#)

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2020	25,511	1,771	7	52	23,559 (92%)	1,952 (8%)	
2019	31,982	2,070	6	51	30,843 (96%)	1,139 (4%)	
2018	34,138	2,208	6	55	32,952 (97%)	1,186 (3%)	
2017	27,970	2,147	8	51	26,919 (96%)	1,051 (4%)	
2016	32,221	2,185	7	51	31,076 (96%)	1,145 (4%)	

Travel Demand Model

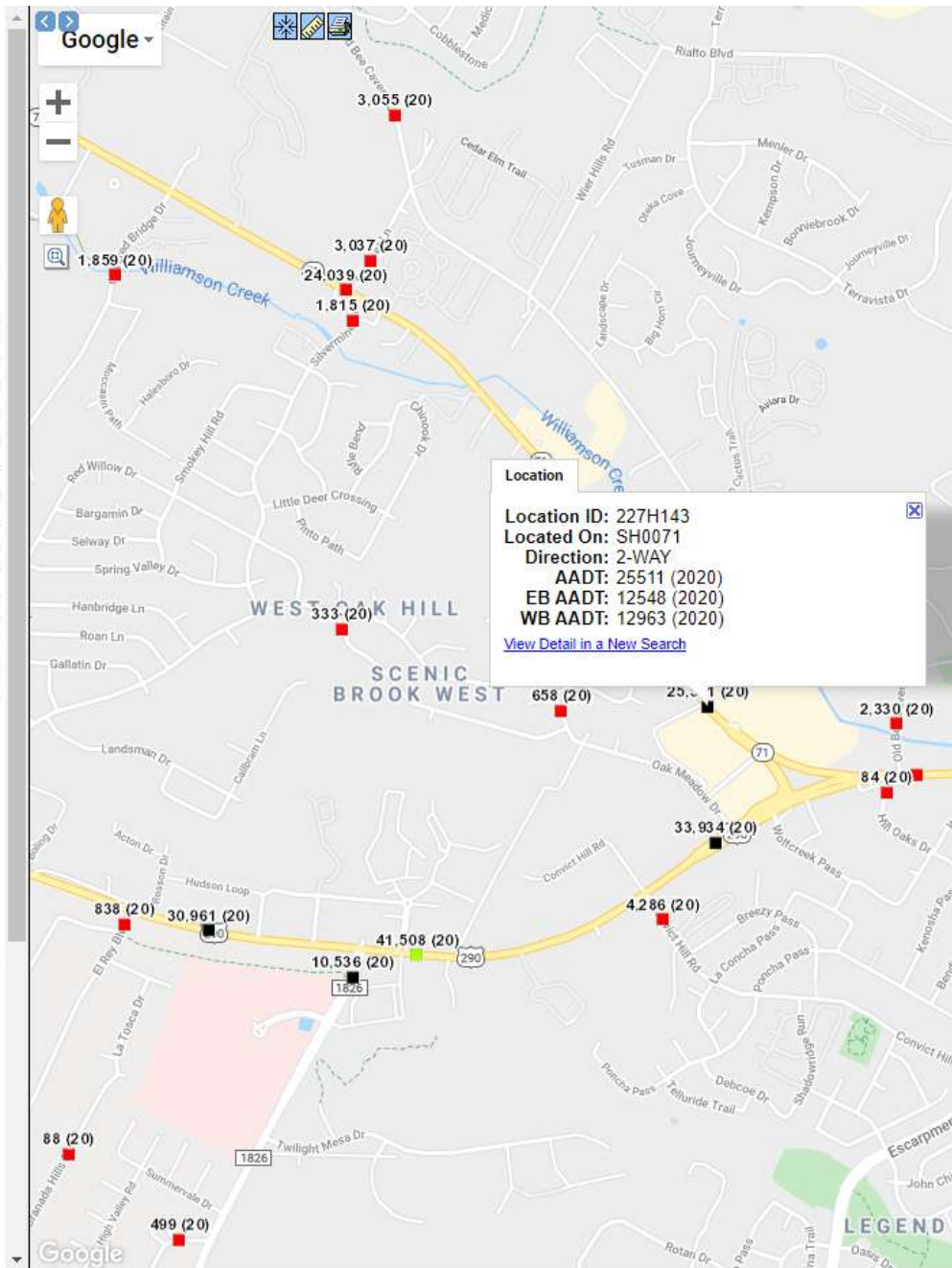
Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT

Date	Int	Total
Mon 3/23/2020	15	24,487
Wed 9/25/2019	15	32,431
Wed 9/26/2018	15	33,473
Wed 11/8/2017	15	30,492
Mon 9/12/2016	15	30,802
Mon 3/23/2015	15	27,936
Mon 8/4/2014	15	29,322
Wed 8/21/2013	15	30,749
Wed 11/16/2011	15	28,030

VOLUME TREND

Year	Annual Growth
2020	-20%
2019	-6%
2018	22%
2017	-13%
2016	12%
2015	12%
2014	4%
2013	-17%



Volume Count Report

LOCATION INFO

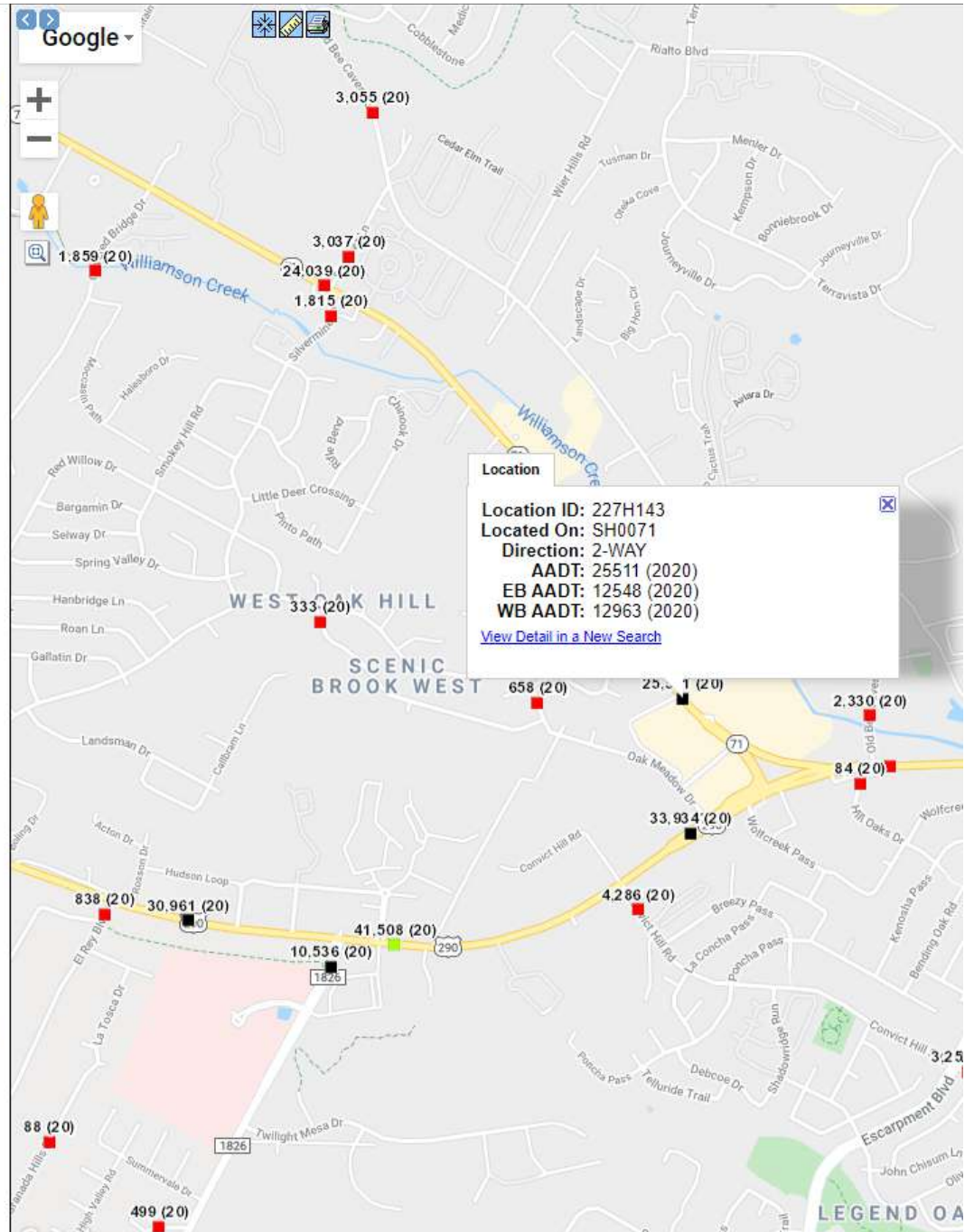
Location ID	227H143
Type	SPOT
Funct'l Class	3
Located On	SH0071
Loc On Alias	SH0071-KG
Direction	2-WAY
County	Travis
Community	Austin
MPO ID	90
HPMS ID	ASSIGNED
Agency	Texas DOT

INTERVAL:15-MIN

Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	84	76	60	51	271
1:00-2:00	43	35	37	36	151
2:00-3:00	25	21	46	25	117
3:00-4:00	27	49	23	45	144
4:00-5:00	44	71	71	98	284
5:00-6:00	109	131	206	244	690
6:00-7:00	260	400	496	478	1,634
7:00-8:00	419	434	451	432	1,736
8:00-9:00	481	435	480	523	1,919
9:00-10:00	542	500	484	495	2,021
10:00-11:00	510	476	488	484	1,958
11:00-12:00	483	469	469	529	1,950
12:00-13:00	476	537	542	515	2,070
13:00-14:00	518	538	514	448	2,018
14:00-15:00	451	510	501	504	1,966
15:00-16:00	467	503	510	511	1,991
16:00-17:00	508	487	518	506	2,019
17:00-18:00	524	494	453	379	1,850
18:00-19:00	485	485	484	531	1,985
19:00-20:00	410	499	507	441	1,857
20:00-21:00	402	408	381	283	1,474
21:00-22:00	310	315	285	258	1,168
22:00-23:00	202	199	175	132	708
23:00-24:00	109	123	111	107	450
Total					32,431
AADT					31,982
AM Peak					11:45-12:45 2,084
PM Peak					12:30-13:30 2,113

COUNT DATA INFO

Count Status	Accepted
Start Date	Wed 9/25/2019
End Date	Thu 9/26/2019
Start Time	4:45:00 AM
End Time	4:45:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	



TxDOT TCDS: SH 71 227H145 LOCATION



Traffic Count Database System (TCDS)

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[Email This](#)

Auto-Locate ON

List View All DIRs Report Center

Record	1 of 1		Goto Record	go
Location ID	227H145	MPO ID	90	
Type	SPOT	HPMS ID	ASSIGNED	
SF Group	AUSTIN FC 3	Route Type	SH	
AF Group	M1189	Route	0071	
GF Group	AUSTIN FC 3	Active	Yes	
Class Dist Grp	M1189_NW	Category	ANNUAL ACR	
Seas Class Grp	AUSTIN			
WIM Group	Statewide			
QC Group	Volume Group 5			
Funct'l Class	(3)Principal Arterial-Other			
Located On	SH0071			
Loc On Alias	SH0071-KG			
More Detail				

STATION DATA

Directions: **2-WAY** EB WB

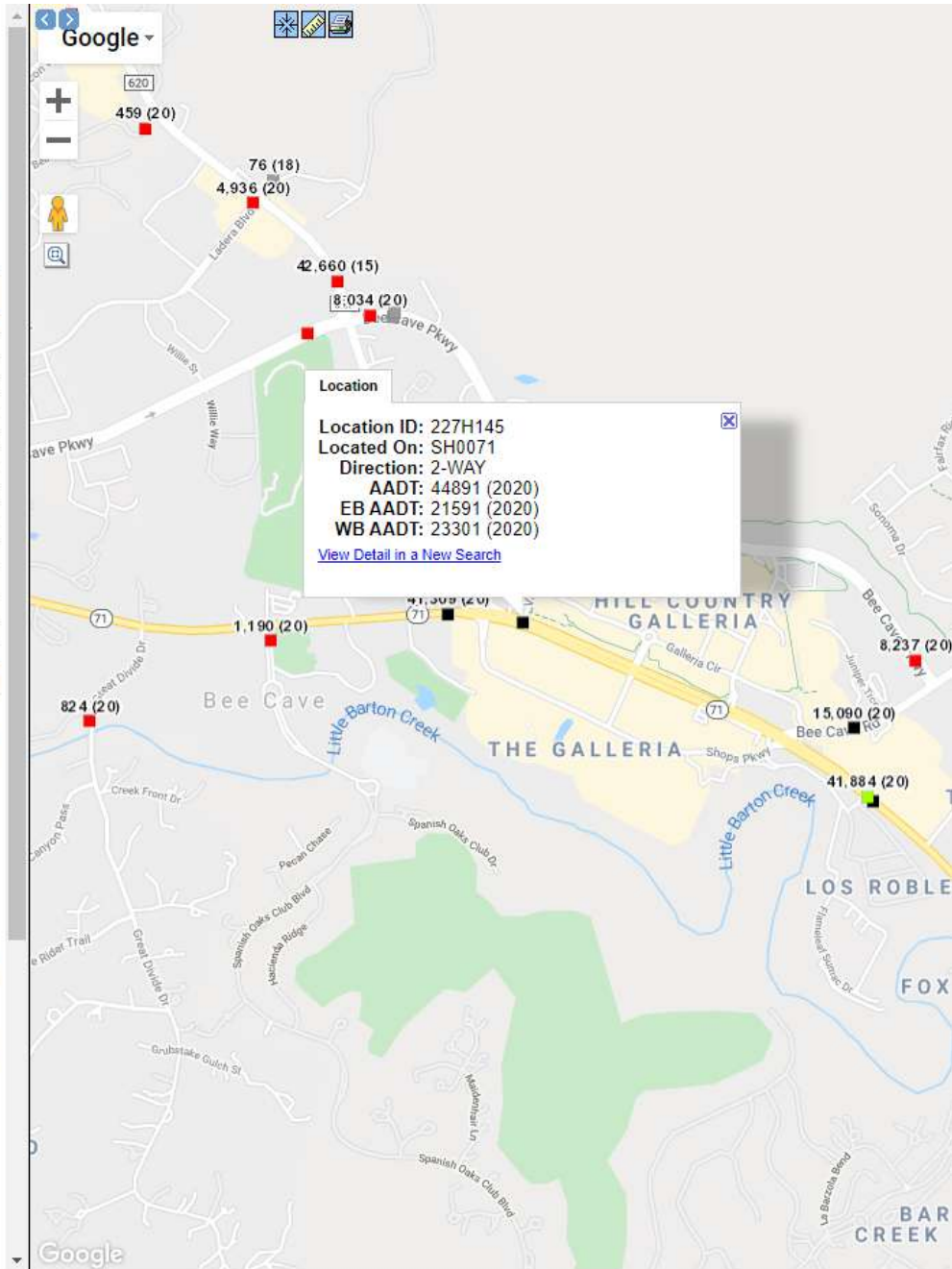
Year	AADT	DHV-30	K %	D %	PA	BC	Src
2020	44,891	3,290	7	55	42,375 (94%)	2,516 (6%)	
2019	51,545 ²						
2018	51,884	4,151	8	58	50,321 (97%)	1,563 (3%)	
2017	48,183				46,698 (97%)	1,485 (3%)	
2016	48,530				47,038 (97%)	1,492 (3%)	

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Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT			
Date	Int	Total	
Mon 3/16/2020	15	43,087	
Mon 9/17/2018	-	49,136	
Mon 11/13/2017	-	49,518	
Wed 9/14/2016	-	48,325	
Mon 3/30/2015	15	45,059	
Mon 8/11/2014	15	41,671	
Wed 9/4/2013	15	21,688	
Wed 11/16/2011	15	37,217	

VOLUME TREND	
Year	Annual Growth
2020	-13%
2019	-1%
2018	8%
2017	-1%
2016	4%
2015	27%
2014	76%
2013	-46%



Volume Count Report

LOCATION INFO

Location ID	227H145
Type	SPOT
Funct'l Class	3
Located On	SH0071
Loc On Alias	SH0071-KG
Direction	2-WAY
County	Travis
Community	Bee Cave
MPO ID	90
HPMS ID	ASSIGNED
Agency	Texas DOT

INTERVAL: 24-HOUR

Total	49,136
AADT	51,884

COUNT DATA INFO

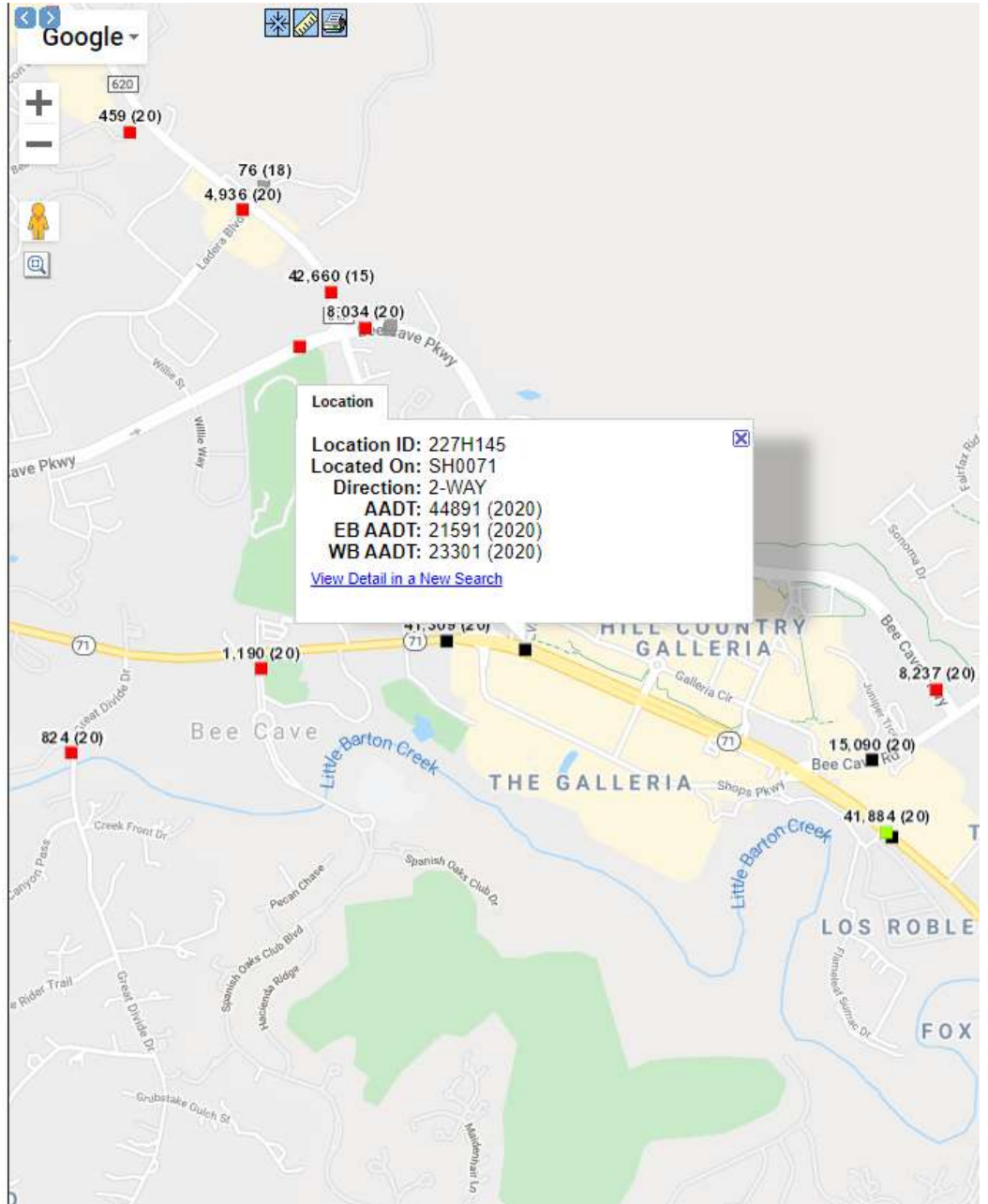
Count Status	Estimated
Start Date	Mon 9/17/2018
End Date	Tue 9/18/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Notes	24
Station	Estimation
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	CombineVolumeCountsIncremental
Latitude, Longitude	

Count Navigation: << < > >> Count Type: VOLUME

Directions: 2-WAY EB WB ?

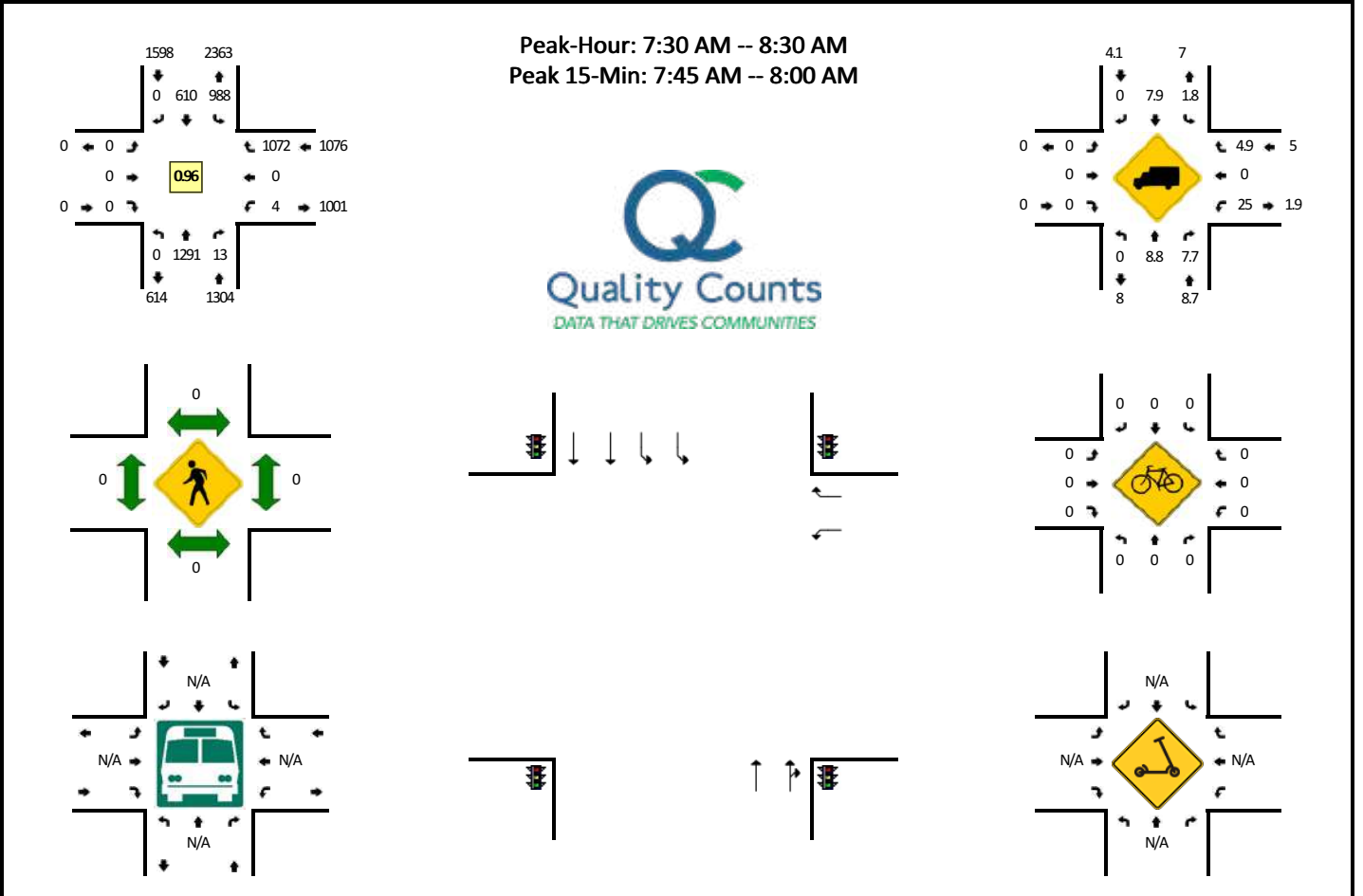


View Calendar



LOCATION: SH 71 -- Southwest Pkwy
CITY/STATE: Austin, TX

QC JOB #: 15648001
DATE: Wed, Dec 8 2021

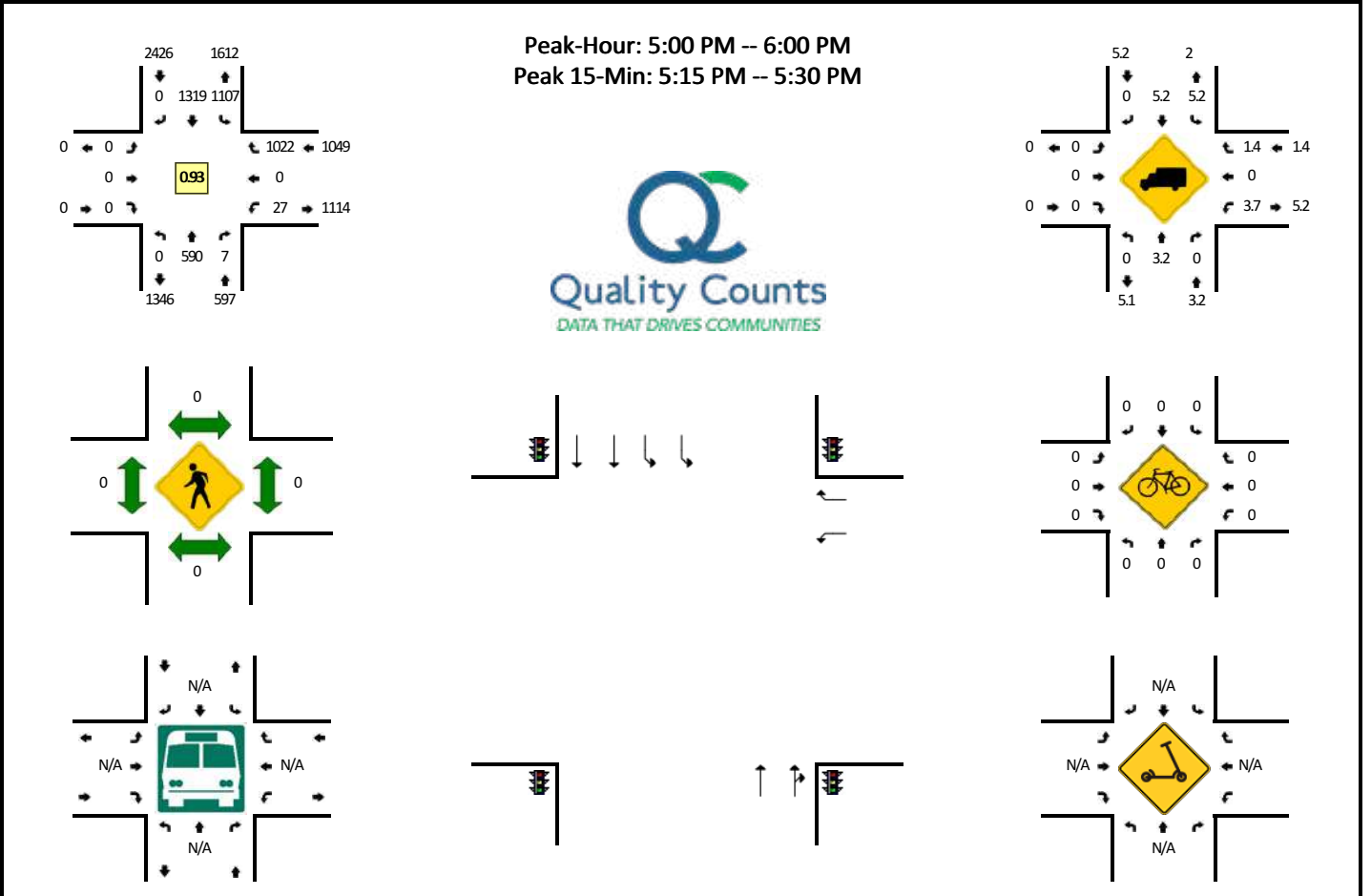


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Southwest Pkwy (Eastbound)				Southwest Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	258	2	0	128	140	0	0	0	0	0	0	2	0	121	0	651	
7:15 AM	0	293	3	0	221	134	0	0	0	0	0	0	1	0	209	0	861	
7:30 AM	0	322	3	0	257	142	0	0	0	0	0	0	0	0	233	0	957	
7:45 AM	0	320	3	0	290	148	0	0	0	0	0	0	2	0	274	0	1037	3506
8:00 AM	0	321	3	0	213	140	0	0	0	0	0	0	2	0	289	0	968	3823
8:15 AM	0	328	4	0	228	180	0	0	0	0	0	0	0	0	276	0	1016	3978
8:30 AM	0	259	5	0	204	171	0	0	0	0	0	0	3	0	254	0	896	3917
8:45 AM	0	249	4	0	194	138	0	0	0	0	0	0	4	0	229	0	818	3698
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1280	12	0	1160	592	0	0	0	0	0	0	8	0	1096	0	4148	
Heavy Trucks	0	120	4		28	36	0		0	0	0		4	0	32		224	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: SH 71 -- Southwest Pkwy
CITY/STATE: Austin, TX

QC JOB #: 15648002
DATE: Wed, Dec 8 2021

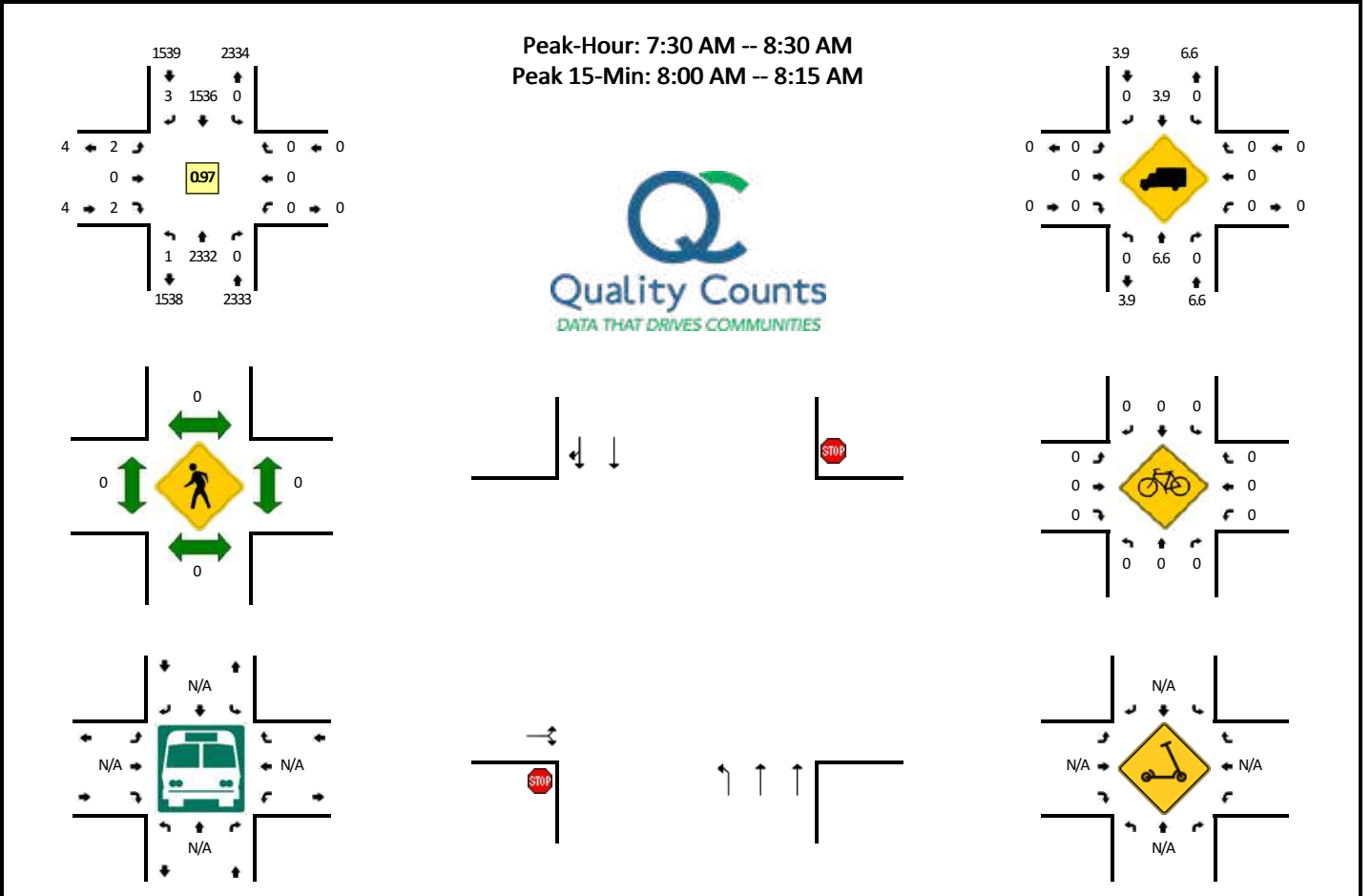


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Southwest Pkwy (Eastbound)				Southwest Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	164	2	0	195	263	0	0	0	0	0	0	6	0	312	0	942	
4:15 PM	0	166	1	0	257	313	0	0	0	0	0	0	4	0	237	0	978	
4:30 PM	0	143	2	0	220	284	0	0	0	0	0	0	4	0	285	0	938	
4:45 PM	0	157	3	0	208	311	0	0	0	0	0	0	4	0	269	0	952	3810
5:00 PM	0	133	1	0	268	354	0	0	0	0	0	0	5	0	268	0	1029	3897
5:15 PM	0	169	0	0	296	342	0	0	0	0	0	0	4	0	280	0	1091	4010
5:30 PM	0	133	4	0	289	315	0	0	0	0	0	0	9	0	239	0	989	4061
5:45 PM	0	155	2	0	254	308	0	0	0	0	0	0	9	0	235	0	963	4072
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	676	0	0	1184	1368	0	0	0	0	0	0	16	0	1120	0	4364	
Heavy Trucks	0	36	0	0	68	92	0	0	0	0	0	0	0	0	20	0	216	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

LOCATION: SH 71 -- Arroyo Canyon Dr
CITY/STATE: Austin, TX

QC JOB #: 15648003
DATE: Wed, Dec 8 2021

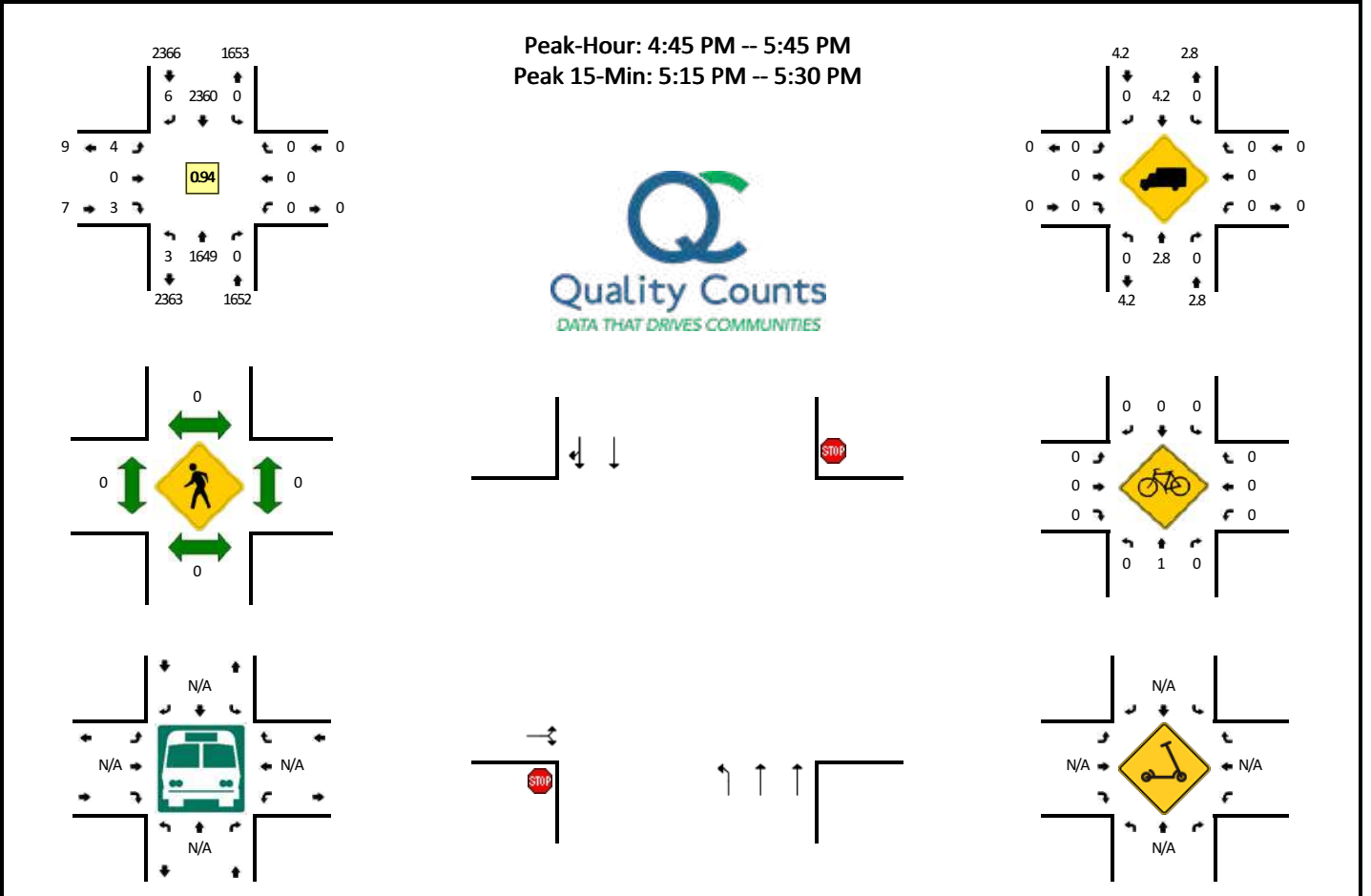


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Arroyo Canyon Dr (Eastbound)				Arroyo Canyon Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	395	0	0	0	261	0	0	0	0	0	0	0	0	0	0	656	
7:15 AM	0	479	0	0	0	368	0	0	1	0	0	0	0	0	0	0	848	
7:30 AM	0	542	0	0	0	413	1	0	0	0	0	0	0	0	0	0	956	
7:45 AM	0	595	0	0	0	378	0	0	0	0	1	0	0	0	0	0	974	3434
8:00 AM	0	610	0	0	0	388	2	0	1	0	1	0	0	0	0	0	1002	3780
8:15 AM	1	585	0	0	0	357	0	0	1	0	0	0	0	0	0	0	944	3876
8:30 AM	0	514	0	0	0	385	0	0	1	0	0	0	0	0	0	0	900	3820
8:45 AM	0	478	0	0	0	326	2	0	0	0	2	0	0	0	0	0	808	3654
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	2440	0	0	0	1552	8	0	4	0	4	0	0	0	0	0	4008	
Heavy Trucks	0	160	0	0	0	68	0	0	0	0	0	0	0	0	0	0	228	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: SH 71 -- Arroyo Canyon Dr
CITY/STATE: Austin, TX

QC JOB #: 15648004
DATE: Wed, Dec 8 2021

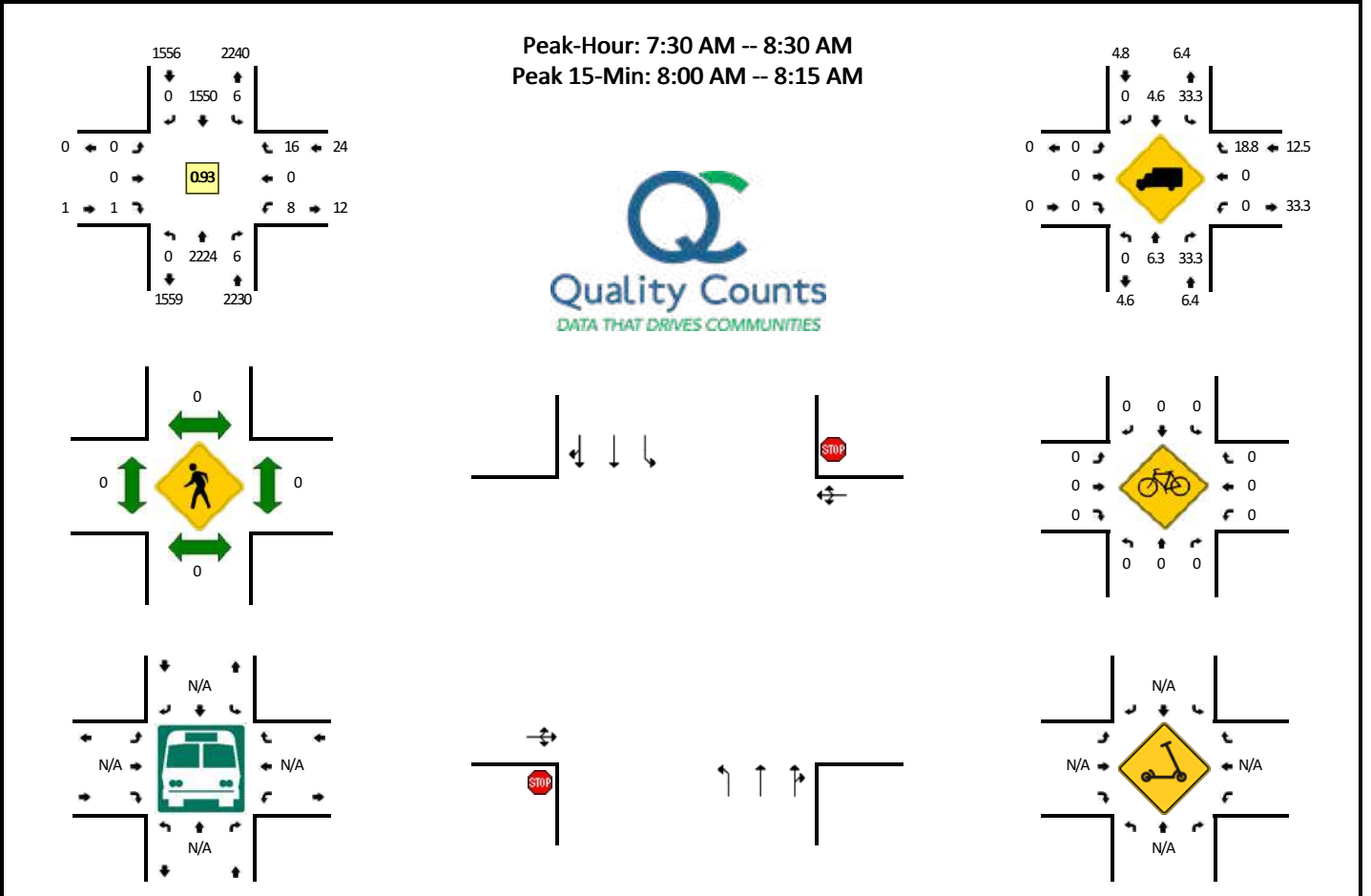


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Arroyo Canyon Dr (Eastbound)				Arroyo Canyon Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	470	0	0	0	463	0	0	1	0	0	0	0	0	0	0	934	
4:15 PM	0	410	0	0	0	551	0	0	1	0	0	0	0	0	0	0	962	
4:30 PM	0	431	0	0	0	484	0	0	1	0	0	0	0	0	0	0	916	
4:45 PM	1	429	0	0	0	540	2	0	1	0	1	0	0	0	0	0	974	3786
5:00 PM	1	401	0	0	0	644	0	0	1	0	0	0	0	0	0	0	1047	3899
5:15 PM	1	445	0	0	0	622	0	0	1	0	1	0	0	0	0	0	1070	4007
5:30 PM	0	374	0	0	0	554	4	0	1	0	1	0	0	0	0	0	934	4025
5:45 PM	0	418	0	0	0	543	0	0	0	0	1	0	0	0	0	0	962	4013
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	1780	0	0	0	2488	0	0	4	0	4	0	0	0	0	0	4280	
Heavy Trucks	0	48	0	0	0	116	0	0	0	0	0	0	0	0	0	0	164	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: SH 71 -- Spearfish Cyn/Preserve Way
CITY/STATE: Bee Cave, TX

QC JOB #: 15648005
DATE: Wed, Dec 8 2021

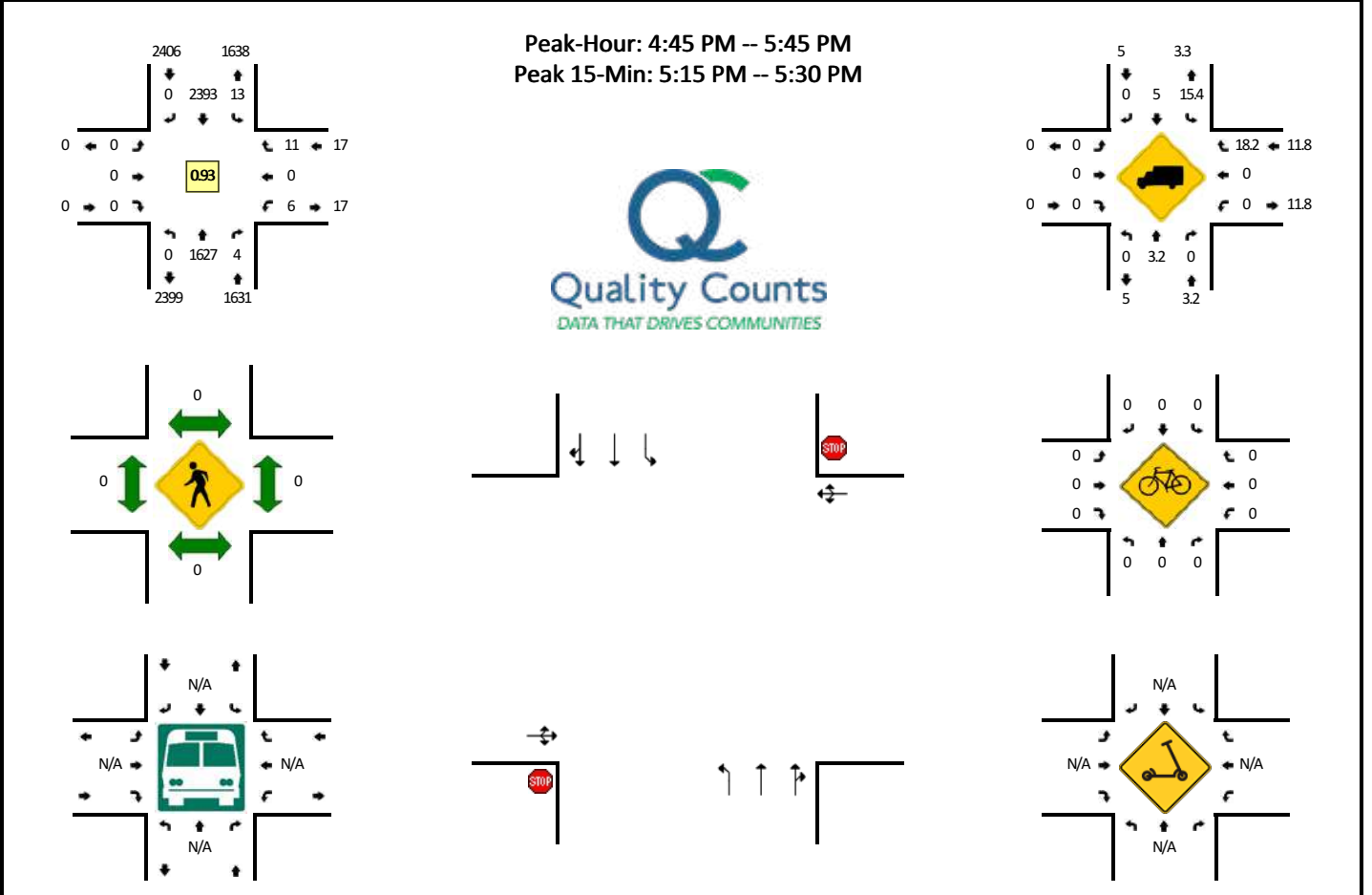


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Spearfish Cyn/Preserve Way (Eastbound)				Spearfish Cyn/Preserve Way (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	358	0	0	1	270	0	1	1	0	1	0	1	0	3	0	636	
7:15 AM	0	475	0	0	1	360	0	0	0	0	0	0	1	0	5	0	842	
7:30 AM	0	522	2	0	2	428	0	0	0	0	0	0	2	0	1	0	957	
7:45 AM	0	590	1	0	2	371	0	0	0	0	0	0	4	0	7	0	975	3410
8:00 AM	0	609	1	0	1	404	0	0	0	0	0	0	0	0	6	0	1021	3795
8:15 AM	0	503	2	0	1	347	0	0	0	0	1	0	2	0	2	0	858	3811
8:30 AM	0	546	5	0	1	391	0	0	0	0	0	0	2	0	3	0	948	3802
8:45 AM	0	530	2	0	2	329	0	0	0	0	0	0	1	0	1	0	865	3692
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	2436	4	0	4	1616	0	0	0	0	0	0	0	0	24	0	4084	
Heavy Trucks	0	140	0	0	0	76	0	0	0	0	0	0	0	0	8	0	224	
Buses																		
Pedestrians		0				0					0				0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: SH 71 -- Spearfish Cyn/Preserve Way
CITY/STATE: Bee Cave, TX

QC JOB #: 15648006
DATE: Wed, Dec 8 2021

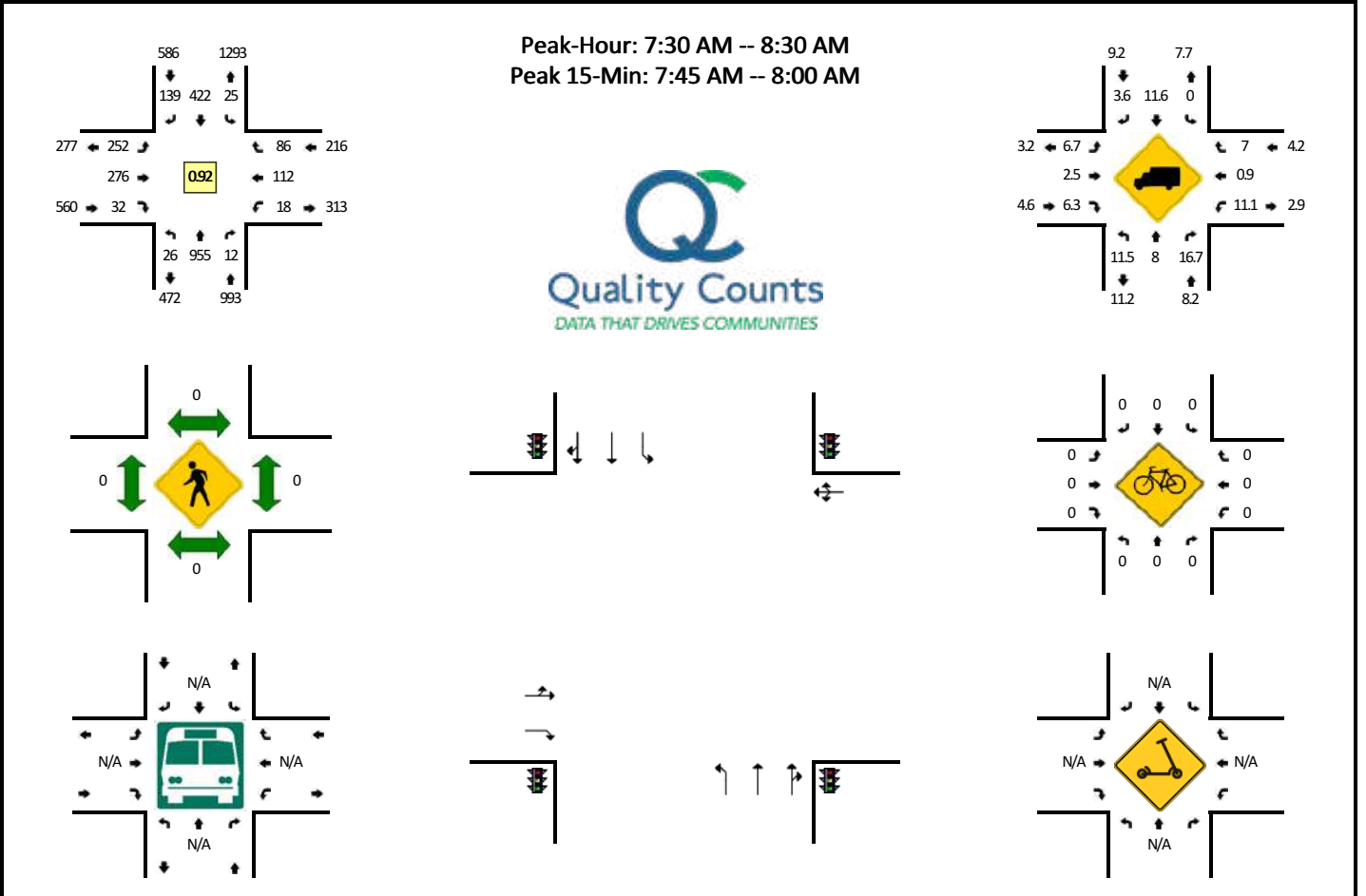


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Spearfish Cyn/Preserve Way (Eastbound)				Spearfish Cyn/Preserve Way (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	480	3	0	3	467	0	0	0	0	0	0	0	0	1	0	954		
4:15 PM	0	416	1	0	6	552	0	0	0	0	0	0	3	0	4	0	982		
4:30 PM	0	407	1	0	2	488	0	0	0	0	1	0	2	0	0	0	901		
4:45 PM	0	418	1	0	3	540	0	0	0	0	0	0	4	0	3	0	969	3806	
5:00 PM	0	404	0	0	4	644	0	0	0	0	0	0	1	0	3	0	1056	3908	
5:15 PM	0	448	2	0	4	634	0	0	0	0	0	0	1	0	2	0	1091	4017	
5:30 PM	0	357	1	0	2	575	0	0	0	0	0	0	0	0	3	0	938	4054	
5:45 PM	0	383	3	0	1	549	0	0	0	0	0	0	6	0	2	0	944	4029	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	1792	8	0	16	2536	0	0	0	0	0	0	4	0	8	0	4364		
Heavy Trucks	0	56	0		0	128	0		0	0	0		0	0	0		184		
Buses																			
Pedestrians		0				0					0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																		0	

Comments:

LOCATION: SH 71 -- Thomas Springs Rd/Old Bee Caves Rd
CITY/STATE: Austin, TX

QC JOB #: 15648007
DATE: Wed, Dec 8 2021

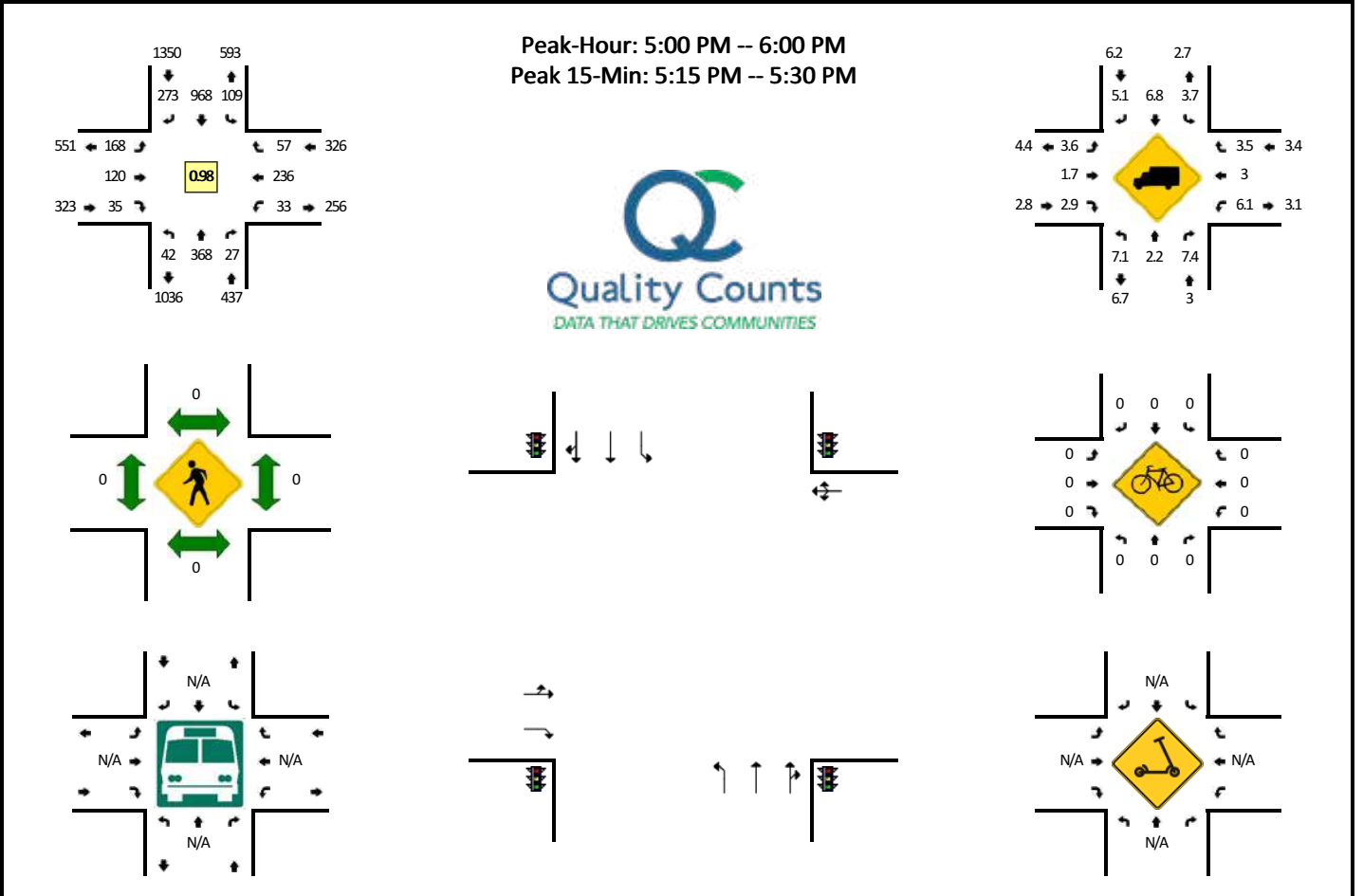


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Thomas Springs Rd/Old Bee Caves Rd (Eastbound)				Thomas Springs Rd/Old Bee Caves Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	205	2	0	4	115	22	0	29	27	9	0	0	15	21	0	451	
7:15 AM	6	219	3	0	9	124	11	0	61	68	14	0	2	12	26	0	555	
7:30 AM	7	228	5	0	5	99	23	0	64	72	5	0	3	22	21	0	554	
7:45 AM	2	253	3	0	9	111	34	0	78	80	6	0	9	28	27	0	640	2200
8:00 AM	6	244	1	0	7	76	38	0	48	57	12	0	4	36	16	0	545	2294
8:15 AM	11	230	3	0	4	136	44	0	62	67	9	0	2	26	22	0	616	2355
8:30 AM	7	201	7	0	11	131	39	0	49	48	13	0	5	22	10	0	543	2344
8:45 AM	1	197	5	0	10	94	33	0	43	49	9	0	1	17	16	0	475	2179
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	1012	12	0	36	444	136	0	312	320	24	0	36	112	108	0	2560	
Heavy Trucks	4	100	8		0	44	8		16	12	0		4	0	12		208	
Buses																		
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

LOCATION: SH 71 -- Thomas Springs Rd/Old Bee Caves Rd
CITY/STATE: Austin, TX

QC JOB #: 15648008
DATE: Wed, Dec 8 2021

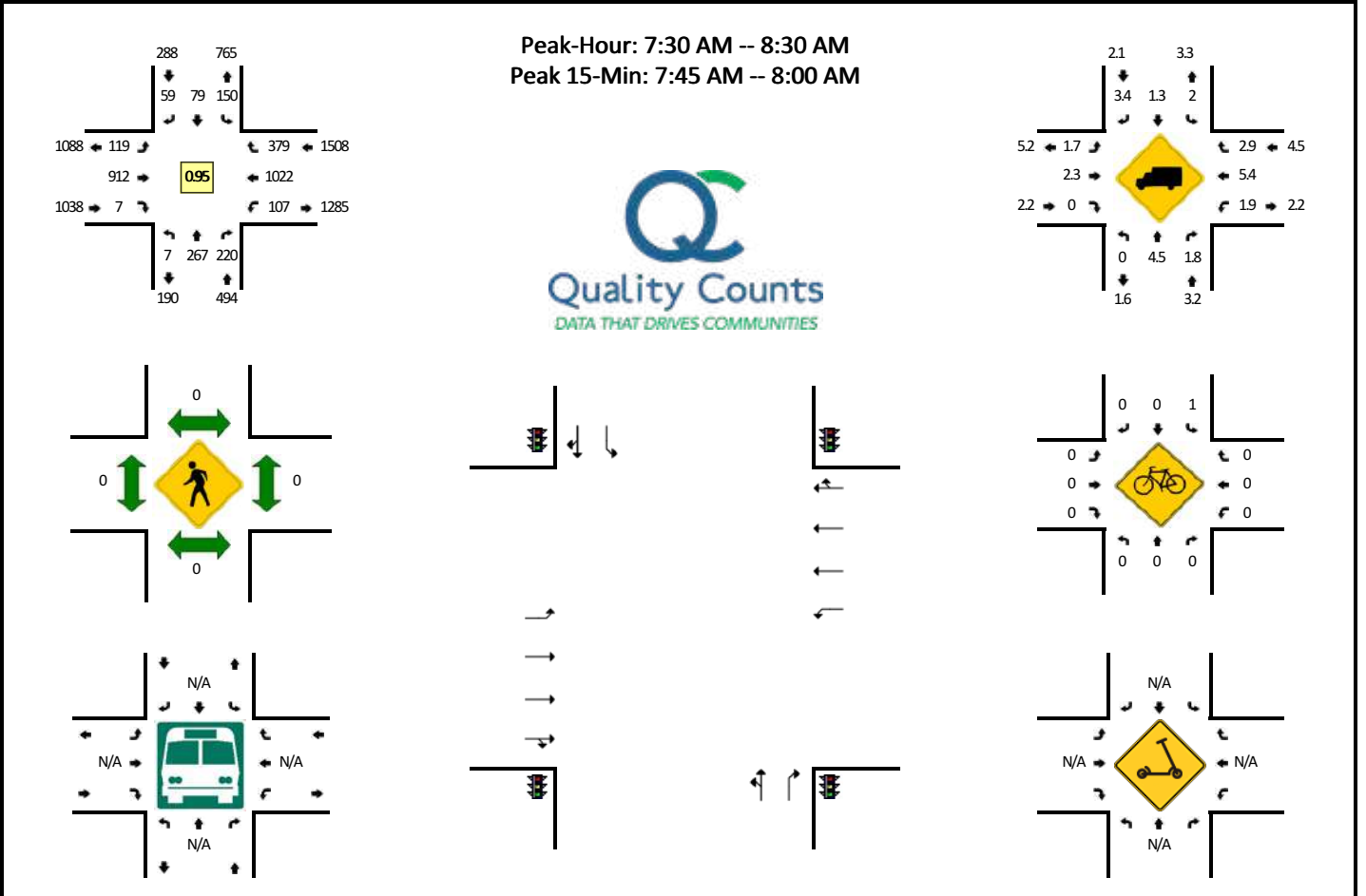


15-Min Count Period Beginning At	SH 71 (Northbound)				SH 71 (Southbound)				Thomas Springs Rd/Old Bee Caves Rd (Eastbound)				Thomas Springs Rd/Old Bee Caves Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	105	6	0	14	201	49	0	45	32	15	0	7	48	16	0	544	
4:15 PM	12	115	2	0	34	210	68	0	41	23	10	0	5	53	8	0	581	
4:30 PM	8	89	2	0	30	197	57	0	46	21	10	0	10	56	16	0	542	
4:45 PM	6	100	4	0	28	221	55	0	40	42	15	0	7	64	10	0	592	2259
5:00 PM	8	92	7	0	22	250	70	0	31	31	7	0	6	67	14	0	605	2320
5:15 PM	8	109	10	0	30	261	59	0	30	29	5	0	7	54	18	0	620	2359
5:30 PM	16	93	4	0	28	238	73	0	51	29	13	0	14	49	9	0	617	2434
5:45 PM	10	74	6	0	29	219	71	0	56	31	10	0	6	66	16	0	594	2436
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	32	436	40	0	120	1044	236	0	120	116	20	0	28	216	72	0	2480	
Heavy Trucks	4	8	4		4	80	4		0	4	4		0	4	4		120	
Buses																		
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Barton Creek Blvd/Travis Cook Rd -- Southwest Pkwy
CITY/STATE: Austin, TX

QC JOB #: 15648009
DATE: Wed, Dec 8 2021

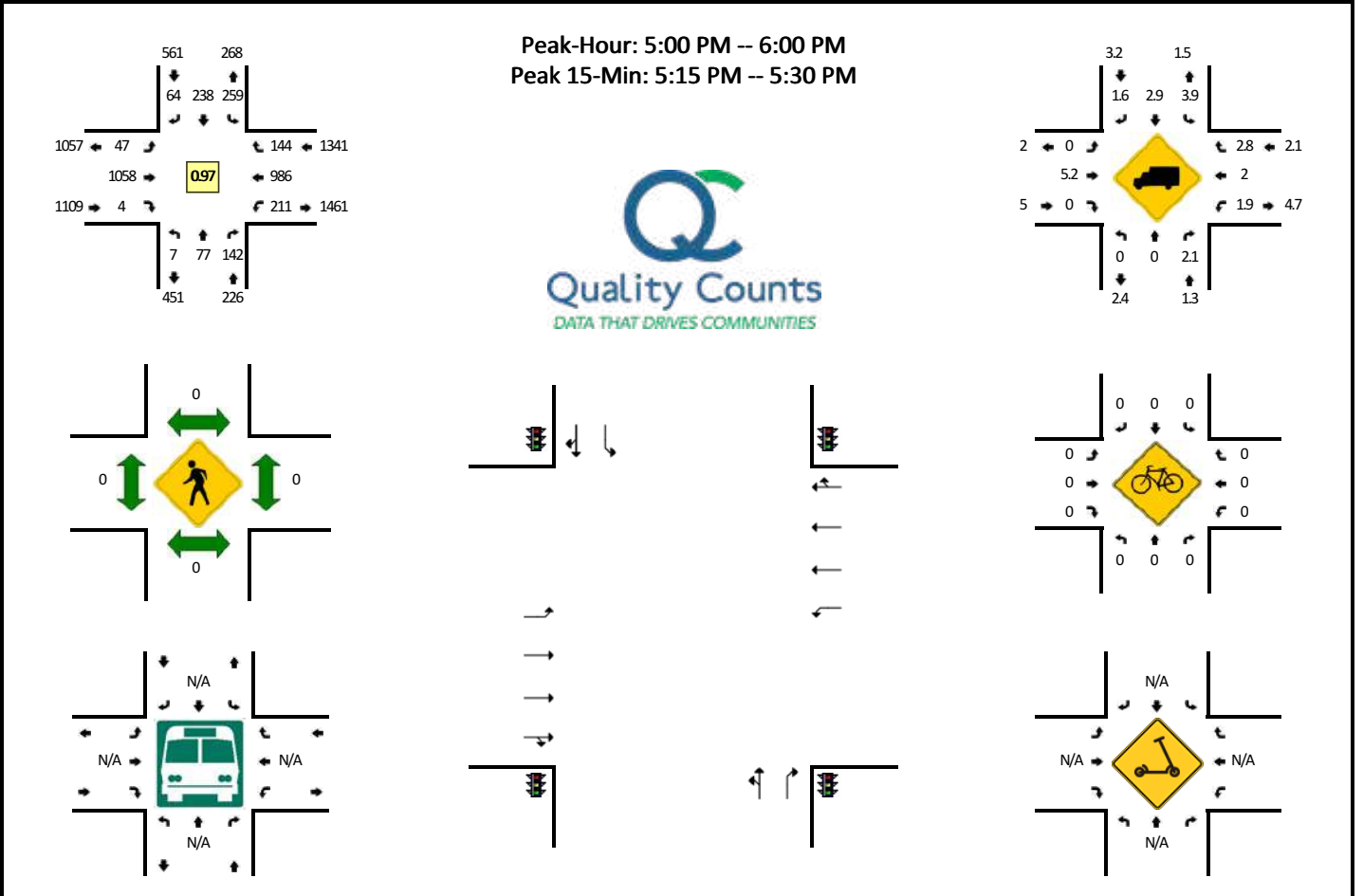


15-Min Count Period Beginning At	Barton Creek Blvd/Travis Cook Rd (Northbound)				Barton Creek Blvd/Travis Cook Rd (Southbound)				Southwest Pkwy (Eastbound)				Southwest Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	29	21	0	6	7	0	0	6	104	3	0	11	149	38	0	374	
7:15 AM	4	63	47	0	16	3	7	0	20	155	0	0	11	151	46	0	523	
7:30 AM	1	54	63	0	36	18	12	0	35	243	1	0	22	229	87	0	801	
7:45 AM	1	79	67	0	43	17	14	0	37	242	2	0	28	266	83	1	880	2578
8:00 AM	3	64	43	0	39	23	21	0	22	210	2	0	30	272	100	0	829	3033
8:15 AM	2	70	47	0	32	21	12	0	25	217	2	0	24	255	109	2	818	3328
8:30 AM	0	63	38	0	32	12	7	0	6	184	0	0	23	258	76	0	699	3226
8:45 AM	0	56	37	0	40	12	4	0	7	220	3	0	20	225	81	0	705	3051
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	316	268	0	172	68	56	0	148	968	8	0	112	1064	332	4	3520	
Heavy Trucks	0	24	4		0	0	4		0	24	0		8	28	0		92	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		4	0	0		0	0	0		0	0	0		4	
Scoters																		

Comments:

LOCATION: Barton Creek Blvd/Travis Cook Rd -- Southwest Pkwy
CITY/STATE: Austin, TX

QC JOB #: 15648010
DATE: Wed, Dec 8 2021



15-Min Count Period Beginning At	Barton Creek Blvd/Travis Cook Rd (Northbound)				Barton Creek Blvd/Travis Cook Rd (Southbound)				Southwest Pkwy (Eastbound)				Southwest Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	22	28	0	76	51	36	0	8	168	1	0	45	260	39	0	735	
4:15 PM	1	23	18	0	74	53	13	0	7	240	6	0	34	258	26	0	753	
4:30 PM	2	17	25	0	63	52	13	0	12	192	1	0	52	274	39	0	742	
4:45 PM	1	24	31	0	67	61	13	0	4	223	3	0	41	258	38	2	766	2996
5:00 PM	2	19	37	0	65	56	12	0	14	250	1	0	56	260	37	0	809	3070
5:15 PM	4	25	39	0	57	62	15	0	15	276	1	0	44	257	39	0	834	3151
5:30 PM	1	19	38	0	71	64	15	0	11	287	1	0	47	240	29	0	823	3232
5:45 PM	0	14	28	0	66	56	22	0	7	245	1	0	62	229	39	2	771	3237
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	100	156	0	228	248	60	0	60	1104	4	0	176	1028	156	0	3336	
Heavy Trucks	0	0	8		8	8	4		0	48	0		4	24	4		108	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

Type of report: Tube Count - Volume Data

LOCATION: SH 71 N of Southwest Pkwy SPECIFIC LOCATION: CITY/STATE: Austin, TX							QC JOB #: 15648011 DIRECTION: NB DATE: Dec 8 2021 - Dec 8 2021			
Start Time	Mon	Tue	Wed 8 Dec 21	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			140			140			140	
01:00 AM			72			72			72	
02:00 AM			53			53			53	
03:00 AM			58			58			58	
04:00 AM			156			156			156	
05:00 AM			448			448			448	
06:00 AM			1130			1130			1130	
07:00 AM			1897			1897			1897	
08:00 AM			2083			2083			2083	
09:00 AM			1639			1639			1639	
10:00 AM			1479			1479			1479	
11:00 AM			1431			1431			1431	
12:00 PM			1439			1439			1439	
01:00 PM			1500			1500			1500	
02:00 PM			1471			1471			1471	
03:00 PM			1649			1649			1649	
04:00 PM			1674			1674			1674	
05:00 PM			1560			1560			1560	
06:00 PM			1219			1219			1219	
07:00 PM			883			883			883	
08:00 PM			719			719			719	
09:00 PM			531			531			531	
10:00 PM			375			375			375	
11:00 PM			238			238			238	
Day Total			23844			23844			23844	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			8:00 AM 2083			8:00 AM 2083			8:00 AM 2083	
PM Peak Volume			4:00 PM 1674			4:00 PM 1674			4:00 PM 1674	

Comments:

Type of report: Tube Count - Volume Data

LOCATION: SH 71 N of Southwest Pkwy SPECIFIC LOCATION: CITY/STATE: Austin, TX							QC JOB #: 15648011 DIRECTION: NB, SB DATE: Dec 8 2021 - Dec 8 2021			
Start Time	Mon	Tue	Wed 8 Dec 21	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			216			216			216	
01:00 AM			121			121			121	
02:00 AM			92			92			92	
03:00 AM			101			101			101	
04:00 AM			283			283			283	
05:00 AM			832			832			832	
06:00 AM			1824			1824			1824	
07:00 AM			3231			3231			3231	
08:00 AM			3455			3455			3455	
09:00 AM			2991			2991			2991	
10:00 AM			2824			2824			2824	
11:00 AM			2879			2879			2879	
12:00 PM			2935			2935			2935	
01:00 PM			2942			2942			2942	
02:00 PM			3062			3062			3062	
03:00 PM			3407			3407			3407	
04:00 PM			3565			3565			3565	
05:00 PM			3758			3758			3758	
06:00 PM			2880			2880			2880	
07:00 PM			1929			1929			1929	
08:00 PM			1365			1365			1365	
09:00 PM			1115			1115			1115	
10:00 PM			753			753			753	
11:00 PM			399			399			399	
Day Total			46959			46959			46959	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			8:00 AM 3455			8:00 AM 3455			8:00 AM 3455	
PM Peak Volume			5:00 PM 3758			5:00 PM 3758			5:00 PM 3758	

Comments:

Type of report: Tube Count - Volume Data

LOCATION: SH 71 N of Southwest Pkwy SPECIFIC LOCATION: CITY/STATE: Austin, TX							QC JOB #: 15648011 DIRECTION: SB DATE: Dec 8 2021 - Dec 8 2021			
Start Time	Mon	Tue	Wed 8 Dec 21	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			76			76			76	
01:00 AM			49			49			49	
02:00 AM			39			39			39	
03:00 AM			43			43			43	
04:00 AM			127			127			127	
05:00 AM			384			384			384	
06:00 AM			694			694			694	
07:00 AM			1334			1334			1334	
08:00 AM			1372			1372			1372	
09:00 AM			1352			1352			1352	
10:00 AM			1345			1345			1345	
11:00 AM			1448			1448			1448	
12:00 PM			1496			1496			1496	
01:00 PM			1442			1442			1442	
02:00 PM			1591			1591			1591	
03:00 PM			1758			1758			1758	
04:00 PM			1891			1891			1891	
05:00 PM			2198			2198			2198	
06:00 PM			1661			1661			1661	
07:00 PM			1046			1046			1046	
08:00 PM			646			646			646	
09:00 PM			584			584			584	
10:00 PM			378			378			378	
11:00 PM			161			161			161	
Day Total			23115			23115			23115	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			11:00 AM 1448			11:00 AM 1448			11:00 AM 1448	
PM Peak Volume			5:00 PM 2198			5:00 PM 2198			5:00 PM 2198	

Comments:

Appendix D: Signal Timing Sheets

Signal Timing Plan for SH 71 & Southwest Parkway

SCHEDULE NUMBER [1]
 DAY PLAN NO 0 CLEAR ALL FIELDS.. .
 SELECT ALL MONTHS.. . DOW.. . DOM.. .
 MONTH J F M A M J J A S O N D

 DAY (DOW): SUN MON TUE WED THU FRI SAT

 DAY(DOM):1 2 3 4 5 6 7 8 9 10 11

 12 13 14 15 16 17 18 19 20 21 22

 23 24 25 26 27 28 29 30 31

DAY PLAN [1]	DAY PLAN IN EFFECT [0]	ACTION PLAN...[1]
EVENT	ACTION PLAN	START TIME
1	0	00:00
2	0	00:00
3	0	00:00
4	0	00:00
5	0	00:00
6	0	00:00
7	0	00:00
8	0	00:00
9	0	00:00
10	0	00:00
11	0	00:00
12	0	00:00
13	0	00:00
14	0	00:00
15	0	00:00
16	0	00:00
17	0	00:00
18	0	00:00
19	0	00:00
20	0	00:00
21	0	00:00
22	0	00:00
23	0	00:00
24	0	00:00
25	0	00:00
26	0	00:00
27	0	00:00
28	0	00:00
29	0	00:00
30	0	00:00

PATTERN.....AUTO SYS OVERRIDE.... NO
 TIMING PLAN..... 0 SEQUENCE..... 0
 VEH DETECTOR PLAN. 0 DET LOG.....NONE
 FLASH..... -- RED REST..... NO
 VEH DET DIAG PLN.. 0 PED DET DIAG PLN..0
 DIMMING ENABLE.. NO PRIORITY RETURN. NO
 PED PR RETURN.... NO QUEUE DELAY..... NO
 PMT COND DELAY... NO

PHASE 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
 PED RCL
 WALK 2
 VEX 2
 VEH RCL
 MAX RCL
 MAX 2
 PHASE 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
 MAX 3
 CS INH
 OMIT
 SPC FCT (1-8)
 AUX FCT . . . (1-3)
 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5
 LP 1-15
 LP 16-30
 LP 31-45
 LP 46-60
 LP 61-75
 LP 76-90
 LP91-100
 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

```

COORDINATOR PATTERN [ 1]
USE SPLIT PATTERN. 1 SPLIT SUM ..... 0s
TS2 (PAT-OFF).. 0-1
CYCLE..... 0s STD (COS).....111
OFFSET VAL..... 0s DWELL/ADD TIME. 0
ACTUATED COORD... NO TIMING PLAN.... 0
ACT WALK REST.... NO SEQUENCE..... 0
PHASE RESRVCE.... NO ACTION PLAN.... 0
MAX SELECT..... NONE FORCE OFF.... NONE

```

SPLIT PREFERENCE PHASES

```

PHASE[s] 1 2 3 4 5 6 7 8
SPT[ 1] 0 0 0 0 0 0 0 0
PREF 1... 0 0 0 0 0 0 0 0
PREF 2... 0 0 0 0 0 0 0 0
SPLT EXT...0s. 0s 0s 0s
VEH PERM. 0s 0s 0s DISP
RING DISP - 0s 0s 0s (RING 2-4)
PHASE[s] 9 10 11 12 13 14 15 16
SPT[ 1] 0 0 0 0 0 0 0 0
PREF 1... 0 0 0 0 0 0 0 0
PREF 2... 0 0 0 0 0 0 0 0

```

```

SPLIT DEMAND PTRN. 0 0 XART PTRN. 0
PHASE.. 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
COORD... . . . . .
VE RCALL . . . . .
PD RCALL . . . . .
MX RCALL . . . . .
OMIT.... . . . . . X X X X X X X X
SF OUT.. . . . . . (1-8)

```

SPLIT PATTERN [1]

```

SPLIT SUM ..... 0s
PHASE[s] 1 2 3 4 5 6 7 8
SPLIT 0 0 0 0 0 0 0 0
PHASE[s] 9 10 11 12 13 14 15 16
SPLIT 0 0 0 0 0 0 0 0
PHASE.. 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
COORD... . . . . .
VE RCALL . . . . .
PD RCALL . . . . .
MX RCALL . . . . .
OMIT.... . . . . . X X X X X X X X

```

CONTROLLER SEQUENCE [1]

```

SEQUENCE COMMANDS . HW ALT SEQ ENA. NO
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
BC-B - B - B - B - B - B - - - - - B
R1-| 1 2| 3 4| 9 10|13 14| . . . . .|
R2-| 5 6| 7 8|11 12|15 16| . . . . .|
R3-| . .| . .| . .| . .| . . . . .|
R4-| . .| . .| . .| . .| . . . . .|

```

```

R1-R4=RING 1-4, DATA ENTRY, PHASES 1-16
BC=BARRIER CONTROL, VALUES: B,C
B=BARRIER MODE
C=COMPATIBILITY MODE

```


Signal Timing Plan for SH 71 & Thomas Springs Road

SCHEDULE NUMBER [1]
 DAY PLAN NO 1 CLEAR ALL FIELDS.. .
 SELECT ALL MONTHS.. . DOW.. . DOM.. .
 MONTH J F M A M J J A S O N D
 X X X X X X X X X X X X
 DAY (DOW): SUN MON TUE WED THU FRI SAT
 . X X X X X .
 DAY(DOM):1 2 3 4 5 6 7 8 9 10 11
 X X X X X X X X X X X X
 12 13 14 15 16 17 18 19 20 21 22
 X X X X X X X X X X X X
 23 24 25 26 27 28 29 30 31
 X X X X X X X X X

EVENT	ACTION PLAN	START TIME	ACTION PLAN...[1]
1	1	00:00	PATTERN.....FREE SYS OVERRIDE.... NO
2	2	06:00	TIMING PLAN..... 0 SEQUENCE..... 0
3	1	09:00	VEH DETECTOR PLAN. 0 DET LOG.....NONE
4	0	00:00	FLASH..... -- RED REST..... NO
5	0	00:00	VEH DET DIAG PLN.. 0 PED DET DIAG PLN..0
6	0	00:00	DIMMING ENABLE.. NO PRIORITY RETURN. NO
7	0	00:00	PED PR RETURN.... NO QUEUE DELAY..... NO
8	0	00:00	PMT COND DELAY... NO
9	0	00:00	PHASE 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
10	0	00:00	PED RCL
11	0	00:00	WALK 2
12	0	00:00	VEX 2
13	0	00:00	VEH RCL
14	0	00:00	MAX RCL
15	0	00:00	MAX 2
16	0	00:00	PHASE 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
17	0	00:00	MAX 3
18	0	00:00	CS INH
19	0	00:00	OMIT
20	0	00:00	SPC FCT (1-8)
21	0	00:00	AUX FCT . . . (1-3)
22	0	00:00	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5
23	0	00:00	LP 1-15
24	0	00:00	LP 16-30
25	0	00:00	LP 31-45
26	0	00:00	LP 46-60
27	0	00:00	LP 61-75
28	0	00:00	LP 76-90
29	0	00:00	LP91-100
30	0	00:00	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

```

COORDINATOR PATTERN [ 1]
USE SPLIT PATTERN. 1 SPLIT SUM ..... 0s
TS2 (PAT-OFF).. 0-1
CYCLE..... 0s STD (COS).....111
OFFSET VAL..... 0s DWELL/ADD TIME. 0
ACTUATED COORD... NO TIMING PLAN.... 0
ACT WALK REST.... NO SEQUENCE..... 0
PHASE RESRVCE.... NO ACTION PLAN.... 0
MAX SELECT..... NONE FORCE OFF.... NONE
SPLIT PREFERENCE PHASES
  PHASE[s] 1 2 3 4 5 6 7 8
SPT[ 1] 0 0 0 0 0 0 0 0
PREF 1... 0 0 0 0 0 0 0 0
PREF 2... 0 0 0 0 0 0 0 0
SPLT EXT...0s. 0s 0s 0s
VEH PERM. 0s 0s 0s DISP
RING DISP - 0s 0s 0s (RING 2-4)
  PHASE[s] 9 10 11 12 13 14 15 16
SPT[ 1] 0 0 0 0 0 0 0 0
PREF 1... 0 0 0 0 0 0 0 0
PREF 2... 0 0 0 0 0 0 0 0

SPLIT DEMAND PTRN. 0 0 XART PTRN. 0
PHASE.. 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
COORD... . . . . .
VE RCALL . . . . .
PD RCALL . . . . .
MX RCALL . . . . .
OMIT.... . . . . . X X X X X X X X
SF OUT.. . . . . . (1-8)

```

```

SPLIT PATTERN [ 1]
SPLIT SUM ..... 0s
  PHASE[s] 1 2 3 4 5 6 7 8
SPLIT 0 0 0 0 0 0 0 0
  PHASE[s] 9 10 11 12 13 14 15 16
SPLIT 0 0 0 0 0 0 0 0
PHASE.. 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
COORD... . . . . .
VE RCALL . . . . .
PD RCALL . . . . .
MX RCALL . . . . .
OMIT.... . . . . . X X X X X X X X

CONTROLLER SEQUENCE [ 1]
SEQUENCE COMMANDS . HW ALT SEQ ENA. NO
  01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
BC-B - B - B - B - B - - - - - - - B
R1-| 1 2| 3 4| 9 10|13 14| . . . . .|
R2-| 5 6| 7 8|11 12|15 16| . . . . .|
R3-| . .| . .| . .| . .| . . . . .|
R4-| . .| . .| . .| . .| . . . . .|

R1-R4=RING 1-4, DATA ENTRY, PHASES 1-16
BC=BARRIER CONTROL, VALUES: B,C
B=BARRIER MODE
C=COMPATIBILITY MODE

```


NOGAPRED		TIME BEFOR																		
NO RANGE		MIN GAP																		
NOMAX LOK		MAX INIT GRN																		

FLAGS	PHASES	PHASE DATA TABLE # 4	PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8	PH 9	PH 10	PH 11	PH 12	PH 13	PH 14	PH 15	PH 16	PH 17	PH 18
OMITPHAS		PHASE TIMING																		
OMIT PED																				
MIN RECAL																				
MAXRECAL																				
SOFT RCL																				
CDTL SRVC																				
PED RECAL		MIN GREEN																		
DUAL ETRY		PASSAGE																		
SIMGAP		MAXGRN 1																		
REDREST		MAXGRN 2																		
AUTO PED		CONDSERV																		
REST WALK		YEL CHG																		
PED RECY		RED CLR																		
RED LOCK		WALK																		
YEL LOCK		PED CLR																		
NO EXT		ADDED INI																		
NO ADD INI		TIME TO RED																		
NOGAPRED		TIME BEFOR																		
NO RANGE		MIN GAP																		
NOMAX LOK		MAX INIT GRN																		

NOTES:

Appendix E: Trip Generation Calculations

APPENDIX E: TRIP GENERATION CALCULATIONS

AM PEAK-PERIOD																																
Phase	ITE Code	Land-Use Description	Land-Use	# UNITS	UNIT	Phase Percentage	Total Trips			Internally Captured Trips			Net Trips After Internal Capture			Pass By Trips			Net Trips Internal Capture + Pass By			TDM	TDM Trips			Net Trips After All Reductions			Phase	Net Trips After All Reductions By Phase		
							Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out		AM	Total	In	Out	Total	In		Out	Total	In
1	220	Residential	Multifamily Housing (Low-Rise)	476	Dwelling Unit(s)	100%	210	48	162	6	1	5	204	47	157	0	0	0	204	47	157		0	0	0	204	47	157	1	420	215	205
1	432	Cinema/Entertainment	Golf Driving Range	96	Driving Position(s)	100%	38	23	15	0	0	0	38	23	15	0	0	0	38	23	15		0	0	0	38	23	15	1			
1	710	Office	General Office Building	120	1,000 Sq Ft	100%	139	120	19	13	8	5	126	112	14	0	0	0	126	112	14		0	0	0	126	112	14	1			
1	820	Retail	Shopping Center	69.2	1,000 Sq Ft GLA	100%	65	40	25	13	7	6	52	33	19	0	0	0	52	33	19		0	0	0	52	33	19	1			
1	925	Restaurant	Drinking Place	5.2	1,000 Sq Ft	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	1			
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
						TOTAL	452	231	221	32	16	16	420	215	205	0	0	0	420	215	205		0	0	0	420	215	205		420	215	205

PM PEAK-PERIOD																																
Phase	ITE Code	Land-Use Description	Land-Use	# UNITS	UNIT	Phase Percentage	Total Trips			Internally Captured Trips			Net Trips After Internal Capture + TDM			Pass By Trips			Net Trips After All Reductions			TDM	TDM Trips			Net Trips After TDM			Phase	Net Trips After All Reductions By Zone		
							Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out		PM	Total	In	Out	Total	In		Out	Total	In
1	220	Residential	Multifamily Housing (Low-Rise)	476	Dwelling Unit(s)	100%	237	149	88	96	67	29	141	82	59	0	0	0	141	82	59		0	0	0	141	82	59	1	508	237	271
1	432	Cinema/Entertainment	Golf Driving Range	96	Driving Position(s)	100%	120	54	66	26	11	15	94	43	51	0	0	0	94	43	51		0	0	0	94	43	51	1			
1	710	Office	General Office Building	120	1,000 Sq Ft	100%	135	22	113	29	10	19	106	12	94	0	0	0	106	12	94		0	0	0	106	12	94	1			
1	820	Retail	Shopping Center	69.2	1,000 Sq Ft GLA	100%	414	199	215	132	52	80	282	147	135	141	68	73	141	79	62		0	0	0	141	79	62	1			
1	925	Restaurant	Drinking Place	5.2	1,000 Sq Ft	100%	59	39	20	33	18	15	26	21	5	0	0	0	26	21	5		0	0	0	26	21	5	1			
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
		Select Use					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0				
						TOTAL	965	463	502	316	158	158	649	305	344	141	68	73	508	237	271		0	0	0	508	237	271		508	237	271

Appendix F: Traffic Volume Calculations

APPENDIX F: TRAFFIC VOLUME CALCULATIONS

	Intersection (North/South and East/West)	Direction	Movement SYNCHRO	Existing Counts (2021)		Existing PHF		Existing HV		Amarra Multi Family TIA (2021)		Lief Johnson Ford TIA (2022)		Total Present Background		2024 % Trip Assignment		2024 Growth		2024 No Build Volumes		2024 PHF		2024 Site Trips		2024 % Pass By		2024 Pass By		2024 Build Out		2024 Movement Pro Rata		2024 Approach Pro Rata		2024 Intersection Pro Rata						
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	IN	OUT	AM	PM	AM	PM	AM	PM	AM	PM	IN	OUT	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM			
1	SH 71	SB (SH 71)	SBL	988	1,107	0.85	0.93	1.8	5.2	3	7			3	7	0	25	1,084	1,192	1,067	1,199	0.85	0.93	51	68	0	0	0	0	1,118	1,267	5%	5%									
	at		SBT	610	1,319	0.85	0.93	7.9	5.2					32	22	32	22	0	25	657	1,420	689	1,442	0.85	0.93	51	68	0	0	0	0	740	1,510	7%	4%	6%	5%					
	Southwest Pkwy		SBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2	Southwest Pkwy	WB (Southwest Pkwy)	WBL	4	27	0.50	0.75	25	3.7					0	0	0	0	4	29	4	29	0.50	0.75	0	0	0	0	0	0	4	29	0%	0%	4%	5%						
				WBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				WBR	1,072	1,022	0.93	0.91	4.9	1.4	14	6					14	6	25	0	1,154	1,101	1,168	1,107	0.93	0.91	54	59	0	0	0	0	1,222	1,166	4%	5%						
NB (SH 71)			NBL	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			NBT	1,291	590	0.98	0.87	8.8	3.2			12	34			12	34	25	0	1,390	635	1,402	669	0.98	0.87	54	59	0	0	0	0	1,456	729	4%	8%	4%	8%					
			NBR	13	7	0.81	0.44	7.7	0							14	8	0	0	14	8	14	8	0.81	0.44	0	0	0	0	0	0	14	8	0%	0%							
3	Arroyo Canyon Dr	EB (Southwest Pkwy)	EBL	0	0	0.92	0.92	0	0					0	0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			EBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			EBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SB (SH 71)	SBL	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SBT	1,536	2,360	0.93	0.92	3.9	4.2	3	7	32	22	35	29	50	0	1,654	2,541	1,689	2,570	1,704	2,606	0.93	0.92	108	119	0	0	0	0	1,797	2,689	6%	4%	6%	4%					
			SBR	3	6	0.38	0.38	0	0							0	0	0	0	3	6	3	6	0.38	0.38	0	0	0	0	0	0	3	6	0%	0%							
4	Arroyo Canyon Dr	WB (Arroyo Canyon Dr)	WBL	0	0	0.92	0.92	0	0					0	0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			WBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			WBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		NB (SH 71)	NBL	1	3	0.25	0.75	0	0							0	0	0	0	1	3	1	3	0.25	0.75	0	0	0	0	0	0	1	3	0%	0%	4%	7%					
			NBT	2,332	1,649	0.96	0.93	6.6	2.8	14	6	12	34	26	40	50	0	2,511	1,776	2,537	1,816	1,816	1,816	0.96	0.93	103	136	0	0	0	0	2,640	1,951	4%	7%	4%	7%					
			NBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Arroyo Canyon Dr	EB (Arroyo Canyon Dr)	EBL	2	4	0.50	1.00	0	0					2	4	0	0	2	4	2	4	0.50	1.00	0	0	0	0	0	0	2	4	0%	0%	0%	0%							
			EBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			EBR	2	3	0.50	0.75	0	0							2	3	0	0	2	3	2	3	0.50	0.75	0	0	0	0	0	0	2	3	0%	0%	0%	0%					
		SB (SH 71)	SBL	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SBT	1,536	2,360	0.93	0.92	3.9	4.2	3	7	32	22	35	29	50	0	1,654	2,541	1,689	2,570	1,704	2,606	0.93	0.92	108	119	0	0	0	0	1,797	2,689	6%	4%	6%	4%					
			SBR	3	6	0.38	0.38	0	0							0	0	0	0	3	6	3	6	0.38	0.38	0	0	0	0	0	0	3	6	0%	0%							
6	Arroyo Canyon Dr	WB (Arroyo Canyon Dr)	WBL	0	0	0.92	0.92	0	0					0	0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
			WBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		NB (SH 71)	NBL	1	3	0.25	0.75	0	0							0	0	0	0	1	3	1	3	0.25	0.75	0	0	0	0	0	0	1	3	0%	0%	4%	7%					
			NBT	2,332	1,649	0.96	0.93	6.6	2.8	14	6	12	34	26	40	50	0	2,511	1,776	2,537	1,816	1,816	1,816	0.96	0.93	103	136	0	0	0	0	2,640	1,951	4%	7%	4%	7%					
			NBR	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Arroyo Canyon Dr	EB (Arroyo Canyon Dr)	EBL	2	4	0.50	1.00	0	0					2	4	0	0	2	4	2	4	0.50	1.00	0	0	0	0	0	0	2	4	0%	0%	0%	0%							
			EBT	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			EBR	2	3	0.50	0.75	0	0							2	3	0	0	2	3	2	3	0.50	0.75	0	0	0	0	0	0	2	3	0%	0%	0%	0%					
		SB (SH 71)	SBL	0	0	0.92	0.92	0	0							0	0	0	0	0	0	0	0.92	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SBT	1,536	2,360	0.93	0.92	3.9	4.2	3	7	32	22	35	29	50	0	1,654	2,541	1,689	2,570	1,704	2,606	0.93	0.92	108	119	0	0	0	0	1,797	2,689	6%	4%	6%	4%					
			SBR	3	6	0.38	0.38	0	0							0	0	0	0	3	6	3	6	0.38	0.38	0																

Appendix G: Synchro Outputs

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
01 2021 Existing AM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	1072	1291	13	988	610
Future Volume (vph)	4	1072	1291	13	988	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Fr't		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1444	1553	3336	0	3467	3374
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1444	1553	3336	0	3467	3374
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		427	2			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Heavy Vehicles (%)	25%	4%	8%	7%	1%	7%
Adj. Flow (vph)	8	1153	1317	16	1162	718
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	1153	1333	0	1162	718
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

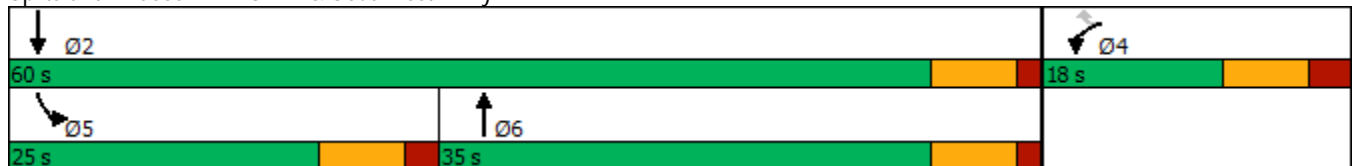


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effect Green (s)	10.5	10.5	28.5		18.0	53.5
Actuated g/C Ratio	0.13	0.13	0.37		0.23	0.69
v/c Ratio	0.04	1.99	1.09		1.45	0.31
Control Delay	30.0	471.0	81.0		237.7	5.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.0	471.0	81.0		237.7	5.3
LOS	C	F	F		F	A
Approach Delay	468.0		81.0			148.9
Approach LOS	F		F			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	78
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.99
Intersection Signal Delay:	212.9
Intersection LOS:	F
Intersection Capacity Utilization	114.1%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues

1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	8	1153	1333	1162	718
v/c Ratio	0.04	1.99	1.09	1.45	0.31
Control Delay	30.0	471.0	81.0	237.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	471.0	81.0	237.7	5.3
Queue Length 50th (ft)	3	~704	~392	~404	61
Queue Length 95th (ft)	9	#943	#522	#483	78
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	194	578	1220	800	2314
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	1.99	1.09	1.45	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↶↷		↷↶	↶↶
Traffic Volume (veh/h)	4	1072	1291	13	988	610
Future Volume (veh/h)	4	1072	1291	13	988	610
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1841	1781	1796	1885	1796
Adj Flow Rate, veh/h	8	0	1317	0	1162	718
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Percent Heavy Veh, %	25	4	8	7	1	7
Cap, veh/h	15		1401		926	2672
Arrive On Green	0.01	0.00	0.41	0.00	0.27	0.78
Sat Flow, veh/h	1457	1560	3563	0	3483	3503
Grp Volume(v), veh/h	8	0	1317	0	1162	718
Grp Sat Flow(s),veh/h/ln	1457	1560	1692	0	1742	1706
Q Serve(g_s), s	0.4	0.0	25.3	0.0	18.0	3.9
Cycle Q Clear(g_c), s	0.4	0.0	25.3	0.0	18.0	3.9
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	15		1401		926	2672
V/C Ratio(X)	0.53		0.94		1.26	0.27
Avail Cap(c_a), veh/h	226		1424		926	2696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	19.0	0.0	24.9	2.0
Incr Delay (d2), s/veh	10.4	0.0	12.0	0.0	123.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.9	0.0	22.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.8	0.0	31.1	0.0	148.7	2.0
LnGrp LOS	D		C		F	A
Approach Vol, veh/h	8	A	1317	A		1880
Approach Delay, s/veh	43.8		31.1			92.7
Approach LOS	D		C			F
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.5		8.2	25.0	34.5
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		5.9		2.4	20.0	27.3
Green Ext Time (p_c), s		2.8		0.0	0.0	0.8

Intersection Summary

HCM 6th Ctrl Delay	67.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
01 2021 Existing AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	1	2332	1536	3
Future Volume (vph)	2	2	1	2332	1536	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3406	3502	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3406	3502	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	0.50	0.50	0.25	0.96	0.93	0.38
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	4	4	4	2429	1652	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2429	1660	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	74.5%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	1	2332	1536	3
Future Vol, veh/h	2	2	1	2332	1536	3
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	25	96	93	38
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	4	4	4	2429	1652	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2879	830	1660	0	-	0
Stage 1	1656	-	-	-	-	-
Stage 2	1223	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	13	317	393	-	-	-
Stage 1	144	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	13	317	393	-	-	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	143	-	-	-	-	-
Stage 2	245	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	393	-	138	-	-
HCM Lane V/C Ratio	0.01	-	0.058	-	-
HCM Control Delay (s)	14.3	-	32.7	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
01 2021 Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↔		↗	↕↔	
Traffic Volume (vph)	0	0	1	8	0	16	0	2224	6	6	1550	0
Future Volume (vph)	0	0	1	8	0	16	0	2224	6	6	1550	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.914							
Flt Protected					0.982					0.950		
Satd. Flow (prot)	0	1644	0	0	1530	0	1900	3403	0	1357	3471	0
Flt Permitted					0.982					0.950		
Satd. Flow (perm)	0	1644	0	0	1530	0	1900	3403	0	1357	3471	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.25	0.50	0.92	0.57	0.92	0.91	0.75	0.75	0.91	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	6%	33%	33%	4%	0%
Adj. Flow (vph)	0	0	4	16	0	28	0	2444	8	8	1703	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	44	0	0	2452	0	8	1703	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	76.4%
ICU Level of Service	D
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	30.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	8	0	16	0	2224	6	6	1550	0
Future Vol, veh/h	0	0	1	8	0	16	0	2224	6	6	1550	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	25	50	92	57	92	91	75	75	91	92
Heavy Vehicles, %	0	0	0	0	0	18	0	6	33	33	4	0
Mvmt Flow	0	0	4	16	0	28	0	2444	8	8	1703	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	2941	4171	852	3316	4167	1226	1703	0	0	2452	0	0
Stage 1	1719	1719	-	2448	2448	-	-	-	-	-	-	-
Stage 2	1222	2452	-	868	1719	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.76	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.53	-	-
Pot Cap-1 Maneuver	7	2	307	~ 3	2	149	379	-	-	117	-	-
Stage 1	95	146	-	32	62	-	-	-	-	-	-	-
Stage 2	194	62	-	318	146	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	5	2	307	~ 3	2	149	379	-	-	117	-	-
Mov Cap-2 Maneuver	5	2	-	~ 3	2	-	-	-	-	-	-	-
Stage 1	95	136	-	32	62	-	-	-	-	-	-	-
Stage 2	157	62	-	292	136	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	\$ 2933.9	0	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	379	-	-	307	8	117	-
HCM Lane V/C Ratio	-	-	-	0.013	5.509	0.068	-
HCM Control Delay (s)	0	-	-	16.9	2933.9	38	-
HCM Lane LOS	A	-	-	C	F	E	-
HCM 95th %tile Q(veh)	0	-	-	0	6.9	0.2	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕↔		↖	↕↔	
Traffic Volume (vph)	252	276	32	18	112	86	26	955	12	25	422	139
Future Volume (vph)	252	276	32	18	112	86	26	955	12	25	422	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.949			0.997			0.963	
Flt Protected		0.976			0.994		0.950			0.950		
Satd. Flow (prot)	0	1784	1524	0	1723	0	1626	3328	0	1805	3188	0
Flt Permitted		0.647			0.359		0.310			0.154		
Satd. Flow (perm)	0	1182	1524	0	622	0	531	3328	0	293	3188	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		40			3			64	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Adj. Flow (vph)	311	321	48	36	144	108	44	1016	20	36	541	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	632	48	0	288	0	44	1036	0	36	717	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 01 2021 Existing AM

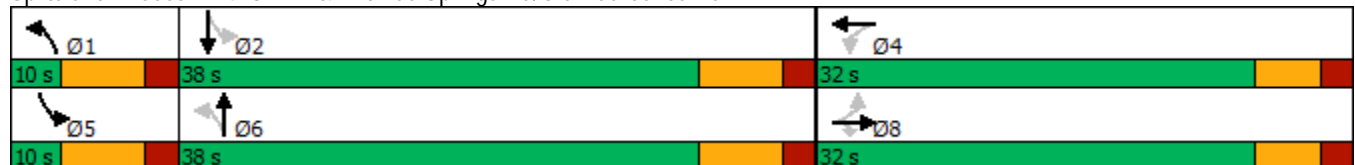


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		32.8	31.1		32.8	31.1	
Actuated g/C Ratio		0.34	0.34		0.34		0.43	0.41		0.43	0.41	
v/c Ratio		1.56	0.08		1.20		0.16	0.76		0.19	0.53	
Control Delay		286.5	0.2		148.7		11.7	24.5		12.6	17.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		286.5	0.2		148.7		11.7	24.5		12.6	17.8	
LOS		F	A		F		B	C		B	B	
Approach Delay		266.3			148.7			24.0			17.5	
Approach LOS		F			F			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 76
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.56
 Intersection Signal Delay: 93.9
 Intersection Capacity Utilization 83.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing AM



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	632	48	288	44	1036	36	717
v/c Ratio	1.56	0.08	1.20	0.16	0.76	0.19	0.53
Control Delay	286.5	0.2	148.7	11.7	24.5	12.6	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.5	0.2	148.7	11.7	24.5	12.6	17.8
Queue Length 50th (ft)	~465	0	~170	10	235	8	130
Queue Length 95th (ft)	#623	0	#260	17	314	17	150
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	406	622	240	272	1365	186	1343
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.56	0.08	1.20	0.16	0.76	0.19	0.53

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↕		↖	↕	
Traffic Volume (vph)	252	276	32	18	112	86	26	955	12	25	422	139
Future Volume (vph)	252	276	32	18	112	86	26	955	12	25	422	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1524		1724		1626	3328		1805	3189	
Flt Permitted		0.65	1.00		0.36		0.31	1.00		0.15	1.00	
Satd. Flow (perm)		1183	1524		623		530	3328		293	3189	
Peak-hour factor, PHF	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Adj. Flow (vph)	311	321	48	36	144	108	44	1016	20	36	541	176
RTOR Reduction (vph)	0	0	32	0	27	0	0	2	0	0	39	0
Lane Group Flow (vph)	0	632	16	0	261	0	44	1034	0	36	678	0
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		32.8	31.1		32.8	31.1	
Effective Green, g (s)		26.1	26.1		26.1		32.8	31.1		32.8	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.42	0.39		0.42	0.39	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		391	504		206		243	1311		154	1257	
v/s Ratio Prot							0.00	c0.31		c0.01	0.21	
v/s Ratio Perm		c0.53	0.01		0.42		0.07			0.09		
v/c Ratio		1.62	0.03		1.27		0.18	0.79		0.23	0.54	
Uniform Delay, d1		26.4	17.9		26.4		14.1	21.0		15.0	18.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		289.0	0.1		153.2		0.1	3.0		0.3	1.7	
Delay (s)		315.4	18.0		179.6		14.2	24.0		15.3	20.1	
Level of Service		F	B		F		B	C		B	C	
Approach Delay (s)		294.4			179.6			23.6			19.8	
Approach LOS		F			F			C			B	

Intersection Summary

HCM 2000 Control Delay	104.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
01 2021 Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	912	7	104	1022	379	7	267	220	150	79	59
Future Volume (vph)	119	912	7	104	1022	379	7	267	220	150	79	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.957				0.850		0.928	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	5081	0	1787	4767	0	0	1826	1599	1770	1729	0
Flt Permitted	0.086			0.215				0.311		0.561		
Satd. Flow (perm)	162	5081	0	404	4767	0	0	569	1599	1045	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			106				187		33	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Heavy Vehicles (%)	1%	2%	0%	1%	5%	2%	0%	4%	1%	2%	1%	3%
Adj. Flow (vph)	149	970	8	120	1087	436	12	318	268	172	92	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	978	0	120	1523	0	0	330	268	172	176	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing AM

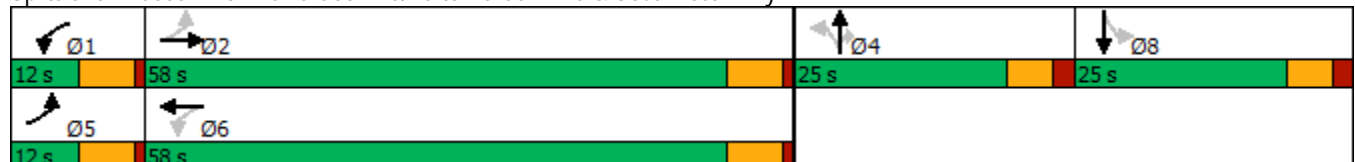


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8		8	
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0		5.0	30.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0		11.0	36.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0		12.0	58.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%		10.0%	48.3%		20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0		6.0	52.0		19.0	19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	52.5	46.5		52.2	46.3		19.1	19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.46	0.41		0.46	0.40		0.17	0.17	0.17	0.17	0.17	
v/c Ratio	0.94	0.47		0.47	0.77		3.51	0.64	0.99	0.56		
Control Delay	79.8	25.6		21.3	29.9		1165.3	22.5	115.6	44.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		
Total Delay	79.8	25.6		21.3	29.9		1165.3	22.5	115.6	44.2		
LOS	E	C		C	C		F	C	F	D		
Approach Delay	32.8			29.3			653.2		79.5			
Approach LOS	C			C			F		E			

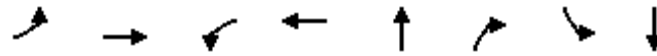
Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 114.5
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.51
 Intersection Signal Delay: 135.5 Intersection LOS: F
 Intersection Capacity Utilization 77.6% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	149	978	120	1523	330	268	172	176
v/c Ratio	0.94	0.47	0.47	0.77	3.51	0.64	0.99	0.56
Control Delay	79.8	25.6	21.3	29.9	1165.3	22.5	115.6	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	25.6	21.3	29.9	1165.3	22.5	115.6	44.2
Queue Length 50th (ft)	58	190	45	326	-447	55	~134	100
Queue Length 95th (ft)	#148	230	74	383	#596	119	#273	170
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	159	2314	257	2228	94	421	174	315
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.42	0.47	0.68	3.51	0.64	0.99	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗	↖	↗	
Traffic Volume (veh/h)	119	912	7	104	1022	379	7	267	220	150	79	59
Future Volume (veh/h)	119	912	7	104	1022	379	7	267	220	150	79	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1885	1826	1870	1900	1841	1885	1870	1885	1856
Adj Flow Rate, veh/h	149	970	8	120	1087	436	12	318	268	172	92	84
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Percent Heavy Veh, %	1	2	0	1	5	2	0	4	1	2	1	3
Cap, veh/h	285	2413	20	397	1591	638	54	442	392	160	223	203
Arrive On Green	0.07	0.46	0.46	0.06	0.46	0.46	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1795	5224	43	1795	3495	1402	26	1801	1598	829	907	829
Grp Volume(v), veh/h	149	632	346	120	1033	490	330	0	268	172	0	176
Grp Sat Flow(s),veh/h/ln	1795	1702	1863	1795	1662	1574	1827	0	1598	829	0	1736
Q Serve(g_s), s	3.3	9.5	9.5	2.7	19.0	19.0	1.2	0.0	11.8	6.2	0.0	6.6
Cycle Q Clear(g_c), s	3.3	9.5	9.5	2.7	19.0	19.0	12.8	0.0	11.8	19.0	0.0	6.6
Prop In Lane	1.00		0.02	1.00		0.89	0.04		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	285	1573	861	397	1513	716	497	0	392	160	0	426
V/C Ratio(X)	0.52	0.40	0.40	0.30	0.68	0.68	0.66	0.00	0.68	1.08	0.00	0.41
Avail Cap(c_a), veh/h	305	2288	1252	429	2234	1058	497	0	392	160	0	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	13.7	13.8	10.4	16.7	16.7	26.8	0.0	26.5	37.4	0.0	24.5
Incr Delay (d2), s/veh	0.6	0.2	0.3	0.2	0.6	1.2	2.7	0.0	4.0	93.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.0	3.3	1.0	6.7	6.5	5.7	0.0	4.7	7.1	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	13.9	14.1	10.6	17.2	17.8	29.5	0.0	30.5	130.4	0.0	24.7
LnGrp LOS	B	B	B	B	B	B	C	A	C	F	A	C
Approach Vol, veh/h		1127			1643			598				348
Approach Delay, s/veh		14.0			16.9			29.9				76.9
Approach LOS		B			B			C				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	41.7		25.0	11.1	41.2		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	4.7	11.5		14.8	5.3	21.0		21.0				
Green Ext Time (p_c), s	0.0	6.3		0.8	0.0	14.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay											23.7	
HCM 6th LOS											C	

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
01 2021 Existing PM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	1022	590	7	1107	1319
Future Volume (vph)	27	1022	590	7	1107	1319
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Fr't		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1599	3497	0	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1599	3497	0	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		479	3			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Heavy Vehicles (%)	3%	1%	3%	0%	5%	5%
Adj. Flow (vph)	36	1123	678	16	1190	1418
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	1123	694	0	1190	1418
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
01 2021 Existing PM

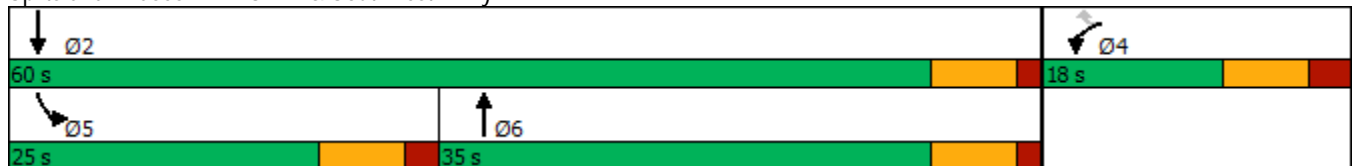


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effect Green (s)	10.5	10.5	18.3		18.0	43.3
Actuated g/C Ratio	0.15	0.15	0.27		0.27	0.64
v/c Ratio	0.13	1.72	0.74		1.34	0.65
Control Delay	27.6	348.1	27.6		187.6	9.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.6	348.1	27.6		187.6	9.1
LOS	C	F	C		F	A
Approach Delay	338.2		27.6			90.6
Approach LOS	F		C			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	67.9
Natural Cycle:	140
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.72
Intersection Signal Delay:	145.1
Intersection LOS:	F
Intersection Capacity Utilization	91.5%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues

1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	36	1123	694	1190	1418
v/c Ratio	0.13	1.72	0.74	1.34	0.65
Control Delay	27.6	348.1	27.6	187.6	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	348.1	27.6	187.6	9.1
Queue Length 50th (ft)	13	~520	136	~333	163
Queue Length 95th (ft)	33	#813	182	#507	218
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	271	652	1473	886	2715
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	1.72	0.47	1.34	0.52

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕	↗	↘	↙
Traffic Volume (veh/h)	27	1022	590	7	1107	1319
Future Volume (veh/h)	27	1022	590	7	1107	1319
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1885	1856	1900	1826	1826
Adj Flow Rate, veh/h	36	0	678	0	1190	1418
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Percent Heavy Veh, %	3	1	3	0	5	5
Cap, veh/h	68		942		1081	2471
Arrive On Green	0.04	0.00	0.27	0.00	0.32	0.71
Sat Flow, veh/h	1767	1598	3711	0	3374	3561
Grp Volume(v), veh/h	36	0	678	0	1190	1418
Grp Sat Flow(s),veh/h/ln	1767	1598	1763	0	1687	1735
Q Serve(g_s), s	1.1	0.0	9.8	0.0	18.0	11.2
Cycle Q Clear(g_c), s	1.1	0.0	9.8	0.0	18.0	11.2
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	68		942		1081	2471
V/C Ratio(X)	0.53		0.72		1.10	0.57
Avail Cap(c_a), veh/h	330		1790		1081	3306
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	18.7	0.0	19.1	3.9
Incr Delay (d2), s/veh	2.4	0.0	0.4	0.0	59.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.2	0.0	14.1	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.9	0.0	19.1	0.0	78.2	4.0
LnGrp LOS	C		B		F	A
Approach Vol, veh/h	36	A	678	A		2608
Approach Delay, s/veh	28.9		19.1			37.8
Approach LOS	C		B			D
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.5		9.6	25.0	21.5
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		13.2		3.1	20.0	11.8
Green Ext Time (p_c), s		7.1		0.0	0.0	2.3

Intersection Summary

HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
01 2021 Existing PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	3	3	1649	2360	6
Future Volume (vph)	4	3	3	1649	2360	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3539	3469	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3539	3469	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	1.00	0.75	0.75	0.93	0.92	0.38
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%
Adj. Flow (vph)	4	4	4	1773	2565	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	1773	2581	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	75.4%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑↑	
Traffic Vol, veh/h	4	3	3	1649	2360	6
Future Vol, veh/h	4	3	3	1649	2360	6
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	75	75	93	92	38
Heavy Vehicles, %	0	0	0	2	4	0
Mvmt Flow	4	4	4	1773	2565	16



















Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3468	1291	2581	0	-	0
Stage 1	2573	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	5	157	172	-	-	-
Stage 1	44	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	5	157	172	-	-	-
Mov Cap-2 Maneuver	36	-	-	-	-	-
Stage 1	43	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	75.4	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	172	-	59	-	-
HCM Lane V/C Ratio	0.023	-	0.136	-	-
HCM Control Delay (s)	26.4	-	75.4	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
01 2021 Existing PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	6	0	11	0	1627	4	13	2393	0
Future Volume (vph)	0	0	0	6	0	11	0	1627	4	13	2393	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.942			0.999				
Flt Protected					0.972					0.950		
Satd. Flow (prot)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Flt Permitted					0.972					0.950		
Satd. Flow (perm)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.92	0.38	0.92	0.92	0.92	0.91	0.50	0.81	0.93	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	3%	0%	15%	5%	0%
Adj. Flow (vph)	0	0	0	16	0	12	0	1788	8	16	2573	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	28	0	0	1796	0	16	2573	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	76.1%					ICU Level of Service D						
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	11.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	6	0	11	0	1627	4	13	2393	0
Future Vol, veh/h	0	0	0	6	0	11	0	1627	4	13	2393	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	38	92	92	92	91	50	81	93	92
Heavy Vehicles, %	0	0	0	0	0	18	0	3	0	15	5	0
Mvmt Flow	0	0	0	16	0	12	0	1788	8	16	2573	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3499	4401	1287	3111	4397	898	2573	0	0	1796	0	0
Stage 1	2605	2605	-	1792	1792	-	-	-	-	-	-	-
Stage 2	894	1796	-	1319	2605	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.4	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.35	-	-
Pot Cap-1 Maneuver	2	2	158	~ 5	2	253	173	-	-	290	-	-
Stage 1	26	52	-	85	134	-	-	-	-	-	-	-
Stage 2	306	134	-	169	52	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	2	2	158	~ 5	2	253	173	-	-	290	-	-
Mov Cap-2 Maneuver	2	2	-	~ 5	2	-	-	-	-	-	-	-
Stage 1	26	49	-	85	134	-	-	-	-	-	-	-
Stage 2	292	134	-	160	49	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 1753.7	0	0.1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	173	-	-	-	9	290	-
HCM Lane V/C Ratio	-	-	-	-	3.083	0.055	-
HCM Control Delay (s)	0	-	-	\$ 1753.7	18.1	-	-
HCM Lane LOS	A	-	-	A	F	C	-
HCM 95th %tile Q(veh)	0	-	-	-	4.6	0.2	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↖	↖	↕	↗
Traffic Volume (vph)	168	120	35	33	236	57	42	368	27	109	968	273
Future Volume (vph)	168	120	35	33	236	57	42	368	27	109	968	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.975			0.987			0.967	
Flt Protected		0.969			0.993		0.950			0.950		
Satd. Flow (prot)	0	1800	1583	0	1779	0	1687	3479	0	1752	3300	0
Flt Permitted		0.487			0.794		0.129			0.465		
Satd. Flow (perm)	0	905	1583	0	1422	0	229	3479	0	858	3300	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		15			14			53	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Adj. Flow (vph)	224	124	52	56	268	72	64	438	40	120	1041	294
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	52	0	396	0	64	478	0	120	1335	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 01 2021 Existing PM

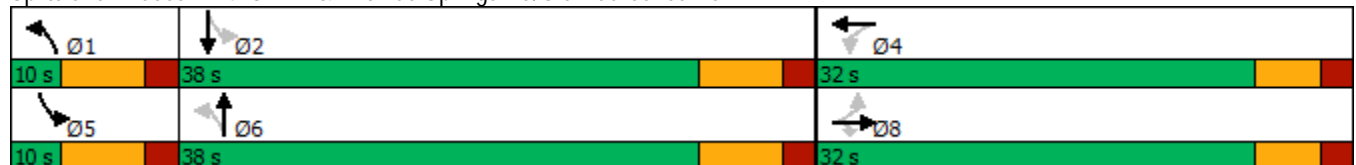


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		33.4	31.1		33.4	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.43	0.40		0.43	0.40	
v/c Ratio		1.15	0.08		0.82		0.42	0.34		0.30	0.99	
Control Delay		127.9	0.3		39.6		19.1	17.2		13.9	47.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		127.9	0.3		39.6		19.1	17.2		13.9	47.3	
LOS		F	A		D		B	B		B	D	
Approach Delay		111.3			39.6			17.4			44.5	
Approach LOS		F			D			B			D	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 48.1
 Intersection LOS: D
 Intersection Capacity Utilization 94.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing PM



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	348	52	396	64	478	120	1335
v/c Ratio	1.15	0.08	0.82	0.42	0.34	0.30	0.99
Control Delay	127.9	0.3	39.6	19.1	17.2	13.9	47.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.9	0.3	39.6	19.1	17.2	13.9	47.3
Queue Length 50th (ft)	~212	0	175	15	84	30	~348
Queue Length 95th (ft)	#372	0	#319	24	112	57	#498
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	302	628	485	154	1394	402	1347
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.08	0.82	0.42	0.34	0.30	0.99

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
01 2021 Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Traffic Volume (vph)	168	120	35	33	236	57	42	368	27	109	968	273
Future Volume (vph)	168	120	35	33	236	57	42	368	27	109	968	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1800	1583		1779		1687	3481		1752	3300	
Flt Permitted		0.49	1.00		0.79		0.13	1.00		0.47	1.00	
Satd. Flow (perm)		905	1583		1423		228	3481		859	3300	
Peak-hour factor, PHF	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Adj. Flow (vph)	224	124	52	56	268	72	64	438	40	120	1041	294
RTOR Reduction (vph)	0	0	35	0	10	0	0	9	0	0	32	0
Lane Group Flow (vph)	0	348	17	0	386	0	64	469	0	120	1303	0
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		33.4	31.1		33.4	31.1	
Effective Green, g (s)		26.1	26.1		26.1		33.4	31.1		33.4	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.42	0.39		0.42	0.39	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		297	519		467		137	1361		386	1290	
v/s Ratio Prot							c0.01	0.13		0.01	c0.39	
v/s Ratio Perm		c0.38	0.01		0.27		0.18			0.12		
v/c Ratio		1.17	0.03		0.83		0.47	0.34		0.31	1.01	
Uniform Delay, d1		26.7	18.1		24.6		17.8	17.0		14.7	24.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		107.1	0.1		10.9		0.9	0.1		0.2	27.5	
Delay (s)		133.8	18.2		35.5		18.7	17.1		14.8	51.7	
Level of Service		F	B		D		B	B		B	D	
Approach Delay (s)		118.8			35.5			17.3			48.7	
Approach LOS		F			D			B			D	

Intersection Summary

HCM 2000 Control Delay	50.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
01 2021 Existing PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1058	4	209	986	144	7	77	142	259	238	64
Future Volume (vph)	47	1058	4	209	986	144	7	77	142	259	238	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.980				0.850		0.962	
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1805	4936	0	1787	4984	0	0	1887	1583	1752	1796	0
Flt Permitted	0.137			0.132				0.274		0.682		
Satd. Flow (perm)	260	4936	0	248	4984	0	0	521	1583	1258	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			30				136		12	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Heavy Vehicles (%)	0%	5%	0%	1%	2%	2%	0%	0%	2%	3%	2%	1%
Adj. Flow (vph)	60	1150	4	249	1038	157	16	100	156	285	256	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	1154	0	249	1195	0	0	116	156	285	344	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing PM

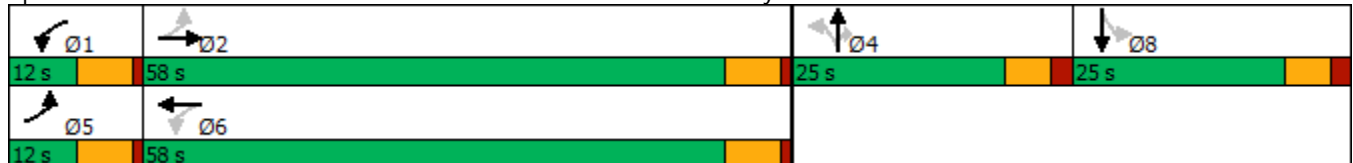


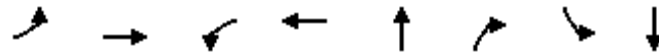
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8		8	
Detector Phase	5	2	1		6	4		4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	5.0		30.0	8.0		8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0	11.0		36.0	14.0		14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0	12.0		58.0	25.0		25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%	10.0%		48.3%	20.8%		20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0	6.0		52.0	19.0		19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	2.0		2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead		Lag	Lead		Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0	1.5		3.0	2.0		2.0	2.0	2.0	2.0	
Recall Mode	None	Min	None		Min	None		None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	40.7	35.0	42.5		37.7	19.0		19.0	19.0	19.0	19.0	
Actuated g/C Ratio	0.39	0.34	0.41		0.37	0.18		0.18	0.18	0.18	0.18	
v/c Ratio	0.32	0.69	1.30		0.65	1.21		0.39	1.23	1.01		
Control Delay	20.2	31.6	192.2		28.8	198.4		12.5	173.1	93.6		
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0		
Total Delay	20.2	31.6	192.2		28.8	198.4		12.5	173.1	93.6		
LOS	C	C	F		C	F		B	F	F		
Approach Delay	31.0		57.0		91.8		129.6					
Approach LOS	C		E		F		F					

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 103.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay: 63.6
 Intersection LOS: E
 Intersection Capacity Utilization 72.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy





Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	60	1154	249	1195	116	156	285	344
v/c Ratio	0.32	0.69	1.30	0.65	1.21	0.39	1.23	1.01
Control Delay	20.2	31.6	192.2	28.8	198.4	12.5	173.1	93.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	31.6	192.2	28.8	198.4	12.5	173.1	93.6
Queue Length 50th (ft)	22	237	~154	241	~92	11	~229	~219
Queue Length 95th (ft)	38	284	#262	289	#184	72	#439	#461
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	193	2493	191	2532	96	403	232	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.46	1.30	0.47	1.21	0.39	1.23	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 01 2021 Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶			↶	↶	↶	↶	↶
Traffic Volume (veh/h)	47	1058	4	209	986	144	7	77	142	259	238	64
Future Volume (veh/h)	47	1058	4	209	986	144	7	77	142	259	238	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1885	1870	1870	1900	1900	1870	1856	1870	1885
Adj Flow Rate, veh/h	60	1150	4	249	1038	157	16	100	156	285	256	88
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Percent Heavy Veh, %	0	5	0	1	2	2	0	0	2	3	2	1
Cap, veh/h	318	2107	7	364	1992	301	76	370	413	189	346	119
Arrive On Green	0.05	0.41	0.41	0.08	0.44	0.44	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	5128	18	1795	4477	676	76	1421	1585	1115	1331	457
Grp Volume(v), veh/h	60	745	409	249	789	406	116	0	156	285	0	344
Grp Sat Flow(s),veh/h/ln	1810	1662	1823	1795	1702	1749	1497	0	1585	1115	0	1788
Q Serve(g_s), s	1.4	12.4	12.4	6.0	12.2	12.3	0.2	0.0	5.9	5.9	0.0	12.9
Cycle Q Clear(g_c), s	1.4	12.4	12.4	6.0	12.2	12.3	13.1	0.0	5.9	19.0	0.0	12.9
Prop In Lane	1.00		0.01	1.00		0.39	0.14		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	318	1366	749	364	1515	778	446	0	413	189	0	465
V/C Ratio(X)	0.19	0.55	0.55	0.68	0.52	0.52	0.26	0.00	0.38	1.51	0.00	0.74
Avail Cap(c_a), veh/h	379	2367	1298	364	2425	1246	446	0	413	189	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	16.3	16.3	13.0	14.6	14.6	21.4	0.0	22.2	35.1	0.0	24.7
Incr Delay (d2), s/veh	0.1	0.3	0.6	4.3	0.3	0.5	0.1	0.0	0.2	255.7	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.9	4.3	2.6	4.4	4.6	1.5	0.0	2.1	16.6	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	16.7	16.9	17.4	14.9	15.2	21.5	0.0	22.4	290.8	0.0	30.2
LnGrp LOS	B	B	B	B	B	B	C	A	C	F	A	C
Approach Vol, veh/h		1214			1444			272				629
Approach Delay, s/veh		16.5			15.4			22.0				148.3
Approach LOS		B			B			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	36.0		25.0	9.5	38.5		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	8.0	14.4		15.1	3.4	14.3		21.0				
Green Ext Time (p_c), s	0.0	7.8		0.3	0.0	10.6		0.0				

Intersection Summary












HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
02 2024 No-Build AM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	1168	1402	14	1067	689
Future Volume (vph)	4	1168	1402	14	1067	689
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frnt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1444	1553	3336	0	3467	3374
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1444	1553	3336	0	3467	3374
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		425	2			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Heavy Vehicles (%)	25%	4%	8%	7%	1%	7%
Adj. Flow (vph)	8	1256	1431	17	1255	811
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	1256	1448	0	1255	811
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

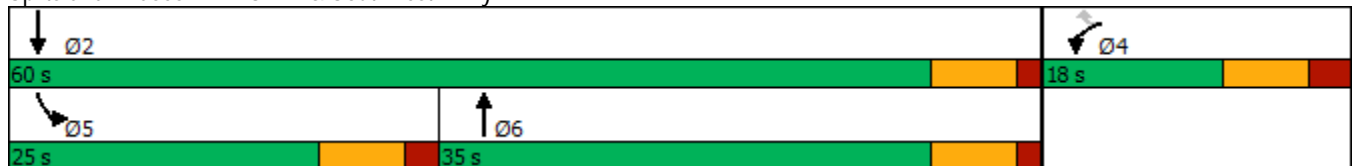


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.5	10.5	28.5		18.0	53.5
Actuated g/C Ratio	0.13	0.13	0.37		0.23	0.69
v/c Ratio	0.04	2.18	1.19		1.57	0.35
Control Delay	30.0	553.7	118.4		288.0	5.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.0	553.7	118.4		288.0	5.6
LOS	C	F	F		F	A
Approach Delay	550.4		118.4			177.2
Approach LOS	F		F			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	78
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	2.18
Intersection Signal Delay:	258.1
Intersection LOS:	F
Intersection Capacity Utilization	123.2%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues

1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	8	1256	1448	1255	811
v/c Ratio	0.04	2.18	1.19	1.57	0.35
Control Delay	30.0	553.7	118.4	288.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	553.7	118.4	288.0	5.6
Queue Length 50th (ft)	3	-815	-456	-453	72
Queue Length 95th (ft)	9	#1058	#588	#531	90
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	194	576	1220	800	2314
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	2.18	1.19	1.57	0.35

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕↔		↷↶	↕↕
Traffic Volume (veh/h)	4	1168	1402	14	1067	689
Future Volume (veh/h)	4	1168	1402	14	1067	689
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1841	1781	1796	1885	1796
Adj Flow Rate, veh/h	8	0	1431	0	1255	811
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Percent Heavy Veh, %	25	4	8	7	1	7
Cap, veh/h	15		1414		919	2677
Arrive On Green	0.01	0.00	0.42	0.00	0.26	0.78
Sat Flow, veh/h	1457	1560	3563	0	3483	3503
Grp Volume(v), veh/h	8	0	1431	0	1255	811
Grp Sat Flow(s),veh/h/ln	1457	1560	1692	0	1742	1706
Q Serve(g_s), s	0.4	0.0	28.5	0.0	18.0	4.6
Cycle Q Clear(g_c), s	0.4	0.0	28.5	0.0	18.0	4.6
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	15		1414		919	2677
V/C Ratio(X)	0.53		1.01		1.37	0.30
Avail Cap(c_a), veh/h	224		1414		919	2677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	19.9	0.0	25.1	2.1
Incr Delay (d2), s/veh	10.4	0.0	26.9	0.0	171.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	13.8	0.0	28.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	0.0	46.7	0.0	196.5	2.1
LnGrp LOS	D		F		F	A
Approach Vol, veh/h	8	A	1431	A		2066
Approach Delay, s/veh	44.0		46.7			120.2
Approach LOS	D		D			F
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		8.2	25.0	35.0
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		6.6		2.4	20.0	30.5
Green Ext Time (p_c), s		3.3		0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	90.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
02 2024 No-Build AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	1	2537	1689	3
Future Volume (vph)	2	2	1	2537	1689	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3406	3502	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3406	3502	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	0.50	0.50	0.25	0.96	0.93	0.38
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	4	4	4	2643	1816	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2643	1824	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	80.1%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	2	2	1	2537	1689	3
Future Vol, veh/h	2	2	1	2537	1689	3
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	25	96	93	38
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	4	4	4	2643	1816	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3150	912	1824	0	-	0
Stage 1	1820	-	-	-	-	-
Stage 2	1330	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	9	280	340	-	-	-
Stage 1	117	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	9	280	340	-	-	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	116	-	-	-	-	-
Stage 2	215	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.6	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	340	-	115	-	-
HCM Lane V/C Ratio	0.012	-	0.07	-	-
HCM Control Delay (s)	15.7	-	38.6	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
 3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
 02 2024 No-Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↔		↗	↕↔	
Traffic Volume (vph)	0	0	1	9	0	17	0	2421	6	6	1704	0
Future Volume (vph)	0	0	1	9	0	17	0	2421	6	6	1704	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.916							
Flt Protected					0.982					0.950		
Satd. Flow (prot)	0	1644	0	0	1536	0	1900	3403	0	1357	3471	0
Flt Permitted					0.982					0.950		
Satd. Flow (perm)	0	1644	0	0	1536	0	1900	3403	0	1357	3471	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.25	0.50	0.92	0.57	0.92	0.91	0.75	0.75	0.91	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	6%	33%	33%	4%	0%
Adj. Flow (vph)	0	0	4	18	0	30	0	2660	8	8	1873	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	48	0	0	2668	0	8	1873	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	82.0%
Analysis Period (min)	15
	ICU Level of Service D

Intersection												
Int Delay, s/veh	54.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	9	0	17	0	2421	6	6	1704	0
Future Vol, veh/h	0	0	1	9	0	17	0	2421	6	6	1704	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	25	50	92	57	92	91	75	75	91	92
Heavy Vehicles, %	0	0	0	0	0	18	0	6	33	33	4	0
Mvmt Flow	0	0	4	18	0	30	0	2660	8	8	1873	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3219	4557	937	3617	4553	1334	1873	0	0	2668	0	0
Stage 1	1889	1889	-	2664	2664	-	-	-	-	-	-	-
Stage 2	1330	2668	-	953	1889	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.76	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.53	-	-
Pot Cap-1 Maneuver	4	1	270	~ 2	1	125	326	-	-	93	-	-
Stage 1	74	120	-	23	48	-	-	-	-	-	-	-
Stage 2	166	48	-	282	120	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	3	1	270	~ 2	1	125	326	-	-	93	-	-
Mov Cap-2 Maneuver	3	1	-	~ 2	1	-	-	-	-	-	-	-
Stage 1	74	110	-	23	48	-	-	-	-	-	-	-
Stage 2	126	48	-	254	110	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	\$ 5262.2	0	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	326	-	-	270	5	93	-
HCM Lane V/C Ratio	-	-	-	0.015	9.565	0.086	-
HCM Control Delay (s)	0	-	-	18.5	5262.2	47.3	-
HCM Lane LOS	A	-	-	C	F	E	-
HCM 95th %tile Q(veh)	0	-	-	0	7.7	0.3	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
02 2024 No-Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↕	↖	↕	↕
Traffic Volume (vph)	271	324	34	42	131	104	28	1029	46	59	454	150
Future Volume (vph)	271	324	34	42	131	104	28	1029	46	59	454	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.954			0.990			0.963	
Flt Protected		0.977			0.989		0.950			0.950		
Satd. Flow (prot)	0	1787	1524	0	1711	0	1626	3293	0	1805	3188	0
Flt Permitted		0.589			0.093		0.288			0.121		
Satd. Flow (perm)	0	1077	1524	0	161	0	493	3293	0	230	3188	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		34			10			65	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Adj. Flow (vph)	335	377	51	84	168	130	47	1095	77	86	582	190
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	712	51	0	382	0	47	1172	0	86	772	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
02 2024 No-Build AM

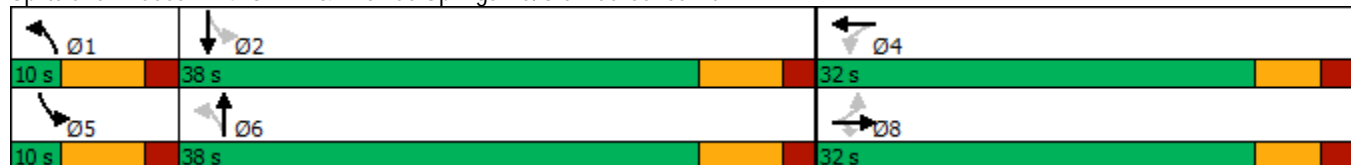


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		33.4	31.1		34.8	33.0	
Actuated g/C Ratio		0.33	0.33		0.33		0.43	0.40		0.45	0.42	
v/c Ratio		1.98	0.08		5.03		0.18	0.89		0.53	0.56	
Control Delay		471.5	0.3		1845.1		11.9	32.6		24.7	18.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		471.5	0.3		1845.1		11.9	32.6		24.7	18.1	
LOS		F	A		F		B	C		C	B	
Approach Delay		440.0			1845.1			31.8			18.7	
Approach LOS		F			F			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 5.03
 Intersection Signal Delay: 339.9
 Intersection LOS: F
 Intersection Capacity Utilization 103.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	712	51	382	47	1172	86	772
v/c Ratio	1.98	0.08	5.03	0.18	0.89	0.53	0.56
Control Delay	471.5	0.3	1845.1	11.9	32.6	24.7	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	471.5	0.3	1845.1	11.9	32.6	24.7	18.1
Queue Length 50th (ft)	~567	0	~335	11	283	21	144
Queue Length 95th (ft)	#729	0	#426	18	#418	32	164
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	360	609	76	255	1318	163	1388
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.98	0.08	5.03	0.18	0.89	0.53	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 02 2024 No-Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕		↗	↕	
Traffic Volume (vph)	271	324	34	42	131	104	28	1029	46	59	454	150
Future Volume (vph)	271	324	34	42	131	104	28	1029	46	59	454	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1787	1524		1711		1626	3294		1805	3189	
Flt Permitted		0.59	1.00		0.09		0.29	1.00		0.12	1.00	
Satd. Flow (perm)		1077	1524		162		492	3294		230	3189	
Peak-hour factor, PHF	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Adj. Flow (vph)	335	377	51	84	168	130	47	1095	77	86	582	190
RTOR Reduction (vph)	0	0	35	0	23	0	0	6	0	0	38	0
Lane Group Flow (vph)	0	712	16	0	359	0	47	1166	0	86	734	0
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		34.3	32.5		35.3	33.0	
Effective Green, g (s)		26.1	26.1		26.1		34.3	32.5		35.3	33.0	
Actuated g/C Ratio		0.32	0.32		0.32		0.42	0.40		0.44	0.41	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		347	491		52		233	1323		145	1300	
v/s Ratio Prot							0.00	c0.35		c0.02	0.23	
v/s Ratio Perm		0.66	0.01		c2.22		0.08			0.24		
v/c Ratio		2.05	0.03		6.90		0.20	0.88		0.59	0.56	
Uniform Delay, d1		27.4	18.8		27.4		14.1	22.4		16.1	18.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		483.3	0.1		2696.3		0.2	7.0		4.3	1.8	
Delay (s)		510.7	18.9		2723.7		14.3	29.4		20.4	20.2	
Level of Service		F	B		F		B	C		C	C	
Approach Delay (s)		477.8			2723.7			28.8			20.2	
Approach LOS		F			F			C			C	

Intersection Summary		
HCM 2000 Control Delay	452.4	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	3.44	
Actuated Cycle Length (s)	80.9	Sum of lost time (s) 20.0
Intersection Capacity Utilization	103.4%	ICU Level of Service G
Analysis Period (min)	15	
c Critical Lane Group		

Lanes, Volumes, Timings
5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
02 2024 No-Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	982	17	127	1101	408	8	298	242	193	111	78
Future Volume (vph)	128	982	17	127	1101	408	8	298	242	193	111	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.957				0.850		0.931	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	5072	0	1787	4767	0	0	1826	1599	1770	1735	0
Flt Permitted	0.082			0.190				0.276		0.542		
Satd. Flow (perm)	154	5072	0	357	4767	0	0	505	1599	1010	1735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			106				156		31	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Heavy Vehicles (%)	1%	2%	0%	1%	5%	2%	0%	4%	1%	2%	1%	3%
Adj. Flow (vph)	160	1045	19	146	1171	469	14	355	295	222	129	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	1064	0	146	1640	0	0	369	295	222	240	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build AM

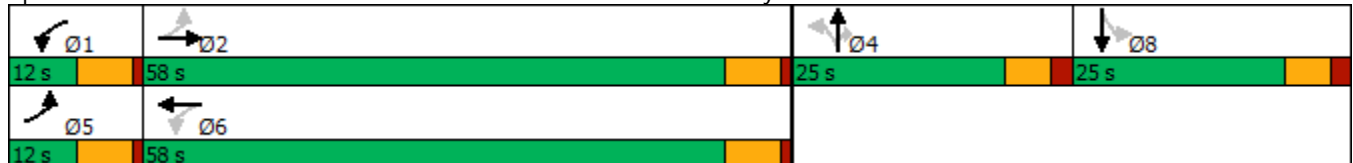


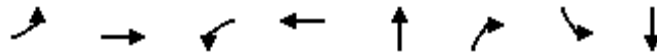
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8		8	
Detector Phase	5	2	1		6	4		4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	5.0		30.0	8.0		8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0	11.0		36.0	14.0		14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0	12.0		58.0	25.0		25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%	10.0%		48.3%	20.8%		20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0	6.0		52.0	19.0		19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	2.0		2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead		Lag	Lead		Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0	1.5		3.0	2.0		2.0	2.0	2.0	2.0	
Recall Mode	None	Min	None		Min	None		None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	55.0	49.0	55.0		49.0	19.0		19.0	19.0	19.0	19.0	
Actuated g/C Ratio	0.47	0.42	0.47		0.42	0.16		0.16	0.16	0.16	0.16	
v/c Ratio	1.03	0.50	0.61		0.80	4.56		0.76	1.36	0.78		
Control Delay	104.4	25.8	27.1		31.0	1635.5		35.6	234.3	60.0		
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0		
Total Delay	104.4	25.8	27.1		31.0	1635.5		35.6	234.3	60.0		
LOS	F	C	C		C	F		D	F	E		
Approach Delay	36.1		30.7		924.7		143.8					
Approach LOS	D		C		F		F					

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 117.1
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.56
 Intersection Signal Delay: 188.4
 Intersection LOS: F
 Intersection Capacity Utilization 84.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy





Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	160	1064	146	1640	369	295	222	240
v/c Ratio	1.03	0.50	0.61	0.80	4.56	0.76	1.36	0.78
Control Delay	104.4	25.8	27.1	31.0	1635.5	35.6	234.3	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.4	25.8	27.1	31.0	1635.5	35.6	234.3	60.0
Queue Length 50th (ft)	~77	211	55	366	-530	105	-229	159
Queue Length 95th (ft)	#173	253	88	429	#669	174	#371	#264
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	156	2257	241	2178	81	390	163	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.47	0.61	0.75	4.56	0.76	1.36	0.78

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶			↶	↶	↶	↶	↶
Traffic Volume (veh/h)	128	982	17	127	1101	408	8	298	242	193	111	78
Future Volume (veh/h)	128	982	17	127	1101	408	8	298	242	193	111	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1885	1826	1870	1900	1841	1885	1870	1885	1856
Adj Flow Rate, veh/h	160	1045	19	146	1171	469	14	355	295	222	129	111
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Percent Heavy Veh, %	1	2	0	1	5	2	0	4	1	2	1	3
Cap, veh/h	275	2475	45	388	1662	664	53	421	375	121	220	189
Arrive On Green	0.07	0.48	0.48	0.06	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	5164	94	1795	3499	1399	29	1793	1598	782	935	805
Grp Volume(v), veh/h	160	689	375	146	1112	528	369	0	295	222	0	240
Grp Sat Flow(s),veh/h/ln	1795	1702	1853	1795	1662	1574	1822	0	1598	782	0	1740
Q Serve(g_s), s	3.6	10.7	10.7	3.3	21.4	21.4	4.7	0.0	14.0	3.3	0.0	9.9
Cycle Q Clear(g_c), s	3.6	10.7	10.7	3.3	21.4	21.4	15.7	0.0	14.0	19.0	0.0	9.9
Prop In Lane	1.00		0.05	1.00		0.89	0.04		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	275	1632	889	388	1578	748	474	0	375	121	0	409
V/C Ratio(X)	0.58	0.42	0.42	0.38	0.70	0.71	0.78	0.00	0.79	1.83	0.00	0.59
Avail Cap(c_a), veh/h	287	2188	1191	408	2136	1012	474	0	375	121	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.0	13.7	13.7	10.3	16.8	16.8	29.6	0.0	29.0	40.0	0.0	27.5
Incr Delay (d2), s/veh	1.7	0.2	0.3	0.2	0.7	1.4	7.3	0.0	9.7	403.9	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.4	3.7	1.2	7.6	7.4	7.6	0.0	6.1	16.0	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	13.9	14.1	10.5	17.4	18.2	37.0	0.0	38.8	443.9	0.0	29.0
LnGrp LOS	B	B	B	B	B	B	D	A	D	F	A	C
Approach Vol, veh/h		1224			1786			664				462
Approach Delay, s/veh		14.3			17.1			37.8				228.4
Approach LOS		B			B			D				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	44.8		25.0	11.5	44.4		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	5.3	12.7		17.7	5.6	23.4		21.0				
Green Ext Time (p_c), s	0.0	7.0		0.4	0.0	15.0		0.0				

Intersection Summary












HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
02 2024 No-Build PM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	1107	669	8	1199	1442
Future Volume (vph)	29	1107	669	8	1199	1442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Fr't		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1599	3497	0	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1599	3497	0	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		462	3			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Heavy Vehicles (%)	3%	1%	3%	0%	5%	5%
Adj. Flow (vph)	39	1216	769	18	1289	1551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	1216	787	0	1289	1551
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

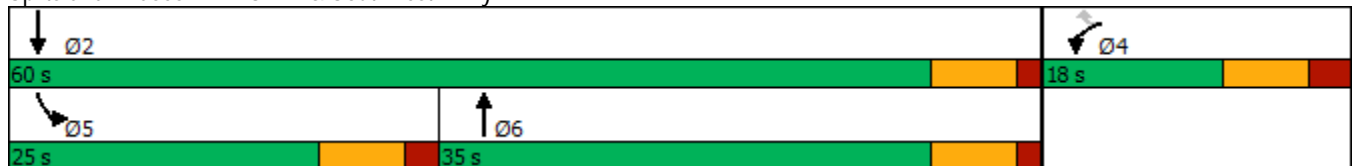


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.5	10.5	20.4		18.1	45.5
Actuated g/C Ratio	0.15	0.15	0.29		0.26	0.65
v/c Ratio	0.15	1.92	0.77		1.50	0.70
Control Delay	29.3	437.9	28.2		255.8	9.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.3	437.9	28.2		255.8	9.8
LOS	C	F	C		F	A
Approach Delay	425.2		28.2			121.4
Approach LOS	F		C			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	70.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.92
Intersection Signal Delay:	184.5
Intersection LOS:	F
Intersection Capacity Utilization	99.0%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues
1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	39	1216	787	1289	1551
v/c Ratio	0.15	1.92	0.77	1.50	0.70
Control Delay	29.3	437.9	28.2	255.8	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	437.9	28.2	255.8	9.8
Queue Length 50th (ft)	15	~650	161	~406	191
Queue Length 95th (ft)	36	#960	210	#589	255
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	263	633	1429	859	2635
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	1.92	0.55	1.50	0.59

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	1107	669	8	1199	1442
Future Volume (veh/h)	29	1107	669	8	1199	1442
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1885	1856	1900	1826	1826
Adj Flow Rate, veh/h	39	0	769	0	1289	1551
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Percent Heavy Veh, %	3	1	3	0	5	5
Cap, veh/h	71		990		1057	2484
Arrive On Green	0.04	0.00	0.28	0.00	0.31	0.72
Sat Flow, veh/h	1767	1598	3711	0	3374	3561
Grp Volume(v), veh/h	39	0	769	0	1289	1551
Grp Sat Flow(s),veh/h/ln	1767	1598	1763	0	1687	1735
Q Serve(g_s), s	1.2	0.0	11.5	0.0	18.0	13.2
Cycle Q Clear(g_c), s	1.2	0.0	11.5	0.0	18.0	13.2
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	71		990		1057	2484
V/C Ratio(X)	0.55		0.78		1.22	0.62
Avail Cap(c_a), veh/h	323		1749		1057	3231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	19.0	0.0	19.7	4.2
Incr Delay (d2), s/veh	2.4	0.0	0.5	0.0	107.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.7	0.0	21.1	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.5	0.0	19.5	0.0	127.2	4.3
LnGrp LOS	C		B		F	A
Approach Vol, veh/h	39	A	769	A		2840
Approach Delay, s/veh	29.5		19.5			60.1
Approach LOS	C		B			E
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.6		9.8	25.0	22.6
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		15.2		3.2	20.0	13.5
Green Ext Time (p_c), s		8.2		0.0	0.0	2.6

Intersection Summary

HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
02 2024 No-Build PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	3	3	1816	2570	6
Future Volume (vph)	4	3	3	1816	2570	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3539	3468	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3539	3468	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	1.00	0.75	0.75	0.93	0.92	0.38
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%
Adj. Flow (vph)	4	4	4	1953	2793	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	1953	2809	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	81.2%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗		↖	↑↑	↑↗	
Traffic Vol, veh/h	4	3	3	1816	2570	6
Future Vol, veh/h	4	3	3	1816	2570	6
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	75	75	93	92	38
Heavy Vehicles, %	0	0	0	2	4	0
Mvmt Flow	4	4	4	1953	2793	16

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3786	1405	2809	0	-	0
Stage 1	2801	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 3	131	140	-	-	-
Stage 1	33	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 3	131	140	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-
Stage 1	32	-	-	-	-	-
Stage 2	327	-	-	-	-	-




















Approach	EB	NB	SB
HCM Control Delay, s	101.6	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	140	-	45	-	-
HCM Lane V/C Ratio	0.029	-	0.178	-	-
HCM Control Delay (s)	31.5	-	101.6	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

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

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
02 2024 No-Build PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	6	0	12	0	1792	4	14	2606	0
Future Volume (vph)	0	0	0	6	0	12	0	1792	4	14	2606	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.939			0.999				
Flt Protected					0.973					0.950		
Satd. Flow (prot)	0	1900	0	0	1606	0	1900	3502	0	1570	3438	0
Flt Permitted					0.973					0.950		
Satd. Flow (perm)	0	1900	0	0	1606	0	1900	3502	0	1570	3438	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.92	0.38	0.92	0.92	0.92	0.91	0.50	0.81	0.93	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	3%	0%	15%	5%	0%
Adj. Flow (vph)	0	0	0	16	0	13	0	1969	8	17	2802	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	29	0	0	1977	0	17	2802	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	82.0%						ICU Level of Service E					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	21.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	6	0	12	0	1792	4	14	2606	0
Future Vol, veh/h	0	0	0	6	0	12	0	1792	4	14	2606	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	38	92	92	92	91	50	81	93	92
Heavy Vehicles, %	0	0	0	0	0	18	0	3	0	15	5	0
Mvmt Flow	0	0	0	16	0	13	0	1969	8	17	2802	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3821	4813	1401	3408	4809	989	2802	0	0	1977	0	0
Stage 1	2836	2836	-	1973	1973	-	-	-	-	-	-	-
Stage 2	985	1977	-	1435	2836	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.4	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.35	-	-
Pot Cap-1 Maneuver	1	1	132	~ 3	1	219	141	-	-	243	-	-
Stage 1	18	39	-	66	109	-	-	-	-	-	-	-
Stage 2	270	109	-	143	39	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	1	1	132	~ 3	1	219	141	-	-	243	-	-
Mov Cap-2 Maneuver	1	1	-	~ 3	1	-	-	-	-	-	-	-
Stage 1	18	36	-	66	109	-	-	-	-	-	-	-
Stage 2	254	109	-	133	36	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 3534.9	0	0.1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	141	-	-	-	5	243	-
HCM Lane V/C Ratio	-	-	-	-	5.767	0.071	-
HCM Control Delay (s)	0	-	-	\$ 3534.9	20.9	-	-
HCM Lane LOS	A	-	-	A	F	C	-
HCM 95th %tile Q(veh)	0	-	-	-	5.1	0.2	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
02 2024 No-Build PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↕	↖	↕	↕
Traffic Volume (vph)	181	148	38	96	283	93	45	398	52	139	1042	294
Future Volume (vph)	181	148	38	96	283	93	45	398	52	139	1042	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.974			0.979			0.967	
Flt Protected		0.970			0.987		0.950			0.950		
Satd. Flow (prot)	0	1803	1583	0	1759	0	1687	3442	0	1752	3300	0
Flt Permitted		0.438			0.509		0.132			0.402		
Satd. Flow (perm)	0	814	1583	0	907	0	234	3442	0	742	3300	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		16			26			53	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Adj. Flow (vph)	241	153	57	163	322	118	68	474	76	153	1120	316
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	394	57	0	603	0	68	550	0	153	1436	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 02 2024 No-Build PM

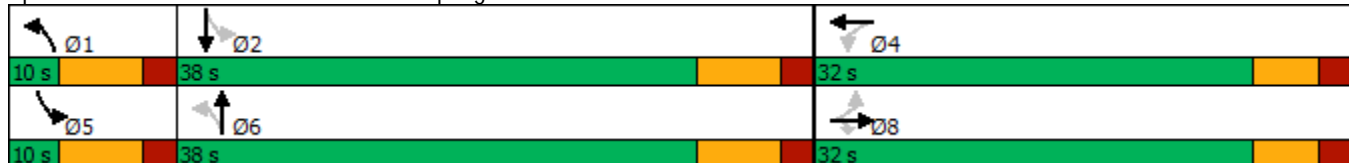


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		31.9	28.9		33.4	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.41	0.37		0.43	0.40	
v/c Ratio		1.45	0.09		1.93		0.45	0.43		0.43	1.07	
Control Delay		248.3	0.3		449.6		20.7	18.4		17.0	69.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		248.3	0.3		449.6		20.7	18.4		17.0	69.1	
LOS		F	A		F		C	B		B	E	
Approach Delay		216.9			449.6			18.7			64.1	
Approach LOS		F			F			B			E	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.93
 Intersection Signal Delay: 147.9
 Intersection LOS: F
 Intersection Capacity Utilization 107.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	394	57	603	68	550	153	1436
v/c Ratio	1.45	0.09	1.93	0.45	0.43	0.43	1.07
Control Delay	248.3	0.3	449.6	20.7	18.4	17.0	69.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	248.3	0.3	449.6	20.7	18.4	17.0	69.1
Queue Length 50th (ft)	~276	0	~478	16	97	39	~426
Queue Length 95th (ft)	#443	0	#658	26	127	70	#558
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	272	628	313	151	1387	357	1347
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.09	1.93	0.45	0.40	0.43	1.07

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 02 2024 No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↕	↖	↕	↕
Traffic Volume (vph)	181	148	38	96	283	93	45	398	52	139	1042	294
Future Volume (vph)	181	148	38	96	283	93	45	398	52	139	1042	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.97		1.00	0.98		1.00	0.97	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1804	1583		1758		1687	3443		1752	3300	
Flt Permitted		0.44	1.00		0.51		0.13	1.00		0.40	1.00	
Satd. Flow (perm)		814	1583		908		234	3443		741	3300	
Peak-hour factor, PHF	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Adj. Flow (vph)	241	153	57	163	322	118	68	474	76	153	1120	316
RTOR Reduction (vph)	0	0	38	0	11	0	0	16	0	0	32	0
Lane Group Flow (vph)	0	394	19	0	592	0	68	534	0	153	1404	0
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		32.7	30.4		34.1	31.1	
Effective Green, g (s)		26.1	26.1		26.1		32.7	30.4		34.1	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.41	0.38		0.43	0.39	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		267	519		298		138	1316		355	1290	
v/s Ratio Prot							0.01	0.16		c0.02	c0.43	
v/s Ratio Perm		0.48	0.01		c0.65		0.19			0.17		
v/c Ratio		1.48	0.04		1.99		0.49	0.41		0.43	1.09	
Uniform Delay, d1		26.7	18.1		26.7		18.9	17.9		15.1	24.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		233.2	0.1		456.2		1.0	0.1		0.3	52.7	
Delay (s)		259.9	18.3		482.9		19.9	18.0		15.4	76.9	
Level of Service		F	B		F		B	B		B	E	
Approach Delay (s)		229.4			482.9			18.2			70.9	
Approach LOS		F			F			B			E	

Intersection Summary		
HCM 2000 Control Delay	159.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.46	F
Actuated Cycle Length (s)	79.5	Sum of lost time (s)
Intersection Capacity Utilization	107.7%	20.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		G

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	1139	39	240	1062	155	8	108	163	295	276	75
Future Volume (vph)	51	1139	39	240	1062	155	8	108	163	295	276	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.980				0.850		0.961	
Flt Protected	0.950			0.950				0.994		0.950		
Satd. Flow (prot)	1805	4922	0	1787	4984	0	0	1889	1583	1752	1795	0
Flt Permitted	0.119			0.108				0.244		0.657		
Satd. Flow (perm)	226	4922	0	203	4984	0	0	464	1583	1212	1795	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			29				136		12	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Heavy Vehicles (%)	0%	5%	0%	1%	2%	2%	0%	0%	2%	3%	2%	1%
Adj. Flow (vph)	65	1238	39	286	1118	168	18	140	179	324	297	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1277	0	286	1286	0	0	158	179	324	400	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build PM

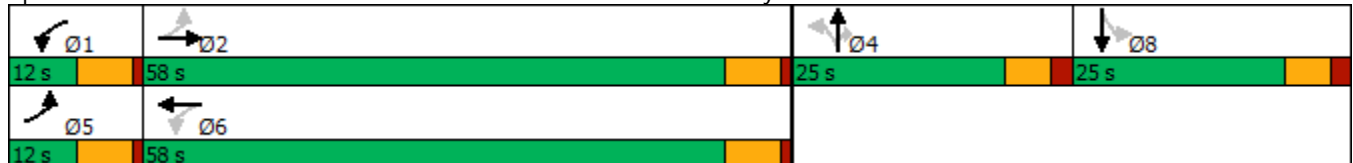


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8		8	
Detector Phase	5	2	1		6	4		4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	5.0		30.0	8.0		8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0	11.0		36.0	14.0		14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0	12.0		58.0	25.0		25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%	10.0%		48.3%	20.8%		20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0	6.0		52.0	19.0		19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	2.0		2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead		Lag	Lead		Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0	1.5		3.0	2.0		2.0	2.0	2.0	2.0	
Recall Mode	None	Min	None		Min	None		None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	43.7	38.0	45.5		40.8	19.1		19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.41	0.36	0.43		0.38	0.18		0.18	0.18	0.18	0.18	
v/c Ratio	0.37	0.72	1.62		0.67	1.90		0.45	1.49	1.21	1.21	
Control Delay	21.1	31.8	326.9		28.7	477.3		16.4	277.6	156.3	156.3	
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay	21.1	31.8	326.9		28.7	477.3		16.4	277.6	156.3	156.3	
LOS	C	C	F		C	F		B	F	F	F	
Approach Delay	31.3		83.0		232.5		210.6					
Approach LOS	C		F		F		F					

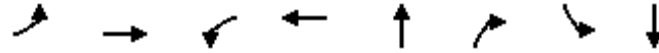
Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 106.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.90
 Intersection Signal Delay: 101.4
 Intersection LOS: F
 Intersection Capacity Utilization 76.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



Queues
5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	65	1277	286	1286	158	179	324	400
v/c Ratio	0.37	0.72	1.62	0.67	1.90	0.45	1.49	1.21
Control Delay	21.1	31.8	326.9	28.7	477.3	16.4	277.6	156.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	31.8	326.9	28.7	477.3	16.4	277.6	156.3
Queue Length 50th (ft)	23	271	~231	266	~164	25	~303	~323
Queue Length 95th (ft)	40	321	#379	316	#271	98	#537	#586
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	183	2419	176	2461	83	395	217	331
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.53	1.63	0.52	1.90	0.45	1.49	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 02 2024 No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↑	↘
Traffic Volume (veh/h)	51	1139	39	240	1062	155	8	108	163	295	276	75
Future Volume (veh/h)	51	1139	39	240	1062	155	8	108	163	295	276	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1885	1870	1870	1900	1900	1870	1856	1870	1885
Adj Flow Rate, veh/h	65	1238	39	286	1118	168	18	140	179	324	297	103
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Percent Heavy Veh, %	0	5	0	1	2	2	0	0	2	3	2	1
Cap, veh/h	302	2040	64	340	1985	298	64	342	413	141	345	120
Arrive On Green	0.05	0.41	0.41	0.08	0.44	0.44	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	4965	156	1795	4481	673	35	1314	1585	1052	1327	460
Grp Volume(v), veh/h	65	829	448	286	849	437	158	0	179	324	0	400
Grp Sat Flow(s),veh/h/ln	1810	1662	1798	1795	1702	1749	1350	0	1585	1052	0	1788
Q Serve(g_s), s	1.5	14.3	14.3	6.0	13.5	13.5	0.5	0.0	6.9	2.9	0.0	15.6
Cycle Q Clear(g_c), s	1.5	14.3	14.3	6.0	13.5	13.5	16.1	0.0	6.9	19.0	0.0	15.6
Prop In Lane	1.00		0.09	1.00		0.38	0.11		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	302	1366	739	340	1508	775	406	0	413	141	0	465
V/C Ratio(X)	0.22	0.61	0.61	0.84	0.56	0.56	0.39	0.00	0.43	2.30	0.00	0.86
Avail Cap(c_a), veh/h	360	2367	1281	340	2425	1246	406	0	413	141	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	16.9	16.9	16.9	15.1	15.1	22.0	0.0	22.5	36.1	0.0	25.7
Incr Delay (d2), s/veh	0.1	0.4	0.8	16.1	0.3	0.6	0.2	0.0	0.3	609.1	0.0	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	4.9	4.0	4.8	5.0	2.1	0.0	2.4	26.2	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	17.3	17.7	33.0	15.4	15.7	22.2	0.0	22.8	645.1	0.0	40.1
LnGrp LOS	B	B	B	C	B	B	C	A	C	F	A	D
Approach Vol, veh/h		1342			1572			337				724
Approach Delay, s/veh		17.2			18.7			22.5				310.8
Approach LOS		B			B			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	36.0		25.0	9.7	38.3		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	8.0	16.3		18.1	3.5	15.5		21.0				
Green Ext Time (p_c), s	0.0	9.0		0.1	0.0	11.6		0.0				

Intersection Summary












HCM 6th Ctrl Delay	71.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
03 2024 Build-Out AM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	1222	1456	13	1118	740
Future Volume (vph)	4	1222	1456	13	1118	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frnt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1444	1553	3336	0	3467	3374
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1444	1553	3336	0	3467	3374
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		425	2			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Heavy Vehicles (%)	25%	4%	8%	7%	1%	7%
Adj. Flow (vph)	8	1314	1486	16	1315	871
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	1314	1502	0	1315	871
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

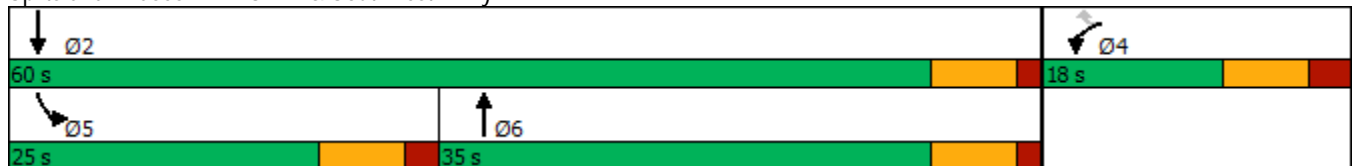


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.5	10.5	28.5		18.0	53.5
Actuated g/C Ratio	0.13	0.13	0.37		0.23	0.69
v/c Ratio	0.04	2.28	1.23		1.64	0.38
Control Delay	30.0	598.5	136.9		320.7	5.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.0	598.5	136.9		320.7	5.7
LOS	C	F	F		F	A
Approach Delay	595.1		136.9			195.2
Approach LOS	F		F			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	78
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	2.28
Intersection Signal Delay:	283.3
Intersection LOS:	F
Intersection Capacity Utilization	128.0%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues
1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	8	1314	1502	1315	871
v/c Ratio	0.04	2.28	1.23	1.64	0.38
Control Delay	30.0	598.5	136.9	320.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	598.5	136.9	320.7	5.7
Queue Length 50th (ft)	3	-876	-486	-485	79
Queue Length 95th (ft)	9	#1122	#620	#562	98
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	194	576	1220	800	2314
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	2.28	1.23	1.64	0.38

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕↔		↷↶	↕↕
Traffic Volume (veh/h)	4	1222	1456	13	1118	740
Future Volume (veh/h)	4	1222	1456	13	1118	740
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1841	1781	1796	1885	1796
Adj Flow Rate, veh/h	8	0	1486	0	1315	871
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Percent Heavy Veh, %	25	4	8	7	1	7
Cap, veh/h	15		1414		919	2677
Arrive On Green	0.01	0.00	0.42	0.00	0.26	0.78
Sat Flow, veh/h	1457	1560	3563	0	3483	3503
Grp Volume(v), veh/h	8	0	1486	0	1315	871
Grp Sat Flow(s),veh/h/ln	1457	1560	1692	0	1742	1706
Q Serve(g_s), s	0.4	0.0	28.5	0.0	18.0	5.0
Cycle Q Clear(g_c), s	0.4	0.0	28.5	0.0	18.0	5.0
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	15		1414		919	2677
V/C Ratio(X)	0.53		1.05		1.43	0.33
Avail Cap(c_a), veh/h	224		1414		919	2677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	19.9	0.0	25.1	2.1
Incr Delay (d2), s/veh	10.4	0.0	38.4	0.0	200.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	16.1	0.0	31.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	0.0	58.3	0.0	225.1	2.2
LnGrp LOS	D		F		F	A
Approach Vol, veh/h	8	A	1486	A		2186
Approach Delay, s/veh	44.0		58.3			136.3
Approach LOS	D		E			F
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		8.2	25.0	35.0
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		7.0		2.4	20.0	30.5
Green Ext Time (p_c), s		3.6		0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	104.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
03 2024 Build-Out AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	1	2639	1796	3
Future Volume (vph)	2	2	1	2639	1796	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3406	3502	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3406	3502	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	0.50	0.50	0.25	0.96	0.93	0.38
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	4	4	4	2749	1931	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2749	1939	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	82.9%			ICU Level of Service E		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑↑	
Traffic Vol, veh/h	2	2	1	2639	1796	3
Future Vol, veh/h	2	2	1	2639	1796	3
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	25	96	93	38
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	4	4	4	2749	1931	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3318	970	1939	0	-	0
Stage 1	1935	-	-	-	-	-
Stage 2	1383	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	7	257	307	-	-	-
Stage 1	101	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	7	257	307	-	-	-
Mov Cap-2 Maneuver	64	-	-	-	-	-
Stage 1	100	-	-	-	-	-
Stage 2	202	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.3	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	307	-	102	-	-
HCM Lane V/C Ratio	0.013	-	0.078	-	-
HCM Control Delay (s)	16.9	-	43.3	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
03 2024 Build-Out AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↔		↗	↕↔	
Traffic Volume (vph)	0	0	1	8	0	17	0	2523	6	6	1811	0
Future Volume (vph)	0	0	1	8	0	17	0	2523	6	6	1811	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.912							
Flt Protected					0.983					0.950		
Satd. Flow (prot)	0	1644	0	0	1524	0	1900	3403	0	1357	3471	0
Flt Permitted					0.983					0.950		
Satd. Flow (perm)	0	1644	0	0	1524	0	1900	3403	0	1357	3471	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.25	0.50	0.92	0.57	0.92	0.91	0.75	0.75	0.91	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	6%	33%	33%	4%	0%
Adj. Flow (vph)	0	0	4	16	0	30	0	2773	8	8	1990	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	46	0	0	2781	0	8	1990	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	84.8%
ICU Level of Service	E
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	82.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	8	0	17	0	2523	6	6	1811	0
Future Vol, veh/h	0	0	1	8	0	17	0	2523	6	6	1811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	25	50	92	57	92	91	75	75	91	92
Heavy Vehicles, %	0	0	0	0	0	18	0	6	33	33	4	0
Mvmt Flow	0	0	4	16	0	30	0	2773	8	8	1990	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3393	4787	995	3788	4783	1391	1990	0	0	2781	0	0
Stage 1	2006	2006	-	2777	2777	-	-	-	-	-	-	-
Stage 2	1387	2781	-	1011	2006	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.76	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.53	-	-
Pot Cap-1 Maneuver	3	1	247	~ 1	1	114	293	-	-	82	-	-
Stage 1	63	105	-	20	42	-	-	-	-	-	-	-
Stage 2	153	42	-	260	105	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	2	1	247	~ 1	1	114	293	-	-	82	-	-
Mov Cap-2 Maneuver	2	1	-	~ 1	1	-	-	-	-	-	-	-
Stage 1	63	95	-	20	42	-	-	-	-	-	-	-
Stage 2	113	42	-	231	95	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	\$ 8725.5	0	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	293	-	-	247	3	82	-
HCM Lane V/C Ratio	-	-	-	0.016	15.275	0.098	-
HCM Control Delay (s)	0	-	-	19.8	\$ 8725.5	53.6	-
HCM Lane LOS	A	-	-	C	F	F	-
HCM 95th %tile Q(veh)	0	-	-	0	7.6	0.3	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
03 2024 Build-Out AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↗		↕	↗
Traffic Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Future Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.954			0.991			0.964	
Flt Protected		0.977			0.989		0.950			0.950		
Satd. Flow (prot)	0	1786	1524	0	1710	0	1626	3297	0	1805	3190	0
Flt Permitted		0.586			0.094		0.254			0.121		
Satd. Flow (perm)	0	1071	1524	0	163	0	435	3297	0	230	3190	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		34			10			62	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Adj. Flow (vph)	348	377	51	84	167	129	46	1140	75	84	635	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	725	51	0	380	0	46	1215	0	84	836	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 03 2024 Build-Out AM

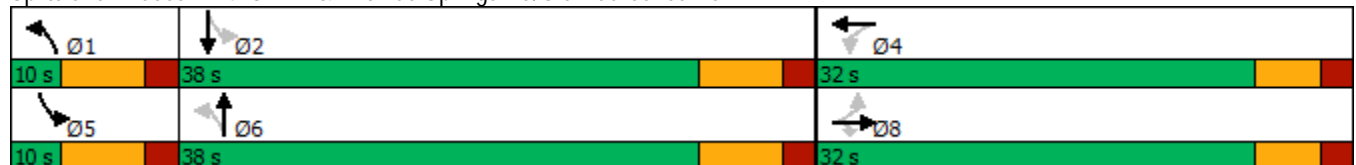


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		33.4	31.1		34.8	33.0	
Actuated g/C Ratio		0.33	0.33		0.33		0.43	0.40		0.45	0.42	
v/c Ratio		2.03	0.08		5.00		0.20	0.92		0.52	0.60	
Control Delay		492.8	0.3		1833.3		12.3	35.9		23.9	19.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		492.8	0.3		1833.3		12.3	35.9		23.9	19.0	
LOS		F	A		F		B	D		C	B	
Approach Delay		460.4			1833.3			35.0			19.5	
Approach LOS		F			F			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 5.00
 Intersection Signal Delay: 334.5
 Intersection LOS: F
 Intersection Capacity Utilization 105.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	725	51	380	46	1215	84	836
v/c Ratio	2.03	0.08	5.00	0.20	0.92	0.52	0.60
Control Delay	492.8	0.3	1833.3	12.3	35.9	23.9	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	492.8	0.3	1833.3	12.3	35.9	23.9	19.0
Queue Length 50th (ft)	~582	0	~332	11	299	20	163
Queue Length 95th (ft)	#745	0	#423	17	#444	32	182
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	358	609	76	232	1319	163	1387
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	2.03	0.08	5.00	0.20	0.92	0.52	0.60

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 03 2024 Build-Out AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	
Traffic Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Future Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1785	1524		1711		1626	3297		1805	3190	
Flt Permitted		0.59	1.00		0.09		0.25	1.00		0.12	1.00	
Satd. Flow (perm)		1071	1524		162		435	3297		230	3190	
Peak-hour factor, PHF	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Adj. Flow (vph)	348	377	51	84	167	129	46	1140	75	84	635	201
RTOR Reduction (vph)	0	0	35	0	23	0	0	6	0	0	37	0
Lane Group Flow (vph)	0	725	16	0	357	0	46	1209	0	84	799	0
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		34.3	32.5		35.3	33.0	
Effective Green, g (s)		26.1	26.1		26.1		34.3	32.5		35.3	33.0	
Actuated g/C Ratio		0.32	0.32		0.32		0.42	0.40		0.44	0.41	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		345	491		52		210	1324		145	1301	
v/s Ratio Prot							0.00	c0.37		c0.02	0.25	
v/s Ratio Perm		0.68	0.01		c2.21		0.09			0.24		
v/c Ratio		2.10	0.03		6.86		0.22	0.91		0.58	0.61	
Uniform Delay, d1		27.4	18.8		27.4		14.2	22.9		16.4	18.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		505.4	0.1		2679.1		0.2	9.6		3.5	2.2	
Delay (s)		532.8	18.9		2706.5		14.4	32.5		19.9	21.1	
Level of Service		F	B		F		B	C		B	C	
Approach Delay (s)		499.0			2706.5			31.8			21.0	
Approach LOS		F			F			C			C	

Intersection Summary		
HCM 2000 Control Delay	442.1	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	3.44	
Actuated Cycle Length (s)	80.9	Sum of lost time (s) 20.0
Intersection Capacity Utilization	105.0%	ICU Level of Service G
Analysis Period (min)	15	
c Critical Lane Group		

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↖	↖	↖	↖	↖
Traffic Volume (vph)	128	1033	16	126	1154	408	7	297	241	192	111	77
Future Volume (vph)	128	1033	16	126	1154	408	7	297	241	192	111	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.959				0.850		0.931	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	5077	0	1787	4775	0	0	1826	1599	1770	1736	0
Flt Permitted	0.080			0.175				0.304		0.543		
Satd. Flow (perm)	150	5077	0	329	4775	0	0	556	1599	1011	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			101				152		30	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Heavy Vehicles (%)	1%	2%	0%	1%	5%	2%	0%	4%	1%	2%	1%	3%
Adj. Flow (vph)	160	1099	18	145	1228	469	12	354	294	221	129	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	1117	0	145	1697	0	0	366	294	221	239	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out AM

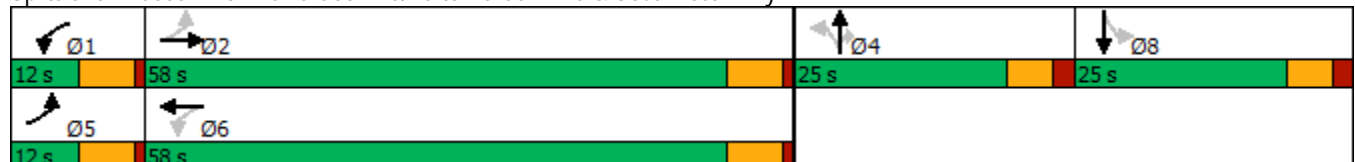


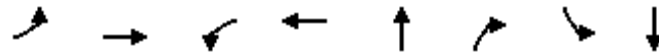
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8			
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0		5.0	30.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0		11.0	36.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0		12.0	58.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%		10.0%	48.3%		20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0		6.0	52.0		19.0	19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	56.1	50.1		56.1	50.1		19.0	19.0	19.0	19.0	19.0	
Actuated g/C Ratio	0.47	0.42		0.47	0.42		0.16	0.16	0.16	0.16	0.16	
v/c Ratio	1.04	0.52		0.63	0.82		4.11	0.76	1.36	0.79		
Control Delay	108.8	26.0		29.0	31.8		1432.5	37.0	234.9	60.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		
Total Delay	108.8	26.0		29.0	31.8		1432.5	37.0	234.9	60.9		
LOS	F	C		C	C		F	D	F	E		
Approach Delay	36.4			31.6			810.8				144.5	
Approach LOS	D			C			F				F	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 118.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.11
 Intersection Signal Delay: 166.6 Intersection LOS: F
 Intersection Capacity Utilization 85.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy





Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	160	1117	145	1697	366	294	221	239
v/c Ratio	1.04	0.52	0.63	0.82	4.11	0.76	1.36	0.79
Control Delay	108.8	26.0	29.0	31.8	1432.5	37.0	234.9	60.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.8	26.0	29.0	31.8	1432.5	37.0	234.9	60.9
Queue Length 50th (ft)	~80	225	55	388	-519	107	~227	158
Queue Length 95th (ft)	#176	268	87	452	#658	176	#369	#262
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	154	2237	229	2160	89	385	163	304
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.50	0.63	0.79	4.11	0.76	1.36	0.79

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗	↖	↗	
Traffic Volume (veh/h)	128	1033	16	126	1154	408	7	297	241	192	111	77
Future Volume (veh/h)	128	1033	16	126	1154	408	7	297	241	192	111	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1885	1826	1870	1900	1841	1885	1870	1885	1856
Adj Flow Rate, veh/h	160	1099	18	145	1228	469	12	354	294	221	129	110
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Percent Heavy Veh, %	1	2	0	1	5	2	0	4	1	2	1	3
Cap, veh/h	268	2528	41	377	1719	654	51	416	369	118	217	185
Arrive On Green	0.07	0.49	0.49	0.06	0.48	0.48	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	5174	85	1795	3553	1353	24	1802	1598	783	940	801
Grp Volume(v), veh/h	160	723	394	145	1148	549	366	0	294	221	0	239
Grp Sat Flow(s),veh/h/ln	1795	1702	1855	1795	1662	1582	1826	0	1598	783	0	1741
Q Serve(g_s), s	3.6	11.4	11.4	3.3	22.4	22.5	4.4	0.0	14.3	3.2	0.0	10.1
Cycle Q Clear(g_c), s	3.6	11.4	11.4	3.3	22.4	22.5	15.8	0.0	14.3	19.0	0.0	10.1
Prop In Lane	1.00		0.05	1.00		0.85	0.03		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	268	1663	906	377	1608	766	467	0	369	118	0	402
V/C Ratio(X)	0.60	0.43	0.43	0.38	0.71	0.72	0.78	0.00	0.80	1.88	0.00	0.59
Avail Cap(c_a), veh/h	280	2151	1172	397	2100	1000	467	0	369	118	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	13.7	13.7	10.3	16.8	16.8	30.4	0.0	29.8	40.7	0.0	28.2
Incr Delay (d2), s/veh	2.1	0.2	0.3	0.2	0.8	1.7	7.8	0.0	10.8	425.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.6	3.9	1.2	8.0	7.8	7.7	0.0	6.3	16.2	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	13.9	14.0	10.5	17.6	18.5	38.2	0.0	40.6	466.1	0.0	29.9
LnGrp LOS	B	B	B	B	B	B	D	A	D	F	A	C
Approach Vol, veh/h		1277			1842			660				460
Approach Delay, s/veh		14.4			17.3			39.3				239.4
Approach LOS		B			B			D				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	46.2		25.0	11.5	45.8		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	5.3	13.4		17.8	5.6	24.5		21.0				
Green Ext Time (p_c), s	0.0	7.5		0.3	0.0	15.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
6: SH71 & DWY1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2678	1858	0
Future Volume (vph)	0	0	0	2678	1858	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	4848	4988	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	4848	4988	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	706			430	1025	
Travel Time (s)	16.0			5.3	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	0	0	0	2761	2042	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2761	2042	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.1%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T T T T T T			
Traffic Vol, veh/h	0	0	0	2678	1858	0
Future Vol, veh/h	0	0	0	2678	1858	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	97	91	92
Heavy Vehicles, %	2	2	2	7	4	2
Mvmt Flow	0	0	0	2761	2042	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3146	1021	2042	0	-	0
Stage 1	2042	-	-	-	-	-
Stage 2	1104	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	22	201	119	-	-	-
Stage 1	53	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	22	201	119	-	-	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	53	-	-	-	-	-
Stage 2	251	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	119	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	102	102	107	2570	1755	86
Future Volume (vph)	102	102	107	2570	1755	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.993	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1694	0	1770	3374	3450	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	3374	3450	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	1019			440	566	
Travel Time (s)	23.2			5.5	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	111	111	116	2649	1929	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	222	0	116	2649	2022	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	89.6%			ICU Level of Service E		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	54.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	
Traffic Vol, veh/h	102	102	107	2570	1755	86
Future Vol, veh/h	102	102	107	2570	1755	86
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	97	91	92
Heavy Vehicles, %	2	2	2	7	4	2
Mvmt Flow	111	111	116	2649	1929	93

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	3533	1011	2022	0	0
Stage 1	1976	-	-	-	-
Stage 2	1557	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	~ 4	237	277	-	-
Stage 1	~ 94	-	-	-	-
Stage 2	159	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 2	237	277	-	-
Mov Cap-2 Maneuver	~ 38	-	-	-	-
Stage 1	~ 55	-	-	-	-
Stage 2	159	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, \$	1218.9	1.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	277	-	65	-	-
HCM Lane V/C Ratio	0.42	-	3.411	-	-
HCM Control Delay (s)	27.1		\$ 1218.9	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	2	-	23.2	-	-

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

Lanes, Volumes, Timings
8: SH71 & DWY3

Violet Crown TIA
03 2024 Build-Out AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2673	1841	21
Future Volume (vph)	0	0	0	2673	1841	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.998	
Flt Protected						
Satd. Flow (prot)	1863	0	1863	3374	3465	0
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	3374	3465	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	333			566	1065	
Travel Time (s)	7.6			7.0	13.2	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	0	0	0	2756	2023	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2756	2046	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	77.2%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	2673	1841	21
Future Vol, veh/h	0	0	0	2673	1841	21
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	97	91	92
Heavy Vehicles, %	2	2	2	7	4	2
Mvmt Flow	0	0	0	2756	2023	23












Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3413	1023	2046	0	-	0
Stage 1	2035	-	-	-	-	-
Stage 2	1378	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	5	233	271	-	-	-
Stage 1	87	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	5	233	271	-	-	-
Mov Cap-2 Maneuver	57	-	-	-	-	-
Stage 1	87	-	-	-	-	-
Stage 2	199	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	271	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
03 2024 Build-Out PM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	1165	728	7	1266	1510
Future Volume (vph)	29	1165	728	7	1266	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Fr't		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1599	3496	0	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1599	3496	0	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		453	3			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Heavy Vehicles (%)	3%	1%	3%	0%	5%	5%
Adj. Flow (vph)	39	1280	837	16	1361	1624
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	1280	853	0	1361	1624
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
03 2024 Build-Out PM

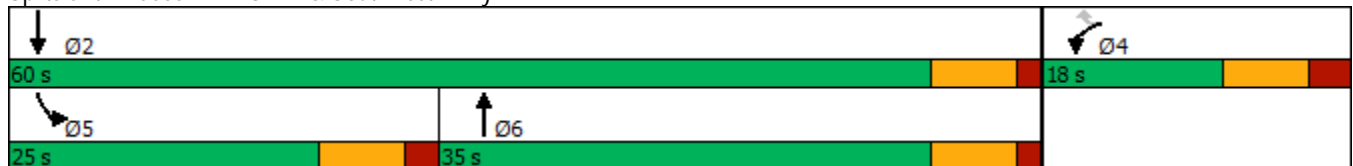


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	18.0	18.0	35.0		25.0	60.0
Total Split (%)	23.1%	23.1%	44.9%		32.1%	76.9%
Maximum Green (s)	10.5	10.5	28.5		18.0	53.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effect Green (s)	10.5	10.5	21.7		18.1	46.8
Actuated g/C Ratio	0.15	0.15	0.30		0.25	0.66
v/c Ratio	0.15	2.06	0.80		1.61	0.72
Control Delay	30.1	498.8	29.1		305.2	10.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.1	498.8	29.1		305.2	10.2
LOS	C	F	C		F	B
Approach Delay	484.9		29.1			144.7
Approach LOS	F		C			F

Intersection Summary

Area Type:	Other
Cycle Length:	78
Actuated Cycle Length:	71.4
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	2.06
Intersection Signal Delay:	212.6
Intersection LOS:	F
Intersection Capacity Utilization	104.1%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues
1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	39	1280	853	1361	1624
v/c Ratio	0.15	2.06	0.80	1.61	0.72
Control Delay	30.1	498.8	29.1	305.2	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	498.8	29.1	305.2	10.2
Queue Length 50th (ft)	15	~738	178	~457	208
Queue Length 95th (ft)	37	#1055	230	#642	277
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	258	622	1403	844	2588
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	2.06	0.61	1.61	0.63

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	1165	728	7	1266	1510
Future Volume (veh/h)	29	1165	728	7	1266	1510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1885	1856	1900	1826	1826
Adj Flow Rate, veh/h	39	0	837	0	1361	1624
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Percent Heavy Veh, %	3	1	3	0	5	5
Cap, veh/h	71		1055		1029	2508
Arrive On Green	0.04	0.00	0.30	0.00	0.30	0.72
Sat Flow, veh/h	1767	1598	3711	0	3374	3561
Grp Volume(v), veh/h	39	0	837	0	1361	1624
Grp Sat Flow(s),veh/h/ln	1767	1598	1763	0	1687	1735
Q Serve(g_s), s	1.3	0.0	12.9	0.0	18.0	14.4
Cycle Q Clear(g_c), s	1.3	0.0	12.9	0.0	18.0	14.4
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	71		1055		1029	2508
V/C Ratio(X)	0.55		0.79		1.32	0.65
Avail Cap(c_a), veh/h	314		1702		1029	3144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	19.0	0.0	20.5	4.3
Incr Delay (d2), s/veh	2.5	0.0	0.5	0.0	152.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	4.2	0.0	27.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.3	0.0	19.5	0.0	172.7	4.4
LnGrp LOS	C		B		F	A
Approach Vol, veh/h	39	A	837	A		2985
Approach Delay, s/veh	30.3		19.5			81.2
Approach LOS	C		B			F
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		49.2		9.9	25.0	24.2
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		53.5		10.5	18.0	28.5
Max Q Clear Time (g_c+I1), s		16.4		3.3	20.0	14.9
Green Ext Time (p_c), s		8.9		0.0	0.0	2.8

Intersection Summary

HCM 6th Ctrl Delay	67.3
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
03 2024 Build-Out PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	3	3	1951	2688	6
Future Volume (vph)	4	3	3	1951	2688	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	3539	3468	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	3539	3468	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	3744	
Travel Time (s)	17.0			13.2	46.4	
Peak Hour Factor	1.00	0.75	0.75	0.93	0.92	0.38
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%
Adj. Flow (vph)	4	4	4	2098	2922	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2098	2938	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	84.5%			ICU Level of Service E		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑↑	
Traffic Vol, veh/h	4	3	3	1951	2688	6
Future Vol, veh/h	4	3	3	1951	2688	6
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	75	75	93	92	38
Heavy Vehicles, %	0	0	0	2	4	0
Mvmt Flow	4	4	4	2098	2922	16

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3987	1469	2938	0	-	0
Stage 1	2930	-	-	-	-	-
Stage 2	1057	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 2	119	124	-	-	-
Stage 1	28	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 2	119	124	-	-	-
Mov Cap-2 Maneuver	23	-	-	-	-	-
Stage 1	27	-	-	-	-	-
Stage 2	300	-	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	119.7	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	124	-	39	-	-
HCM Lane V/C Ratio	0.032	-	0.205	-	-
HCM Control Delay (s)	35	-	119.7	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

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

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
03 2024 Build-Out PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	6	0	11	0	1927	4	13	2724	0
Future Volume (vph)	0	0	0	6	0	11	0	1927	4	13	2724	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.942			0.999				
Flt Protected					0.972					0.950		
Satd. Flow (prot)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Flt Permitted					0.972					0.950		
Satd. Flow (perm)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3744			2702	
Travel Time (s)		27.5			9.8			46.4			33.5	
Peak Hour Factor	0.92	0.92	0.92	0.38	0.92	0.92	0.92	0.91	0.50	0.81	0.93	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	3%	0%	15%	5%	0%
Adj. Flow (vph)	0	0	0	16	0	12	0	2118	8	16	2929	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	28	0	0	2126	0	16	2929	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	85.3%						ICU Level of Service E					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	32.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	6	0	11	0	1927	4	13	2724	0
Future Vol, veh/h	0	0	0	6	0	11	0	1927	4	13	2724	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	38	92	92	92	91	50	81	93	92
Heavy Vehicles, %	0	0	0	0	0	18	0	3	0	15	5	0
Mvmt Flow	0	0	0	16	0	12	0	2118	8	16	2929	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	4020	5087	1465	3619	5083	1063	2929	0	0	2126	0	0
Stage 1	2961	2961	-	2122	2122	-	-	-	-	-	-	-
Stage 2	1059	2126	-	1497	2961	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.4	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.35	-	-
Pot Cap-1 Maneuver	1	1	120	~ 2	1	194	125	-	-	211	-	-
Stage 1	15	33	-	53	92	-	-	-	-	-	-	-
Stage 2	243	91	-	131	33	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	1	1	120	~ 2	1	194	125	-	-	211	-	-
Mov Cap-2 Maneuver	1	1	-	~ 2	1	-	-	-	-	-	-	-
Stage 1	15	30	-	53	92	-	-	-	-	-	-	-
Stage 2	228	91	-	121	30	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 5965.9	0	0.1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	125	-	-	-	3	211	-
HCM Lane V/C Ratio	-	-	-	-	9.249	0.076	-
HCM Control Delay (s)	0	-	-	\$ 5965.9	23.5	-	-
HCM Lane LOS	A	-	-	A	F	C	-
HCM 95th %tile Q(veh)	0	-	-	-	5.1	0.2	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕	↕	↖	↕	↕
Traffic Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Future Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.973			0.981			0.967	
Flt Protected		0.970			0.987		0.950			0.950		
Satd. Flow (prot)	0	1802	1583	0	1758	0	1687	3451	0	1752	3300	0
Flt Permitted		0.432			0.485		0.132			0.365		
Satd. Flow (perm)	0	803	1583	0	864	0	234	3451	0	673	3300	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		16			23			52	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Adj. Flow (vph)	256	153	55	161	322	118	68	530	76	153	1178	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	55	0	601	0	68	606	0	153	1508	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
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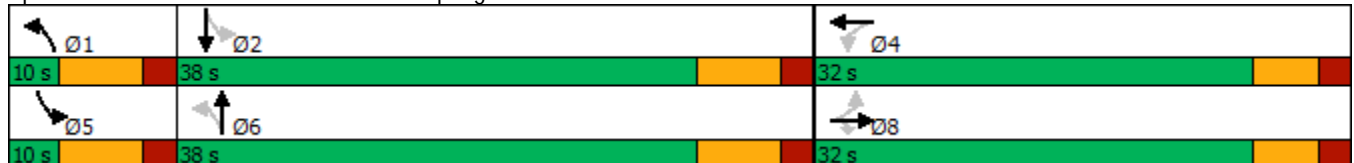


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	38.0		10.0	38.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.5%	47.5%		12.5%	47.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		3.0	31.0		3.0	31.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None	None		None	None		None	Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Dont Walk (s)	15.0	15.0	15.0								10.0	
Pedestrian Calls (#/hr)	0	0	0								0	
Act Effct Green (s)		26.1	26.1		26.1		31.9	28.9		33.4	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.41	0.37		0.43	0.40	
v/c Ratio		1.53	0.09		2.01		0.45	0.47		0.46	1.12	
Control Delay		281.1	0.3		487.8		20.7	19.1		18.1	89.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		281.1	0.3		487.8		20.7	19.1		18.1	89.4	
LOS		F	A		F		C	B		B	F	
Approach Delay		247.8			487.8			19.3			82.8	
Approach LOS		F			F			B			F	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.01
 Intersection Signal Delay: 164.3
 Intersection LOS: F
 Intersection Capacity Utilization 110.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	409	55	601	68	606	153	1508
v/c Ratio	1.53	0.09	2.01	0.45	0.47	0.46	1.12
Control Delay	281.1	0.3	487.8	20.7	19.1	18.1	89.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	281.1	0.3	487.8	20.7	19.1	18.1	89.4
Queue Length 50th (ft)	~294	0	~483	16	110	39	~467
Queue Length 95th (ft)	#463	0	#663	26	142	70	#601
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	268	628	299	151	1389	330	1346
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.53	0.09	2.01	0.45	0.44	0.46	1.12

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕		↖	↕	↗
Traffic Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Future Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.97		1.00	0.98		1.00	0.97	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1802	1583		1758		1687	3451		1752	3301	
Flt Permitted		0.43	1.00		0.49		0.13	1.00		0.36	1.00	
Satd. Flow (perm)		802	1583		865		234	3451		672	3301	
Peak-hour factor, PHF	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Adj. Flow (vph)	256	153	55	161	322	118	68	530	76	153	1178	330
RTOR Reduction (vph)	0	0	37	0	11	0	0	14	0	0	32	0
Lane Group Flow (vph)	0	409	18	0	590	0	68	592	0	153	1476	0
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.1	26.1		26.1		32.7	30.4		34.1	31.1	
Effective Green, g (s)		26.1	26.1		26.1		32.7	30.4		34.1	31.1	
Actuated g/C Ratio		0.33	0.33		0.33		0.41	0.38		0.43	0.39	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		263	519		283		138	1319		328	1291	
v/s Ratio Prot							0.01	0.17		c0.02	c0.45	
v/s Ratio Perm		0.51	0.01		c0.68		0.19			0.18		
v/c Ratio		1.56	0.03		2.09		0.49	0.45		0.47	1.14	
Uniform Delay, d1		26.7	18.1		26.7		18.9	18.3		15.5	24.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		267.7	0.1		500.5		1.0	0.1		0.4	74.3	
Delay (s)		294.4	18.3		527.2		19.9	18.4		15.9	98.5	
Level of Service		F	B		F		B	B		B	F	
Approach Delay (s)		261.7			527.2			18.5			90.9	
Approach LOS		F			F			B			F	

Intersection Summary		
HCM 2000 Control Delay	177.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.53	F
Actuated Cycle Length (s)	79.5	Sum of lost time (s)
Intersection Capacity Utilization	110.2%	20.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		H

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1207	39	240	1121	155	7	107	162	294	276	74
Future Volume (vph)	50	1207	39	240	1121	155	7	107	162	294	276	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	210		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.981				0.850		0.962	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1805	4927	0	1787	4989	0	0	1890	1583	1752	1796	0
Flt Permitted	0.108			0.095				0.265		0.659		
Satd. Flow (perm)	205	4927	0	179	4989	0	0	504	1583	1216	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			27				136		12	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Heavy Vehicles (%)	0%	5%	0%	1%	2%	2%	0%	0%	2%	3%	2%	1%
Adj. Flow (vph)	64	1312	39	286	1180	168	16	139	178	323	297	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	1351	0	286	1348	0	0	155	178	323	398	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out PM

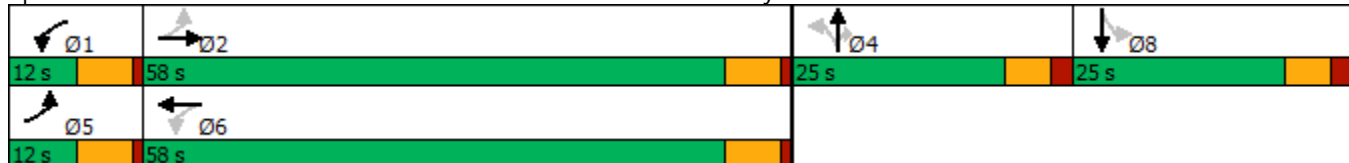


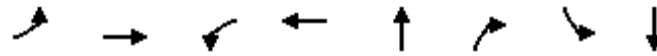
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8		8	
Detector Phase	5	2	1		6	4		4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	5.0		30.0	8.0		8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0	11.0		36.0	14.0		14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0	12.0		58.0	25.0		25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%	10.0%		48.3%	20.8%		20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0	6.0		52.0	19.0		19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	2.0		2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lead		Lag	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.0	1.5		3.0	2.0		2.0	2.0	2.0	2.0	
Recall Mode	None	Min	None		Min	None		None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	45.6	39.9	47.4		42.7	19.1		19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.42	0.37	0.44		0.39	0.18		0.18	0.18	0.18	0.18	
v/c Ratio	0.38	0.74	1.70		0.68	1.76		0.46	1.51	1.22		
Control Delay	21.2	32.0	363.1		28.8	412.4		16.7	285.6	161.7		
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0		
Total Delay	21.2	32.0	363.1		28.8	412.4		16.7	285.6	161.7		
LOS	C	C	F		C	F		B	F	F		
Approach Delay	31.6		87.3		200.9		217.2					
Approach LOS	C		F		F		F					

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 108.3
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 100.1
 Intersection LOS: F
 Intersection Capacity Utilization 76.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy





Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	64	1351	286	1348	155	178	323	398
v/c Ratio	0.38	0.74	1.70	0.68	1.76	0.46	1.51	1.22
Control Delay	21.2	32.0	363.1	28.8	412.4	16.7	285.6	161.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	32.0	363.1	28.8	412.4	16.7	285.6	161.7
Queue Length 50th (ft)	23	292	~247	284	~160	25	~312	~334
Queue Length 95th (ft)	39	343	#400	335	#268	98	#549	#599
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		210			175	270	
Base Capacity (vph)	176	2380	168	2422	88	391	214	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.57	1.70	0.56	1.76	0.46	1.51	1.22

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 03 2024 Build-Out PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗	↗	↑	↗
Traffic Volume (veh/h)	50	1207	39	240	1121	155	7	107	162	294	276	74
Future Volume (veh/h)	50	1207	39	240	1121	155	7	107	162	294	276	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1885	1870	1870	1900	1900	1870	1856	1870	1885
Adj Flow Rate, veh/h	64	1312	39	286	1180	168	16	139	178	323	297	101
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Percent Heavy Veh, %	0	5	0	1	2	2	0	0	2	3	2	1
Cap, veh/h	290	2044	61	328	2002	285	63	357	413	143	347	118
Arrive On Green	0.05	0.41	0.41	0.08	0.44	0.44	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	4975	148	1795	4516	643	33	1373	1585	1054	1335	454
Grp Volume(v), veh/h	64	876	475	286	889	459	155	0	178	323	0	398
Grp Sat Flow(s),veh/h/ln	1810	1662	1799	1795	1702	1755	1406	0	1585	1054	0	1789
Q Serve(g_s), s	1.4	15.4	15.4	6.0	14.4	14.4	0.5	0.0	6.8	3.1	0.0	15.5
Cycle Q Clear(g_c), s	1.4	15.4	15.4	6.0	14.4	14.4	15.9	0.0	6.8	19.0	0.0	15.5
Prop In Lane	1.00		0.08	1.00		0.37	0.10		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	290	1366	739	328	1509	778	420	0	413	143	0	466
V/C Ratio(X)	0.22	0.64	0.64	0.87	0.59	0.59	0.37	0.00	0.43	2.25	0.00	0.85
Avail Cap(c_a), veh/h	349	2367	1282	328	2425	1250	420	0	413	143	0	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	17.2	17.2	17.4	15.3	15.3	21.9	0.0	22.5	36.0	0.0	25.7
Incr Delay (d2), s/veh	0.1	0.5	0.9	21.2	0.4	0.7	0.2	0.0	0.3	586.2	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.8	5.3	4.4	5.1	5.4	2.1	0.0	2.4	25.8	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	17.7	18.1	38.6	15.7	16.0	22.1	0.0	22.8	622.2	0.0	39.5
LnGrp LOS	B	B	B	D	B	B	C	A	C	F	A	D
Approach Vol, veh/h		1415			1634			333				721
Approach Delay, s/veh		17.6			19.8			22.5				300.5
Approach LOS		B			B			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	36.0		25.0	9.6	38.4		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	8.0	17.4		17.9	3.4	16.4		21.0				
Green Ext Time (p_c), s	0.0	9.7		0.1	0.0	12.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
6: SH71 & DWY1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1894	2777	0
Future Volume (vph)	0	0	0	1894	2777	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	5085	4940	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	5085	4940	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	706			430	1025	
Travel Time (s)	16.0			5.3	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	0	0	0	2104	2923	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2104	2923	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.0%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T T T T			
Traffic Vol, veh/h	0	0	0	1894	2777	0
Future Vol, veh/h	0	0	0	1894	2777	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	90	95	92
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	0	0	0	2104	2923	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3765	1462	2923	0	-	0
Stage 1	2923	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	9	101	42	-	-	-
Stage 1	14	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	9	101	42	-	-	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	14	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	42	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
7: SH71 & DWY2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	172	172	152	1775	2641	122
Future Volume (vph)	172	172	152	1775	2641	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.932				0.993	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1694	0	1770	3539	3418	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	3539	3418	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	1019			440	566	
Travel Time (s)	23.2			5.5	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	187	187	165	1972	2780	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	374	0	165	1972	2913	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	115.4%			ICU Level of Service H		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	79.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	172	172	152	1775	2641	122
Future Vol, veh/h	172	172	152	1775	2641	122
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	90	95	92
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	187	187	165	1972	2780	133

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	4163	1457	2913	0	-	0
Stage 1	2847	-	-	-	-	-
Stage 2	1316	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 2	~ 119	~ 123	-	-	-
Stage 1	~ 30	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	~ 119	~ 123	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	215	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, \$	1041.7	20.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 123	-	119	-	-
HCM Lane V/C Ratio	1.343	-	3.142	-	-
HCM Control Delay (s)	265.3	\$	1041.7	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	10.9	-	35.8	-	-

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

Lanes, Volumes, Timings
8: SH71 & DWY3



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1911	2736	30
Future Volume (vph)	0	0	0	1911	2736	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.998	
Flt Protected						
Satd. Flow (prot)	1863	0	1863	3539	3432	0
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	3539	3432	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	333			566	1065	
Travel Time (s)	7.6			7.0	13.2	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	0	0	0	2123	2880	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2123	2913	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	79.9%			ICU Level of Service D		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1911	2736	30
Future Vol, veh/h	0	0	0	1911	2736	30
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	90	95	92
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	0	0	0	2123	2880	33












Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3959	1457	2913	0	-	0
Stage 1	2897	-	-	-	-	-
Stage 2	1062	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	2	119	123	-	-	-
Stage 1	28	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	2	119	123	-	-	-
Mov Cap-2 Maneuver	24	-	-	-	-	-
Stage 1	28	-	-	-	-	-
Stage 2	294	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	123	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated AM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	1222	1456	13	1118	740
Future Volume (vph)	4	1222	1456	13	1118	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Fr't		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1444	1553	3336	0	3467	3374
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1444	1553	3336	0	3467	3374
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		429	1			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Heavy Vehicles (%)	25%	4%	8%	7%	1%	7%
Adj. Flow (vph)	8	1314	1486	16	1315	871
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	1314	1502	0	1315	871
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated AM

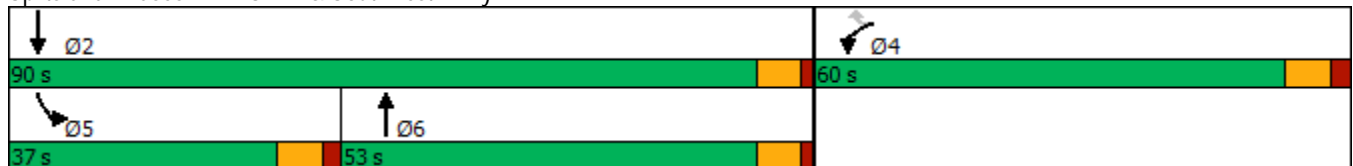


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	60.0	60.0	53.0		37.0	90.0
Total Split (%)	40.0%	40.0%	35.3%		24.7%	60.0%
Maximum Green (s)	52.5	52.5	46.5		30.0	83.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effect Green (s)	52.5	52.5	46.5		30.0	83.5
Actuated g/C Ratio	0.35	0.35	0.31		0.20	0.56
v/c Ratio	0.02	1.60	1.45		1.90	0.46
Control Delay	32.2	298.2	246.5		440.9	20.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	32.2	298.2	246.5		440.9	20.9
LOS	C	F	F		F	C
Approach Delay	296.6		246.5			273.6
Approach LOS	F		F			F

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.90
Intersection Signal Delay:	271.5
Intersection LOS:	F
Intersection Capacity Utilization:	128.0%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues

1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	8	1314	1502	1315	871
v/c Ratio	0.02	1.60	1.45	1.90	0.46
Control Delay	32.2	298.2	246.5	440.9	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	298.2	246.5	440.9	20.9
Queue Length 50th (ft)	5	~1554	~1057	~1012	259
Queue Length 95th (ft)	10	#1824	#1199	#1065	289
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	505	822	1034	693	1878
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	1.60	1.45	1.90	0.46

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶↷	↶↷		↷↶	↷↷
Traffic Volume (veh/h)	4	1222	1456	13	1118	740
Future Volume (veh/h)	4	1222	1456	13	1118	740
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1841	1781	1796	1885	1796
Adj Flow Rate, veh/h	8	0	1486	0	1315	871
Peak Hour Factor	0.50	0.93	0.98	0.81	0.85	0.85
Percent Heavy Veh, %	25	4	8	7	1	7
Cap, veh/h	15		1571		1078	2886
Arrive On Green	0.01	0.00	0.46	0.00	0.31	0.85
Sat Flow, veh/h	1457	1560	3563	0	3483	3503
Grp Volume(v), veh/h	8	0	1486	0	1315	871
Grp Sat Flow(s),veh/h/ln	1457	1560	1692	0	1742	1706
Q Serve(g_s), s	0.5	0.0	40.7	0.0	30.0	5.1
Cycle Q Clear(g_c), s	0.5	0.0	40.7	0.0	30.0	5.1
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	15		1571		1078	2886
V/C Ratio(X)	0.55		0.95		1.22	0.30
Avail Cap(c_a), veh/h	789		1623		1078	2939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	24.8	0.0	33.5	1.6
Incr Delay (d2), s/veh	11.5	0.0	11.5	0.0	107.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	16.3	0.0	27.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.2	0.0	36.3	0.0	141.1	1.6
LnGrp LOS	E		D		F	A
Approach Vol, veh/h	8	A	1486	A		2186
Approach Delay, s/veh	59.2		36.3			85.5
Approach LOS	E		D			F
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.5		8.5	37.0	51.5
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		83.5		52.5	30.0	46.5
Max Q Clear Time (g_c+I1), s		7.1		2.5	32.0	42.7
Green Ext Time (p_c), s		3.6		0.0	0.0	2.3

Intersection Summary

HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	1	2639	1796	3
Future Volume (vph)	2	2	1	2639	1796	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	4893	3502	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	4893	3502	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	537	
Travel Time (s)	17.0			13.2	6.7	
Peak Hour Factor	0.50	0.50	0.25	0.96	0.93	0.38
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	4	4	4	2749	1931	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2749	1939	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.0%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘↗	↑↑↑	↑↑	
Traffic Vol, veh/h	2	2	1	2639	1796	3
Future Vol, veh/h	2	2	1	2639	1796	3
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	25	96	93	38
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	4	4	4	2749	1931	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3043	970	1939	0	-	0
Stage 1	1935	-	-	-	-	-
Stage 2	1108	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	16	257	307	-	-	-
Stage 1	100	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	16	257	307	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	99	-	-	-	-	-
Stage 2	259	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.9	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	307	-	111	-	-
HCM Lane V/C Ratio	0.013	-	0.072	-	-
HCM Control Delay (s)	16.9	-	39.9	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↗		↗	↕↗	
Traffic Volume (vph)	0	0	1	8	0	17	0	2523	6	6	1811	0
Future Volume (vph)	0	0	1	8	0	17	0	2523	6	6	1811	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.912							
Flt Protected					0.983					0.950		
Satd. Flow (prot)	0	1644	0	0	1524	0	1900	3403	0	1357	3471	0
Flt Permitted					0.983					0.950		
Satd. Flow (perm)	0	1644	0	0	1524	0	1900	3403	0	1357	3471	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3204			2702	
Travel Time (s)		27.5			9.8			39.7			33.5	
Peak Hour Factor	0.92	0.92	0.25	0.50	0.92	0.57	0.92	0.91	0.75	0.75	0.91	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	6%	33%	33%	4%	0%
Adj. Flow (vph)	0	0	4	16	0	30	0	2773	8	8	1990	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	46	0	0	2781	0	8	1990	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	84.8%
Analysis Period (min)	15
	ICU Level of Service E

Intersection												
Int Delay, s/veh	82.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	8	0	17	0	2523	6	6	1811	0
Future Vol, veh/h	0	0	1	8	0	17	0	2523	6	6	1811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	25	50	92	57	92	91	75	75	91	92
Heavy Vehicles, %	0	0	0	0	0	18	0	6	33	33	4	0
Mvmt Flow	0	0	4	16	0	30	0	2773	8	8	1990	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3393	4787	995	3788	4783	1391	1990	0	0	2781	0	0
Stage 1	2006	2006	-	2777	2777	-	-	-	-	-	-	-
Stage 2	1387	2781	-	1011	2006	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.76	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.53	-	-
Pot Cap-1 Maneuver	3	1	247	~ 1	1	114	293	-	-	82	-	-
Stage 1	63	105	-	20	42	-	-	-	-	-	-	-
Stage 2	153	42	-	260	105	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	2	1	247	~ 1	1	114	293	-	-	82	-	-
Mov Cap-2 Maneuver	2	1	-	~ 1	1	-	-	-	-	-	-	-
Stage 1	63	95	-	20	42	-	-	-	-	-	-	-
Stage 2	113	42	-	231	95	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	\$ 8725.5	0	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	293	-	-	247	3	82	-
HCM Lane V/C Ratio	-	-	-	0.016	15.275	0.098	-
HCM Control Delay (s)	0	-	-	19.8	\$ 8725.5	53.6	-
HCM Lane LOS	A	-	-	C	F	F	-
HCM 95th %tile Q(veh)	0	-	-	0	7.6	0.3	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕↔		↖	↕↔	
Traffic Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Future Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.954			0.991			0.964	
Flt Protected		0.977			0.989		0.950			0.950		
Satd. Flow (prot)	0	1786	1524	0	1710	0	1626	3297	0	1805	3190	0
Flt Permitted		0.599			0.168		0.226			0.067		
Satd. Flow (perm)	0	1095	1524	0	291	0	387	3297	0	127	3190	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80		21			5			34	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Adj. Flow (vph)	348	377	51	84	167	129	46	1140	75	84	635	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	725	51	0	380	0	46	1215	0	84	836	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	725	51	380	46	1215	84	836
v/c Ratio	1.57	0.07	2.81	0.21	0.93	0.63	0.62
Control Delay	297.2	1.9	858.8	21.9	55.3	44.5	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	297.2	1.9	858.8	21.9	55.3	44.5	35.2
Queue Length 50th (ft)	~1012	0	~513	23	581	42	327
Queue Length 95th (ft)	#1184	0	#593	30	#690	56	327
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	462	689	135	230	1373	137	1347
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.07	2.81	0.20	0.88	0.61	0.62

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	
Traffic Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Future Volume (vph)	282	324	34	42	130	103	27	1072	45	58	495	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1785	1524		1711		1626	3297		1805	3190	
Flt Permitted		0.60	1.00		0.17		0.23	1.00		0.07	1.00	
Satd. Flow (perm)		1095	1524		291		386	3297		128	3190	
Peak-hour factor, PHF	0.81	0.86	0.67	0.50	0.78	0.80	0.59	0.94	0.60	0.69	0.78	0.79
Adj. Flow (vph)	348	377	51	84	167	129	46	1140	75	84	635	201
RTOR Reduction (vph)	0	0	30	0	12	0	0	3	0	0	20	0
Lane Group Flow (vph)	0	725	21	0	368	0	46	1212	0	84	816	0
Heavy Vehicles (%)	6%	2%	6%	11%	0%	7%	11%	8%	16%	0%	11%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		62.1	62.1		62.1		64.9	59.7		67.9	61.2	
Effective Green, g (s)		62.1	62.1		62.1		64.9	59.7		67.9	61.2	
Actuated g/C Ratio		0.42	0.42		0.42		0.44	0.40		0.46	0.41	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		457	637		121		212	1325		134	1314	
v/s Ratio Prot							0.01	c0.37		c0.03	0.26	
v/s Ratio Perm		0.66	0.01		c1.26		0.09			0.26		
v/c Ratio		1.59	0.03		3.04		0.22	0.91		0.63	0.62	
Uniform Delay, d1		43.2	25.5		43.2		25.6	42.0		30.8	34.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		274.2	0.1		939.4		0.2	9.7		6.4	2.2	
Delay (s)		317.4	25.6		982.6		25.8	51.7		37.2	36.7	
Level of Service		F	C		F		C	D		D	D	
Approach Delay (s)		298.2			982.6			50.8			36.8	
Approach LOS		F			F			D			D	

Intersection Summary

HCM 2000 Control Delay	210.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	148.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

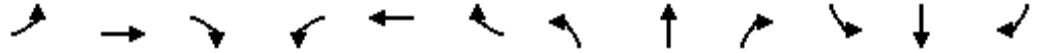
Violet Crown TIA
 04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↑	↘
Traffic Volume (vph)	128	1033	16	126	1154	408	7	297	241	192	111	77
Future Volume (vph)	128	1033	16	126	1154	408	7	297	241	192	111	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			50			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.959				0.850		0.931	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	5077	0	1787	4775	0	0	1826	1599	1770	1736	0
Flt Permitted	0.117			0.108				0.450		0.543		
Satd. Flow (perm)	220	5077	0	203	4775	0	0	823	1599	1011	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			83				148		30	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Heavy Vehicles (%)	1%	2%	0%	1%	5%	2%	0%	4%	1%	2%	1%	3%
Adj. Flow (vph)	160	1099	18	145	1228	469	12	354	294	221	129	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	1117	0	145	1697	0	0	366	294	221	239	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated AM

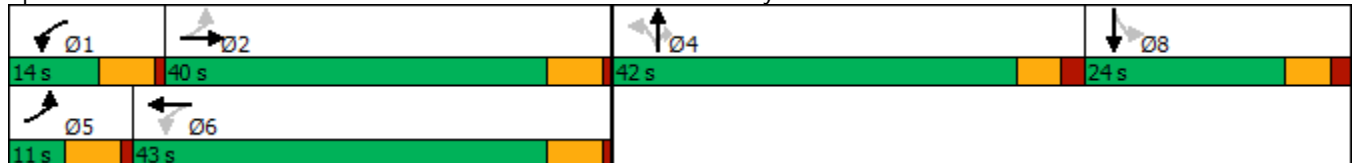


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8			
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0		5.0	30.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0		11.0	36.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	11.0	40.0		14.0	43.0		42.0	42.0	42.0	24.0	24.0	
Total Split (%)	9.2%	33.3%		11.7%	35.8%		35.0%	35.0%	35.0%	20.0%	20.0%	
Maximum Green (s)	5.0	34.0		8.0	37.0		36.0	36.0	36.0	18.0	18.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effect Green (s)	39.1	34.1		44.9	37.0			36.0	36.0	18.0	18.0	
Actuated g/C Ratio	0.33	0.28		0.37	0.31			0.30	0.30	0.15	0.15	
v/c Ratio	1.18	0.77		0.81	1.11			1.49	0.50	1.46	0.84	
Control Delay	161.1	43.8		57.2	96.6			272.1	20.0	278.0	68.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	161.1	43.8		57.2	96.6			272.1	20.0	278.0	68.5	
LOS	F	D		E	F			F	B	F	E	
Approach Delay	58.5			93.5			159.8				169.1	
Approach LOS	E			F			F				F	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 101.5
 Intersection LOS: F
 Intersection Capacity Utilization 85.2%
 ICU Level of Service E
 Analysis Period (min) 15

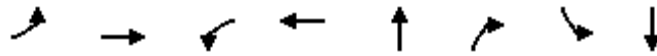
Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



Queues

5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	160	1117	145	1697	366	294	221	239
v/c Ratio	1.18	0.77	0.81	1.11	1.49	0.50	1.46	0.84
Control Delay	161.1	43.8	57.2	96.6	272.1	20.0	278.0	68.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	161.1	43.8	57.2	96.6	272.1	20.0	278.0	68.5
Queue Length 50th (ft)	~96	290	72	~534	~391	89	~234	160
Queue Length 95th (ft)	#189	346	#157	#632	#530	146	#376	#273
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		500			175	270	
Base Capacity (vph)	136	1442	181	1529	246	583	151	285
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.77	0.80	1.11	1.49	0.50	1.46	0.84

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↑	↘
Traffic Volume (veh/h)	128	1033	16	126	1154	408	7	297	241	192	111	77
Future Volume (veh/h)	128	1033	16	126	1154	408	7	297	241	192	111	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1885	1826	1870	1900	1841	1885	1870	1885	1856
Adj Flow Rate, veh/h	160	1099	18	145	1228	469	12	354	294	221	129	110
Peak Hour Factor	0.80	0.94	0.88	0.87	0.94	0.87	0.58	0.84	0.82	0.87	0.86	0.70
Percent Heavy Veh, %	1	2	0	1	5	2	0	4	1	2	1	3
Cap, veh/h	263	2314	38	368	1586	604	56	438	388	140	228	195
Arrive On Green	0.07	0.45	0.45	0.07	0.45	0.45	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1795	5174	85	1795	3553	1353	23	1803	1598	783	940	801
Grp Volume(v), veh/h	160	723	394	145	1148	549	366	0	294	221	0	239
Grp Sat Flow(s),veh/h/ln	1795	1702	1855	1795	1662	1582	1826	0	1598	783	0	1741
Q Serve(g_s), s	3.5	11.0	11.0	3.2	21.6	21.8	3.0	0.0	12.6	4.0	0.0	8.9
Cycle Q Clear(g_c), s	3.5	11.0	11.0	3.2	21.6	21.8	14.0	0.0	12.6	18.0	0.0	8.9
Prop In Lane	1.00		0.05	1.00		0.85	0.03		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	263	1522	830	368	1483	706	494	0	388	140	0	423
V/C Ratio(X)	0.61	0.47	0.48	0.39	0.77	0.78	0.74	0.00	0.76	1.58	0.00	0.56
Avail Cap(c_a), veh/h	263	1563	852	443	1661	791	932	0	777	140	0	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	14.4	14.4	10.7	17.3	17.4	26.5	0.0	26.0	36.4	0.0	24.6
Incr Delay (d2), s/veh	2.9	0.2	0.4	0.3	2.1	4.4	0.8	0.0	1.1	293.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.4	3.8	1.1	7.9	8.0	5.9	0.0	4.6	13.8	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	14.6	14.8	10.9	19.4	21.8	27.3	0.0	27.1	329.6	0.0	25.7
LnGrp LOS	B	B	B	B	B	C	C	A	C	F	A	C
Approach Vol, veh/h		1277			1842			660				460
Approach Delay, s/veh		15.1			19.5			27.2				171.7
Approach LOS		B			B			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	39.1		24.0	11.0	39.0		24.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	34.0		36.0	5.0	37.0		18.0				
Max Q Clear Time (g_c+I1), s	5.2	13.0		16.0	5.5	23.8		20.0				
Green Ext Time (p_c), s	0.0	6.5		1.9	0.0	9.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
6: SH71 & DWY1

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2678	1858	0
Future Volume (vph)	0	0	0	2678	1858	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	4848	4988	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	4848	4988	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	706			430	1025	
Travel Time (s)	16.0			5.3	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	0	0	0	2761	2042	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2761	2042	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.1%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T T T T T T			
Traffic Vol, veh/h	0	0	0	2678	1858	0
Future Vol, veh/h	0	0	0	2678	1858	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	97	91	92
Heavy Vehicles, %	2	2	2	7	4	2
Mvmt Flow	0	0	0	2761	2042	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3146	1021	2042	0	-	0
Stage 1	2042	-	-	-	-	-
Stage 2	1104	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	22	201	119	-	-	-
Stage 1	53	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	22	201	119	-	-	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	53	-	-	-	-	-
Stage 2	251	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	119	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	102	102	107	2570	1755	86
Future Volume (vph)	102	102	107	2570	1755	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			420
Storage Lanes	1	1	1			1
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	4848	4988	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	4848	4988	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		111				93
Link Speed (mph)	30			55	55	
Link Distance (ft)	1019			440	566	
Travel Time (s)	23.2			5.5	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	111	111	116	2649	1929	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	111	116	2649	1929	93
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	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	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	

Lanes, Volumes, Timings
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	16.8	107.5	90.7	90.7
Total Split (%)	17.3%	17.3%	12.9%	82.7%	69.8%	69.8%
Maximum Green (s)	18.0	18.0	12.3	103.0	86.2	86.2
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	11.5	11.5	10.9	68.9	53.2	53.2
Actuated g/C Ratio	0.13	0.13	0.12	0.77	0.59	0.59
v/c Ratio	0.49	0.37	0.54	0.71	0.65	0.10
Control Delay	49.4	12.8	53.3	6.7	13.2	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	12.8	53.3	6.7	13.2	1.9
LOS	D	B	D	A	B	A
Approach Delay	31.1			8.7	12.7	
Approach LOS	C			A	B	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	90
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	11.3
Intersection LOS:	B
Intersection Capacity Utilization:	62.8%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 7: SH71 & DWY2



Queues
7: SH71 & DWY2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	111	111	116	2649	1929	93
v/c Ratio	0.49	0.37	0.54	0.71	0.65	0.10
Control Delay	49.4	12.8	53.3	6.7	13.2	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	12.8	53.3	6.7	13.2	1.9
Queue Length 50th (ft)	57	0	59	208	242	0
Queue Length 95th (ft)	146	54	#177	351	343	18
Internal Link Dist (ft)	939			360	486	
Turn Bay Length (ft)			440			420
Base Capacity (vph)	377	424	257	4663	4518	1442
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.45	0.57	0.43	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	102	107	2570	1755	86
Future Volume (veh/h)	102	102	107	2570	1755	86
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1796	1841	1870
Adj Flow Rate, veh/h	111	111	116	2649	1929	93
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Percent Heavy Veh, %	2	2	2	7	4	2
Cap, veh/h	171	152	147	3924	3345	1055
Arrive On Green	0.10	0.10	0.08	0.80	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	5065	5191	1585
Grp Volume(v), veh/h	111	111	116	2649	1929	93
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1635	1675	1585
Q Serve(g_s), s	5.2	5.9	5.5	20.3	18.1	1.8
Cycle Q Clear(g_c), s	5.2	5.9	5.5	20.3	18.1	1.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	171	152	147	3924	3345	1055
V/C Ratio(X)	0.65	0.73	0.79	0.68	0.58	0.09
Avail Cap(c_a), veh/h	370	329	253	5824	4995	1576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	38.1	39.0	3.8	7.9	5.1
Incr Delay (d2), s/veh	4.1	6.6	9.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.3	2.6	1.6	4.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.9	44.7	48.0	4.0	8.0	5.2
LnGrp LOS	D	D	D	A	A	A
Approach Vol, veh/h				2765	2022	
Approach Delay, s/veh	43.3			5.8	7.9	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		73.9		12.8	11.7	62.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		103.0		18.0	12.3	86.2
Max Q Clear Time (g_c+l1), s		22.3		7.9	7.5	20.1
Green Ext Time (p_c), s		47.0		0.5	0.1	23.4
Intersection Summary						
HCM 6th Ctrl Delay			8.3			
HCM 6th LOS			A			

Lanes, Volumes, Timings
8: SH71 & DWY3

Violet Crown TIA
04 2024 Build-Out Mitigated AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2673	1841	21
Future Volume (vph)	0	0	0	2673	1841	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt					0.998	
Flt Protected						
Satd. Flow (prot)	1863	0	1863	4848	4979	0
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	4848	4979	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	333			566	1065	
Travel Time (s)	7.6			7.0	13.2	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.91	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	4%	2%
Adj. Flow (vph)	0	0	0	2756	2023	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2756	2046	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.0%			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	0	0	2673	1841	21
Future Vol, veh/h	0	0	0	2673	1841	21
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	97	91	92
Heavy Vehicles, %	2	2	2	7	4	2
Mvmt Flow	0	0	0	2756	2023	23












Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3137	1023	2046	0	-	0
Stage 1	2035	-	-	-	-	-
Stage 2	1102	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	22	200	118	-	-	-
Stage 1	54	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	22	200	118	-	-	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	54	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	118	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated PM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	1165	728	7	1266	1510
Future Volume (vph)	29	1165	728	7	1266	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Frnt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1599	3496	0	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1599	3496	0	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		445	1			
Link Speed (mph)	55		55			55
Link Distance (ft)	3287		1155			430
Travel Time (s)	40.7		14.3			5.3
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Heavy Vehicles (%)	3%	1%	3%	0%	5%	5%
Adj. Flow (vph)	39	1280	837	16	1361	1624
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	1280	853	0	1361	1624
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	32		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		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	Prot	Perm	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4				
Detector Phase	4	4	6		5	2
Switch Phase						

Lanes, Volumes, Timings
1: SH71 & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated PM

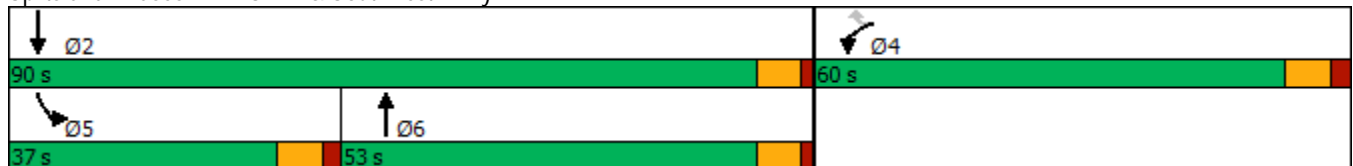


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	34.5	34.5	33.5		12.0	22.5
Total Split (s)	60.0	60.0	53.0		37.0	90.0
Total Split (%)	40.0%	40.0%	35.3%		24.7%	60.0%
Maximum Green (s)	52.5	52.5	46.5		30.0	83.5
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.5	2.5	1.5		2.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.5	7.5	6.5		7.0	6.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		1.5	2.0
Recall Mode	None	None	None		None	None
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	20.0	20.0	20.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effect Green (s)	52.6	52.6	38.8		30.0	75.9
Actuated g/C Ratio	0.37	0.37	0.27		0.21	0.53
v/c Ratio	0.06	1.47	0.90		1.94	0.89
Control Delay	31.4	241.3	62.4		456.4	36.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.4	241.3	62.4		456.4	36.6
LOS	C	F	E		F	D
Approach Delay	235.1		62.4			228.0
Approach LOS	F		E			F

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	142.5
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.94
Intersection Signal Delay:	202.4
Intersection LOS:	F
Intersection Capacity Utilization	104.1%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 1: SH71 & Southwest Pkwy



Queues
1: SH71 & Southwest Pkwy



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	39	1280	853	1361	1624
v/c Ratio	0.06	1.47	0.90	1.94	0.89
Control Delay	31.4	241.3	62.4	456.4	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	241.3	62.4	456.4	36.6
Queue Length 50th (ft)	23	~1366	401	~1007	680
Queue Length 95th (ft)	44	#1715	462	#1211	792
Internal Link Dist (ft)	3207		1075		350
Turn Bay Length (ft)					
Base Capacity (vph)	646	870	1143	703	2017
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	1.47	0.75	1.94	0.81

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 1: SH71 & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	1165	728	7	1266	1510
Future Volume (veh/h)	29	1165	728	7	1266	1510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1885	1856	1900	1826	1826
Adj Flow Rate, veh/h	39	0	837	0	1361	1624
Peak Hour Factor	0.75	0.91	0.87	0.44	0.93	0.93
Percent Heavy Veh, %	3	1	3	0	5	5
Cap, veh/h	65		1024		1335	2701
Arrive On Green	0.04	0.00	0.29	0.00	0.40	0.78
Sat Flow, veh/h	1767	1598	3711	0	3374	3561
Grp Volume(v), veh/h	39	0	837	0	1361	1624
Grp Sat Flow(s),veh/h/ln	1767	1598	1763	0	1687	1735
Q Serve(g_s), s	1.6	0.0	16.7	0.0	30.0	14.8
Cycle Q Clear(g_c), s	1.6	0.0	16.7	0.0	30.0	14.8
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	65		1024		1335	2701
V/C Ratio(X)	0.60		0.82		1.02	0.60
Avail Cap(c_a), veh/h	1223		2162		1335	3820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	25.0	0.0	22.9	3.5
Incr Delay (d2), s/veh	3.2	0.0	0.6	0.0	29.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	6.1	0.0	15.2	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.2	0.0	25.7	0.0	52.7	3.6
LnGrp LOS	D		C		F	A
Approach Vol, veh/h	39	A	837	A		2985
Approach Delay, s/veh	39.2		25.7			26.0
Approach LOS	D		C			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.5		10.3	37.0	28.5
Change Period (Y+Rc), s		6.5		7.5	7.0	6.5
Max Green Setting (Gmax), s		83.5		52.5	30.0	46.5
Max Q Clear Time (g_c+I1), s		16.8		3.6	32.0	18.7
Green Ext Time (p_c), s		9.3		0.0	0.0	3.3

Intersection Summary

HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SH71/SH 71 & Arroyo Canyon

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	3	3	1951	2688	6
Future Volume (vph)	4	3	3	1951	2688	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.95
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1728	0	1805	5085	3468	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1728	0	1805	5085	3468	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	750			1065	537	
Travel Time (s)	17.0			13.2	6.7	
Peak Hour Factor	1.00	0.75	0.75	0.93	0.92	0.38
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%
Adj. Flow (vph)	4	4	4	2098	2922	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	4	2098	2938	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	84.5%			ICU Level of Service E		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	3	3	1951	2688	6
Future Vol, veh/h	4	3	3	1951	2688	6
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	75	75	93	92	38
Heavy Vehicles, %	0	0	0	2	4	0
Mvmt Flow	4	4	4	2098	2922	16





















Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3777	1469	2938	0	-	0
Stage 1	2930	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	5	119	124	-	-	-
Stage 1	28	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	5	119	124	-	-	-
Mov Cap-2 Maneuver	23	-	-	-	-	-
Stage 1	27	-	-	-	-	-
Stage 2	358	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	119.7	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	124	-	39	-	-
HCM Lane V/C Ratio	0.032	-	0.205	-	-
HCM Control Delay (s)	35	-	119.7	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Lanes, Volumes, Timings
3: SH 71 & Spearfish Canyon/Preserve Way

Violet Crown TIA
04 2024 Build-Out Mitigated PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	6	0	11	0	1927	4	13	2724	0
Future Volume (vph)	0	0	0	6	0	11	0	1927	4	13	2724	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.942			0.999				
Flt Protected					0.972					0.950		
Satd. Flow (prot)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Flt Permitted					0.972					0.950		
Satd. Flow (perm)	0	1900	0	0	1615	0	1900	3502	0	1570	3438	0
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1210			431			3204			2702	
Travel Time (s)		27.5			9.8			39.7			33.5	
Peak Hour Factor	0.92	0.92	0.92	0.38	0.92	0.92	0.92	0.91	0.50	0.81	0.93	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	3%	0%	15%	5%	0%
Adj. Flow (vph)	0	0	0	16	0	12	0	2118	8	16	2929	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	28	0	0	2126	0	16	2929	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
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 (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	85.3%						ICU Level of Service E					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	32.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	6	0	11	0	1927	4	13	2724	0
Future Vol, veh/h	0	0	0	6	0	11	0	1927	4	13	2724	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	38	92	92	92	91	50	81	93	92
Heavy Vehicles, %	0	0	0	0	0	18	0	3	0	15	5	0
Mvmt Flow	0	0	0	16	0	12	0	2118	8	16	2929	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	4020	5087	1465	3619	5083	1063	2929	0	0	2126	0	0
Stage 1	2961	2961	-	2122	2122	-	-	-	-	-	-	-
Stage 2	1059	2126	-	1497	2961	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.26	4.1	-	-	4.4	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.48	2.2	-	-	2.35	-	-
Pot Cap-1 Maneuver	1	1	120	~ 2	1	194	125	-	-	211	-	-
Stage 1	15	33	-	53	92	-	-	-	-	-	-	-
Stage 2	243	91	-	131	33	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	1	1	120	~ 2	1	194	125	-	-	211	-	-
Mov Cap-2 Maneuver	1	1	-	~ 2	1	-	-	-	-	-	-	-
Stage 1	15	30	-	53	92	-	-	-	-	-	-	-
Stage 2	228	91	-	121	30	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 5965.9	0	0.1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	125	-	-	-	3	211	-
HCM Lane V/C Ratio	-	-	-	-	9.249	0.076	-
HCM Control Delay (s)	0	-	-	\$ 5965.9	23.5	-	-
HCM Lane LOS	A	-	-	A	F	C	-
HCM 95th %tile Q(veh)	0	-	-	-	5.1	0.2	-

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

Lanes, Volumes, Timings
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕↔		↖	↕↔	
Traffic Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Future Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	160		0	250		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	115			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.973			0.981			0.967	
Flt Protected		0.970			0.987		0.950			0.950		
Satd. Flow (prot)	0	1802	1583	0	1758	0	1687	3451	0	1752	3300	0
Flt Permitted		0.445			0.501		0.066			0.308		
Satd. Flow (perm)	0	827	1583	0	892	0	117	3451	0	568	3300	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80		10			12			30	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		1951			1382			3259			2988	
Travel Time (s)		38.0			23.6			40.4			37.0	
Peak Hour Factor	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Adj. Flow (vph)	256	153	55	161	322	118	68	530	76	153	1178	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	55	0	601	0	68	606	0	153	1508	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	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lanes, Volumes, Timings
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Permitted Phases	8		8		4		6		2				
Detector Phase	8	8	8	4	4		1	6		5	2		
Switch Phase													
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	15.0		5.0	15.0		
Minimum Split (s)	28.0	28.0	28.0	22.5	22.5		12.0	22.5		12.0	24.0		
Total Split (s)	65.0	65.0	65.0	65.0	65.0		12.0	66.0		19.0	73.0		
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%		8.0%	44.0%		12.7%	48.7%		
Maximum Green (s)	59.0	59.0	59.0	59.0	59.0		5.0	59.0		12.0	66.0		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0		
Total Lost Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0		
Lead/Lag							Lead	Lag	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes	Yes		Yes		
Vehicle Extension (s)	4.0	4.0	4.0	2.0	2.0		2.0	2.0		2.0	2.0		
Recall Mode	Max	Max	Max	None	None		None	None		None	Max		
Walk Time (s)	7.0	7.0	7.0								7.0		
Flash Dont Walk (s)	15.0	15.0	15.0								10.0		
Pedestrian Calls (#/hr)	0	0	0								0		
Act Effct Green (s)		59.0	59.0		59.0		65.4	60.4		76.6	66.0		
Actuated g/C Ratio		0.39	0.39		0.39		0.44	0.40		0.51	0.44		
v/c Ratio		1.26	0.08		1.69		0.66	0.43		0.41	1.03		
Control Delay		177.2	2.5		351.6		52.4	33.1		22.5	70.9		
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0		
Total Delay		177.2	2.5		351.6		52.4	33.1		22.5	70.9		
LOS		F	A		F		D	C		C	E		
Approach Delay		156.5			351.6			35.1			66.5		
Approach LOS		F			F			D			E		

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.69
 Intersection Signal Delay: 122.9
 Intersection LOS: F
 Intersection Capacity Utilization 110.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Queues
4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	409	55	601	68	606	153	1508
v/c Ratio	1.26	0.08	1.69	0.66	0.43	0.41	1.03
Control Delay	177.2	2.5	351.6	52.4	33.1	22.5	70.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	177.2	2.5	351.6	52.4	33.1	22.5	70.9
Queue Length 50th (ft)	~500	0	~858	33	221	77	~817
Queue Length 95th (ft)	#715	0	#1067	43	255	120	#958
Internal Link Dist (ft)	1871		1302		3179		2908
Turn Bay Length (ft)				160		250	
Base Capacity (vph)	325	671	356	103	1397	390	1468
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.26	0.08	1.69	0.66	0.43	0.39	1.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: SH 71 & Thomas Springs Rd/Old Bee Caves Rd

Violet Crown TIA
 04 2024 Build-Out Mitigated PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕↗		↖	↕↗	
Traffic Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Future Volume (vph)	192	148	37	95	283	93	45	445	52	139	1096	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.97		1.00	0.98		1.00	0.97	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1802	1583		1758		1687	3451		1752	3301	
Flt Permitted		0.44	1.00		0.50		0.07	1.00		0.31	1.00	
Satd. Flow (perm)		827	1583		892		118	3451		568	3301	
Peak-hour factor, PHF	0.75	0.97	0.67	0.59	0.88	0.79	0.66	0.84	0.68	0.91	0.93	0.93
Adj. Flow (vph)	256	153	55	161	322	118	68	530	76	153	1178	330
RTOR Reduction (vph)	0	0	33	0	6	0	0	7	0	0	17	0
Lane Group Flow (vph)	0	409	22	0	595	0	68	599	0	153	1491	0
Heavy Vehicles (%)	3%	1%	2%	6%	3%	3%	7%	2%	7%	3%	6%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		59.0	59.0		59.0		65.4	60.4		76.6	66.0	
Effective Green, g (s)		59.0	59.0		59.0		65.4	60.4		76.6	66.0	
Actuated g/C Ratio		0.39	0.39		0.39		0.44	0.40		0.51	0.44	
Clearance Time (s)		6.0	6.0		6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		4.0	4.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		325	622		350		103	1389		373	1452	
v/s Ratio Prot							0.02	0.17		c0.03	c0.45	
v/s Ratio Perm		0.49	0.01		c0.67		0.26			0.18		
v/c Ratio		1.26	0.03		1.70		0.66	0.43		0.41	1.03	
Uniform Delay, d1		45.5	28.0		45.5		35.1	32.4		21.0	42.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		138.9	0.1		326.9		11.6	0.1		0.3	30.8	
Delay (s)		184.4	28.1		372.4		46.7	32.5		21.3	72.8	
Level of Service		F	C		F		D	C		C	E	
Approach Delay (s)		165.9			372.4			33.9			68.0	
Approach LOS		F			F			C			E	

Intersection Summary		
HCM 2000 Control Delay	128.4	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	1.32	
Actuated Cycle Length (s)	150.0	Sum of lost time (s) 20.0
Intersection Capacity Utilization	110.2%	ICU Level of Service H
Analysis Period (min)	15	
c Critical Lane Group		

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1207	39	240	1121	155	7	107	162	294	276	74
Future Volume (vph)	50	1207	39	240	1121	155	7	107	162	294	276	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		0	0		175	270		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	200			50			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.981				0.850		0.962	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1805	4927	0	1787	4989	0	0	1890	1583	1752	1796	0
Flt Permitted	0.108			0.095				0.265		0.659		
Satd. Flow (perm)	205	4927	0	179	4989	0	0	504	1583	1216	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			27				136		12	
Link Speed (mph)		55			30			30			35	
Link Distance (ft)		2568			2763			1203			1433	
Travel Time (s)		31.8			62.8			27.3			27.9	
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Heavy Vehicles (%)	0%	5%	0%	1%	2%	2%	0%	0%	2%	3%	2%	1%
Adj. Flow (vph)	64	1312	39	286	1180	168	16	139	178	323	297	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	1351	0	286	1348	0	0	155	178	323	398	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	Left	Right
Median Width(ft)		12			24			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
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 (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		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
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
Detector 1 Queue (s)	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		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases	5	2		1	6			4				8

Lanes, Volumes, Timings
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated PM

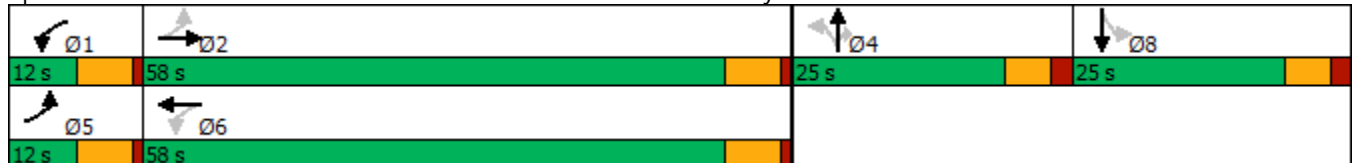


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		6		4		4		8			
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0		5.0	30.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	36.0		11.0	36.0		14.0	14.0	14.0	14.0	14.0	
Total Split (s)	12.0	58.0		12.0	58.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	10.0%	48.3%		10.0%	48.3%		20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	6.0	52.0		6.0	52.0		19.0	19.0	19.0	19.0	19.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											33.0	33.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	45.6	39.9		47.4	42.7		19.1	19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.42	0.37		0.44	0.39		0.18	0.18	0.18	0.18	0.18	
v/c Ratio	0.38	0.74		1.70	0.68		1.76	0.46	1.51	1.22		
Control Delay	21.2	32.0		363.1	28.8		412.4	16.7	285.6	161.7		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.2	32.0		363.1	28.8		412.4	16.7	285.6	161.7		
LOS	C	C		F	C		F	B	F	F		
Approach Delay	31.6			87.3			200.9				217.2	
Approach LOS	C			F			F				F	

Intersection Summary

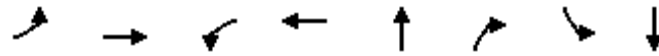
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 108.3
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 100.1 Intersection LOS: F
 Intersection Capacity Utilization 76.3% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy



Queues
5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	64	1351	286	1348	155	178	323	398
v/c Ratio	0.38	0.74	1.70	0.68	1.76	0.46	1.51	1.22
Control Delay	21.2	32.0	363.1	28.8	412.4	16.7	285.6	161.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	32.0	363.1	28.8	412.4	16.7	285.6	161.7
Queue Length 50th (ft)	23	292	~247	284	~160	25	~312	~334
Queue Length 95th (ft)	39	343	#400	335	#268	98	#549	#599
Internal Link Dist (ft)		2488		2683	1123			1353
Turn Bay Length (ft)	200		500			175	270	
Base Capacity (vph)	176	2380	168	2422	88	391	214	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.57	1.70	0.56	1.76	0.46	1.51	1.22

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 5: Travis Cook Rd/Barton Creek Blvd & Southwest Pkwy

Violet Crown TIA
 04 2024 Build-Out Mitigated PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗	↗	↑	↗
Traffic Volume (veh/h)	50	1207	39	240	1121	155	7	107	162	294	276	74
Future Volume (veh/h)	50	1207	39	240	1121	155	7	107	162	294	276	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1885	1870	1870	1900	1900	1870	1856	1870	1885
Adj Flow Rate, veh/h	64	1312	39	286	1180	168	16	139	178	323	297	101
Peak Hour Factor	0.78	0.92	1.00	0.84	0.95	0.92	0.44	0.77	0.91	0.91	0.93	0.73
Percent Heavy Veh, %	0	5	0	1	2	2	0	0	2	3	2	1
Cap, veh/h	290	2044	61	328	2002	285	63	357	413	143	347	118
Arrive On Green	0.05	0.41	0.41	0.08	0.44	0.44	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	4975	148	1795	4516	643	33	1373	1585	1054	1335	454
Grp Volume(v), veh/h	64	876	475	286	889	459	155	0	178	323	0	398
Grp Sat Flow(s),veh/h/ln	1810	1662	1799	1795	1702	1755	1406	0	1585	1054	0	1789
Q Serve(g_s), s	1.4	15.4	15.4	6.0	14.4	14.4	0.5	0.0	6.8	3.1	0.0	15.5
Cycle Q Clear(g_c), s	1.4	15.4	15.4	6.0	14.4	14.4	15.9	0.0	6.8	19.0	0.0	15.5
Prop In Lane	1.00		0.08	1.00		0.37	0.10		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	290	1366	739	328	1509	778	420	0	413	143	0	466
V/C Ratio(X)	0.22	0.64	0.64	0.87	0.59	0.59	0.37	0.00	0.43	2.25	0.00	0.85
Avail Cap(c_a), veh/h	349	2367	1282	328	2425	1250	420	0	413	143	0	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	17.2	17.2	17.4	15.3	15.3	21.9	0.0	22.5	36.0	0.0	25.7
Incr Delay (d2), s/veh	0.1	0.5	0.9	21.2	0.4	0.7	0.2	0.0	0.3	586.2	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.8	5.3	4.4	5.1	5.4	2.1	0.0	2.4	25.8	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	17.7	18.1	38.6	15.7	16.0	22.1	0.0	22.8	622.2	0.0	39.5
LnGrp LOS	B	B	B	D	B	B	C	A	C	F	A	D
Approach Vol, veh/h		1415			1634			333				721
Approach Delay, s/veh		17.6			19.8			22.5				300.5
Approach LOS		B			B			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	36.0		25.0	9.6	38.4		25.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	52.0		19.0	6.0	52.0		19.0				
Max Q Clear Time (g_c+I1), s	8.0	17.4		17.9	3.4	16.4		21.0				
Green Ext Time (p_c), s	0.0	9.7		0.1	0.0	12.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings
6: SH71 & DWY1

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1894	2777	0
Future Volume (vph)	0	0	0	1894	2777	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	5085	4940	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	5085	4940	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	706			430	1025	
Travel Time (s)	16.0			5.3	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	0	0	0	2104	2923	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2104	2923	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.0%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T T T T T T			
Traffic Vol, veh/h	0	0	0	1894	2777	0
Future Vol, veh/h	0	0	0	1894	2777	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	90	95	92
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	0	0	0	2104	2923	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3765	1462	2923	0	-	0
Stage 1	2923	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	9	101	42	-	-	-
Stage 1	14	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	9	101	42	-	-	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	14	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	42	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lanes, Volumes, Timings
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	172	172	152	1705	2577	122
Future Volume (vph)	172	172	152	1705	2577	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			420
Storage Lanes	1	1	1			1
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	5085	4940	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	5085	4940	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		187				133
Link Speed (mph)	30			55	55	
Link Distance (ft)	1019			440	566	
Travel Time (s)	23.2			5.5	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	187	187	165	1894	2713	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	187	165	1894	2713	133
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	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
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	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	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	

Lanes, Volumes, Timings
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	17.0	67.5	50.5	50.5
Total Split (%)	25.0%	25.0%	18.9%	75.0%	56.1%	56.1%
Maximum Green (s)	18.0	18.0	12.5	63.0	46.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	13.7	13.7	11.3	62.0	46.2	46.2
Actuated g/C Ratio	0.16	0.16	0.13	0.73	0.54	0.54
v/c Ratio	0.65	0.45	0.70	0.51	1.01	0.14
Control Delay	44.6	8.8	52.6	5.8	40.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	8.8	52.6	5.8	40.9	2.6
LOS	D	A	D	A	D	A
Approach Delay	26.7			9.5	39.1	
Approach LOS	C			A	D	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	84.8
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	26.7
Intersection LOS:	C
Intersection Capacity Utilization	79.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 7: SH71 & DWY2





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	187	187	165	1894	2713	133
v/c Ratio	0.65	0.45	0.70	0.51	1.01	0.14
Control Delay	44.6	8.8	52.6	5.8	40.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	8.8	52.6	5.8	40.9	2.6
Queue Length 50th (ft)	96	0	86	133	-584	0
Queue Length 95th (ft)	163	54	#175	193	#730	27
Internal Link Dist (ft)	939			360	486	
Turn Bay Length (ft)			440			420
Base Capacity (vph)	377	484	261	3791	2689	922
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.39	0.63	0.50	1.01	0.14

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: SH71 & DWY2

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↑↑↑	↓↓↓	↷
Traffic Volume (veh/h)	172	172	152	1705	2577	122
Future Volume (veh/h)	172	172	152	1705	2577	122
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	187	187	165	1894	2713	133
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	5	2
Cap, veh/h	263	234	203	3781	2845	905
Arrive On Green	0.15	0.15	0.11	0.74	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5149	1585
Grp Volume(v), veh/h	187	187	165	1894	2713	133
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1662	1585
Q Serve(g_s), s	8.0	9.2	7.3	12.3	41.2	3.2
Cycle Q Clear(g_c), s	8.0	9.2	7.3	12.3	41.2	3.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	263	234	203	3781	2845	905
V/C Ratio(X)	0.71	0.80	0.81	0.50	0.95	0.15
Avail Cap(c_a), veh/h	399	355	277	4000	2851	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	33.1	34.8	4.3	16.3	8.1
Incr Delay (d2), s/veh	3.5	7.3	12.4	0.1	8.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.5	3.6	1.8	13.4	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.2	40.4	47.2	4.4	24.8	8.2
LnGrp LOS	D	D	D	A	C	A
Approach Vol, veh/h	374			2059	2846	
Approach Delay, s/veh	38.3			7.8	24.0	
Approach LOS	D			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		64.0		16.4	13.7	50.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	12.5	46.0
Max Q Clear Time (g_c+l1), s		14.3		11.2	9.3	43.2
Green Ext Time (p_c), s		19.8		0.7	0.1	2.7
Intersection Summary						
HCM 6th Ctrl Delay			18.7			
HCM 6th LOS			B			

Lanes, Volumes, Timings
8: SH71 & DWY3

Violet Crown TIA
04 2024 Build-Out Mitigated PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1911	2729	30
Future Volume (vph)	0	0	0	1911	2729	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt					0.998	
Flt Protected						
Satd. Flow (prot)	1863	0	1863	5085	4932	0
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	5085	4932	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	333			566	1065	
Travel Time (s)	7.6			7.0	13.2	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	5%	2%
Adj. Flow (vph)	0	0	0	2123	2873	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2123	2906	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	56.7%			ICU Level of Service B		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	0	0	1911	2729	30
Future Vol, veh/h	0	0	0	1911	2729	30
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	90	95	92
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	0	0	0	2123	2873	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	3739	1453	2906	0	-	0
Stage 1	2890	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Critical Hdwy	5.74	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	10	102	42	-	-	-
Stage 1	15	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	10	102	42	-	-	-
Mov Cap-2 Maneuver	14	-	-	-	-	-
Stage 1	15	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	42	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Appendix H: Turn Lane Analysis

APPENDIX H: DRIVEWAY 2 TURN LANE ANALYSIS

LEFT TURN EVALUATION

Intersection:	SH 71 & Driveway 2
Speed Limit:	55 mph
Graph Used:	60 mph

	Phase 1	
	AM Peak	PM Peak
Opposing Volume	1,756	2,642
Advancing Volume	2,679	1,895
Left-Turn Volume	108	119
% Left-Turns	4%	6%
% LT Line Referenced	5%	10%
LT Lane Required	Yes	Yes

Opposing Volume (vph)	Advancing Volume (vph)			
	5% LT	10% LT	20% LT	30% LT
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Based on 60 MPH Criteria from TxDOT DGM 04-18 Table 3-11 (Below)

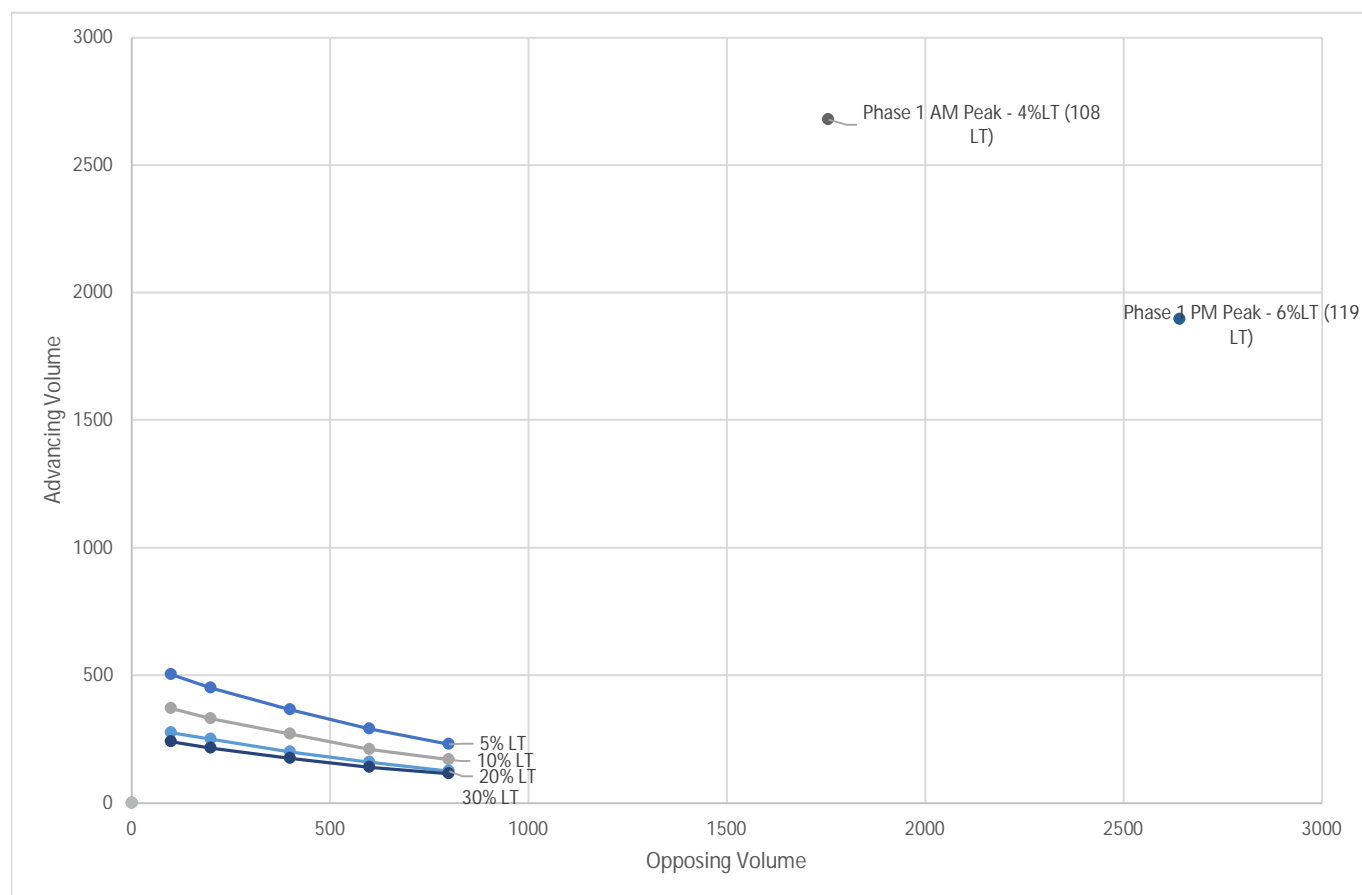


Table 3-11: Guide for Left-Turn Lanes on Two-Lane Highways

Opposing Volume (vph)	Advancing Volume (vph)			
	5 % Left Turns	10 % Left Turns	20 % Left Turns	30 % Left Turns
40 mph [60 km/h] Design Speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50 mph [80 km/h] Design Speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60 mph [100 km/h] Design Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

RIGHT TURN EVALUATION

Intersection:	SH 71 & Driveway 2
Speed Limit:	55 mph

	Phase 1	
	AM Peak	PM Peak
Right-Turn Volume	86	95
RT Volume Threshold	60	60
RT Lane Required	Yes	Yes

APPENDIX H: DRIVEWAY 3 TURN LANE ANALYSIS

LEFT TURN EVALUATION

Intersection: SH 71 & Driveway 3
 Speed Limit: 55 mph
 Graph Used: 60 mph

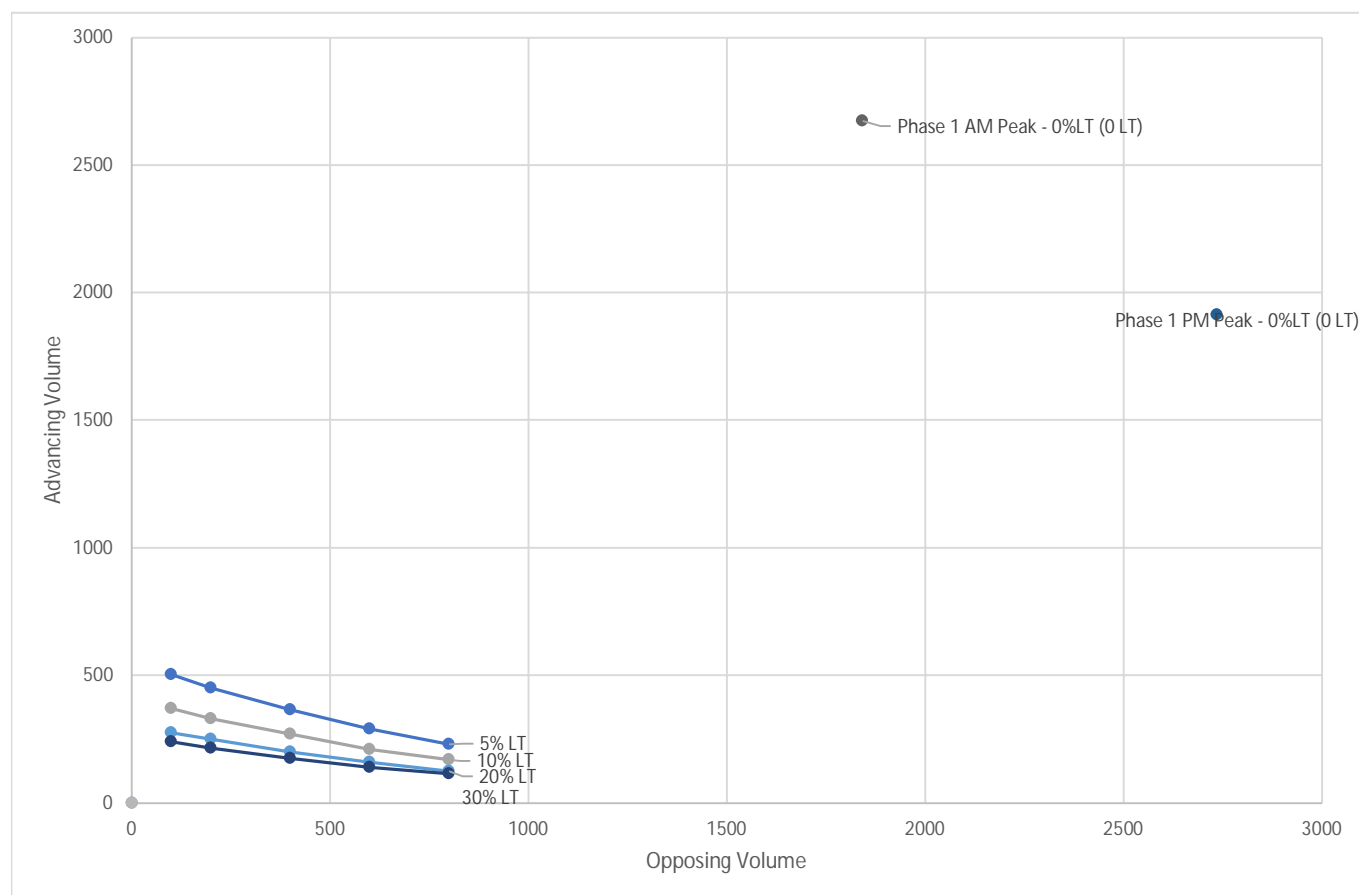
	Phase 1	
	AM Peak	PM Peak
Opposing Volume	1,842	2,736
Advancing Volume	2,673	1,912
Left-Turn Volume	0	0
% Left-Turns	0%	0%
% LT Line Referenced	5%	5%
LT Lane Required	No	No

Opposing Volume (vph)	Advancing Volume (vph)			
	5% LT	10% LT	20% LT	30% LT
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Based on 60 MPH Criteria from TxDOT DGM 04-18 Table 3-11 (Below)

Table 3-11: Guide for Left-Turn Lanes on Two-Lane Highways

Opposing Volume (vph)	Advancing Volume (vph)			
	5 % Left Turns	10 % Left Turns	20 % Left Turns	30 % Left Turns
40 mph [60 km/h] Design Speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50 mph [80 km/h] Design Speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60 mph [100 km/h] Design Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240



RIGHT TURN EVALUATION

Intersection: SH 71 & Driveway 3
 Speed Limit: 55 mph

	Phase 1	
	AM Peak	PM Peak
Right-Turn Volume	22	24
RT Volume Threshold	60	60
RT Lane Required	No	No

Appendix I: Sight Distance

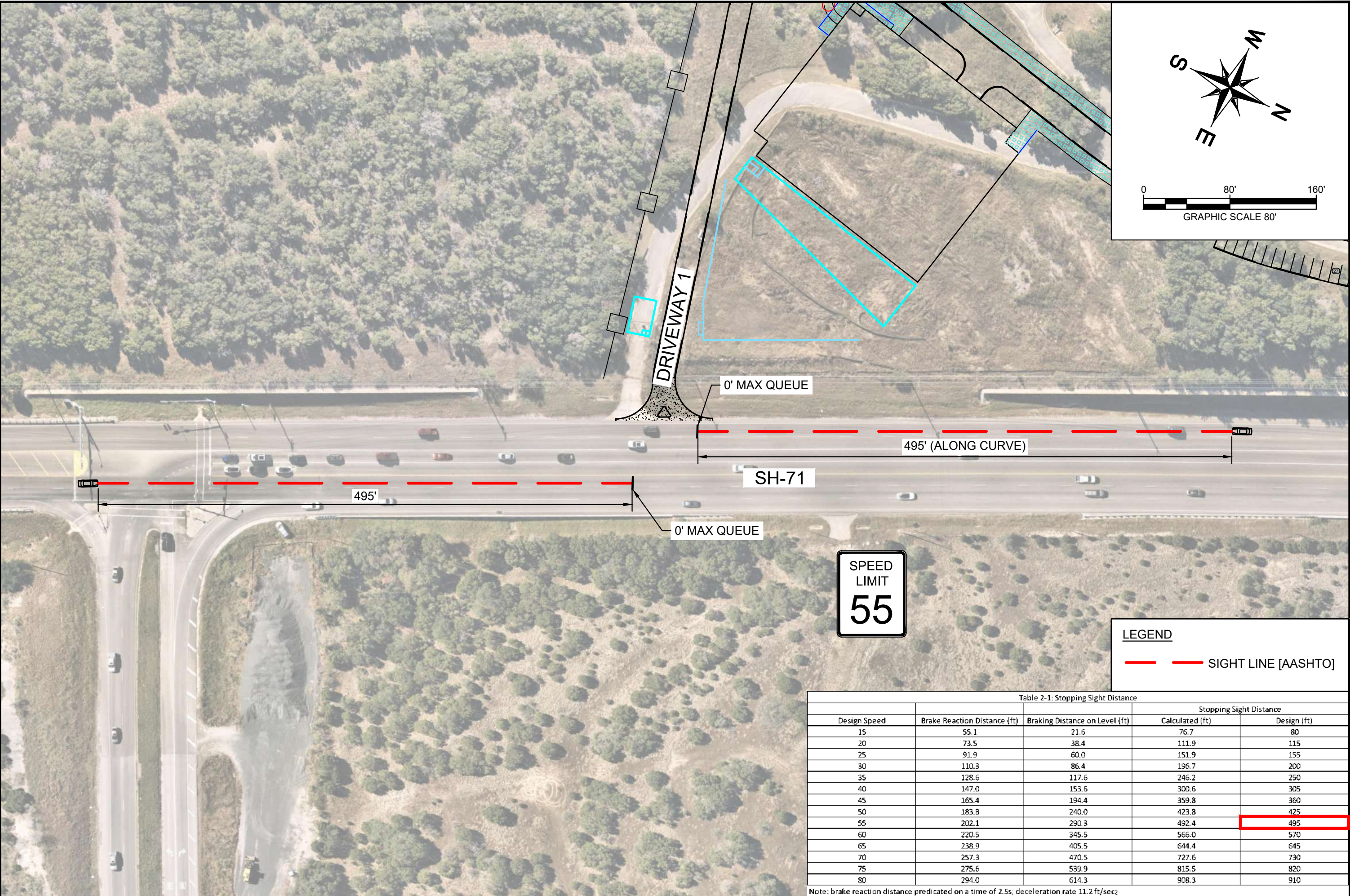
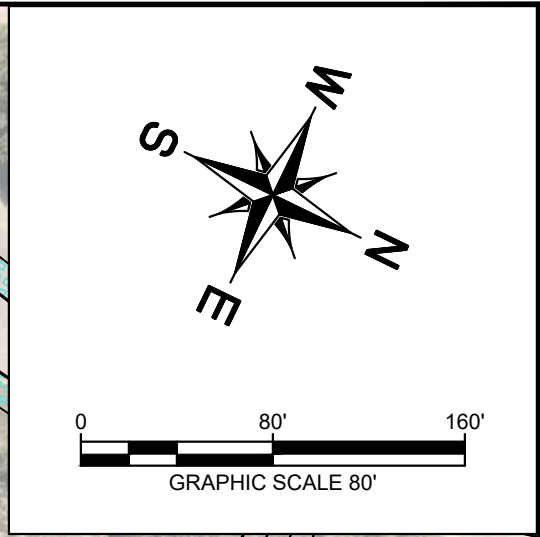


Table 2-1: Stopping Sight Distance

Design Speed	Brake Reaction Distance (ft)	Braking Distance on Level (ft)	Stopping Sight Distance	
			Calculated (ft)	Design (ft)
15	55.1	21.6	76.7	80
20	73.5	38.4	111.9	115
25	91.9	60.0	151.9	155
30	110.3	86.4	196.7	200
35	128.6	117.6	246.2	250
40	147.0	153.6	300.6	305
45	165.4	194.4	359.8	360
50	183.8	240.0	423.8	425
55	202.1	290.3	492.4	495
60	220.5	345.5	566.0	570
65	238.9	405.5	644.4	645
70	257.3	470.5	727.6	730
75	275.6	539.9	815.5	820
80	294.0	614.3	908.3	910

Note: brake reaction distance predicated on a time of 2.5s; deceleration rate 11.2 ft/sec²

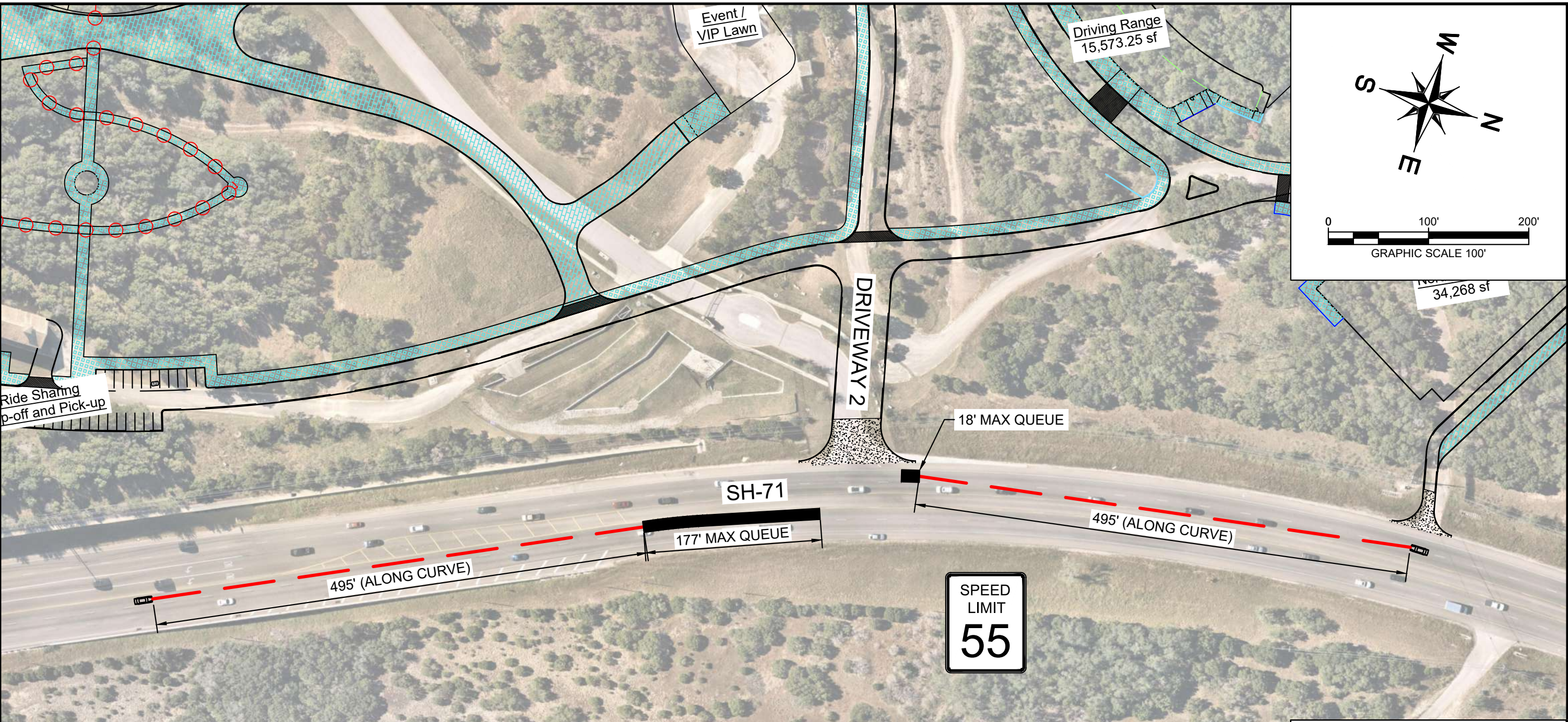
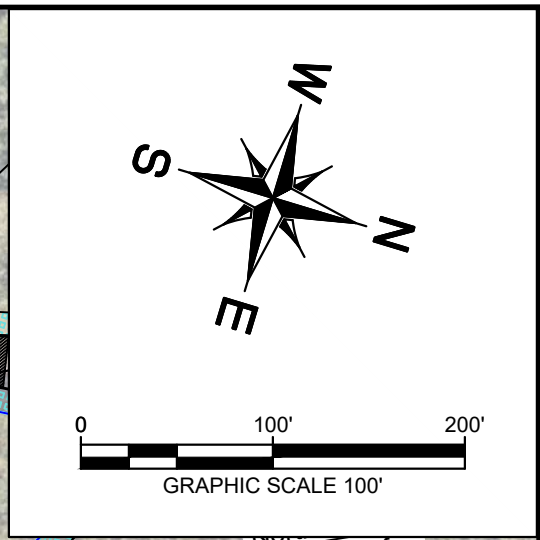
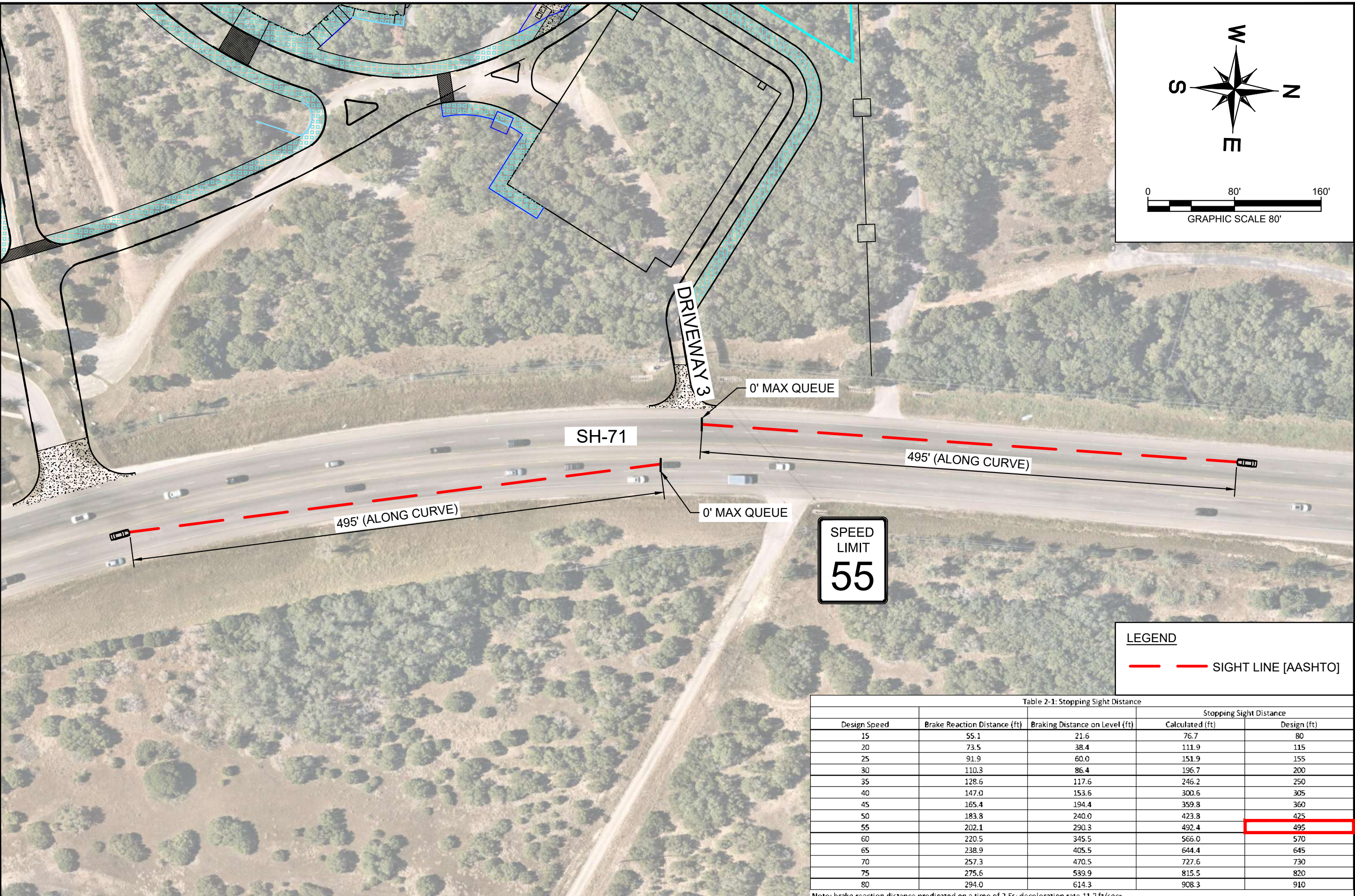
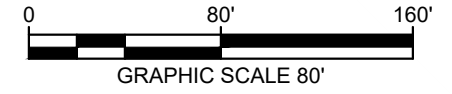
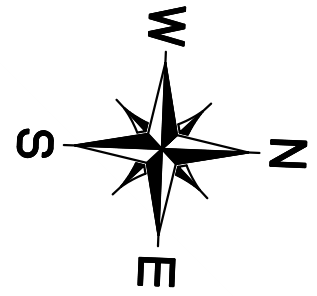


Table 2-1: Stopping Sight Distance

Design Speed	Brake Reaction Distance (ft)	Braking Distance on Level (ft)	Stopping Sight Distance	
			Calculated (ft)	Design (ft)
15	55.1	21.6	76.7	80
20	73.5	38.4	111.9	115
25	91.9	60.0	151.9	155
30	110.3	86.4	196.7	200
35	128.6	117.6	246.2	250
40	147.0	153.6	300.6	305
45	165.4	194.4	359.8	360
50	183.8	240.0	423.8	425
55	202.1	290.3	492.4	495
60	220.5	345.5	566.0	570
65	238.9	405.5	644.4	645
70	257.3	470.5	727.6	730
75	275.6	539.9	815.5	820
80	294.0	614.3	908.3	910

Note: brake reaction distance predicated on a time of 2.5s; deceleration rate 11.2 ft/sec²



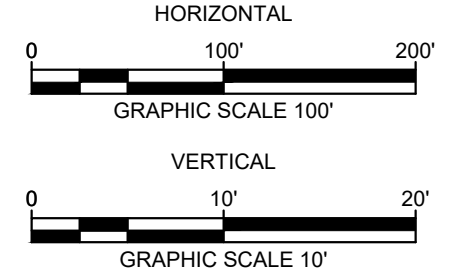
LEGEND

— SIGHT LINE [AASHTO]

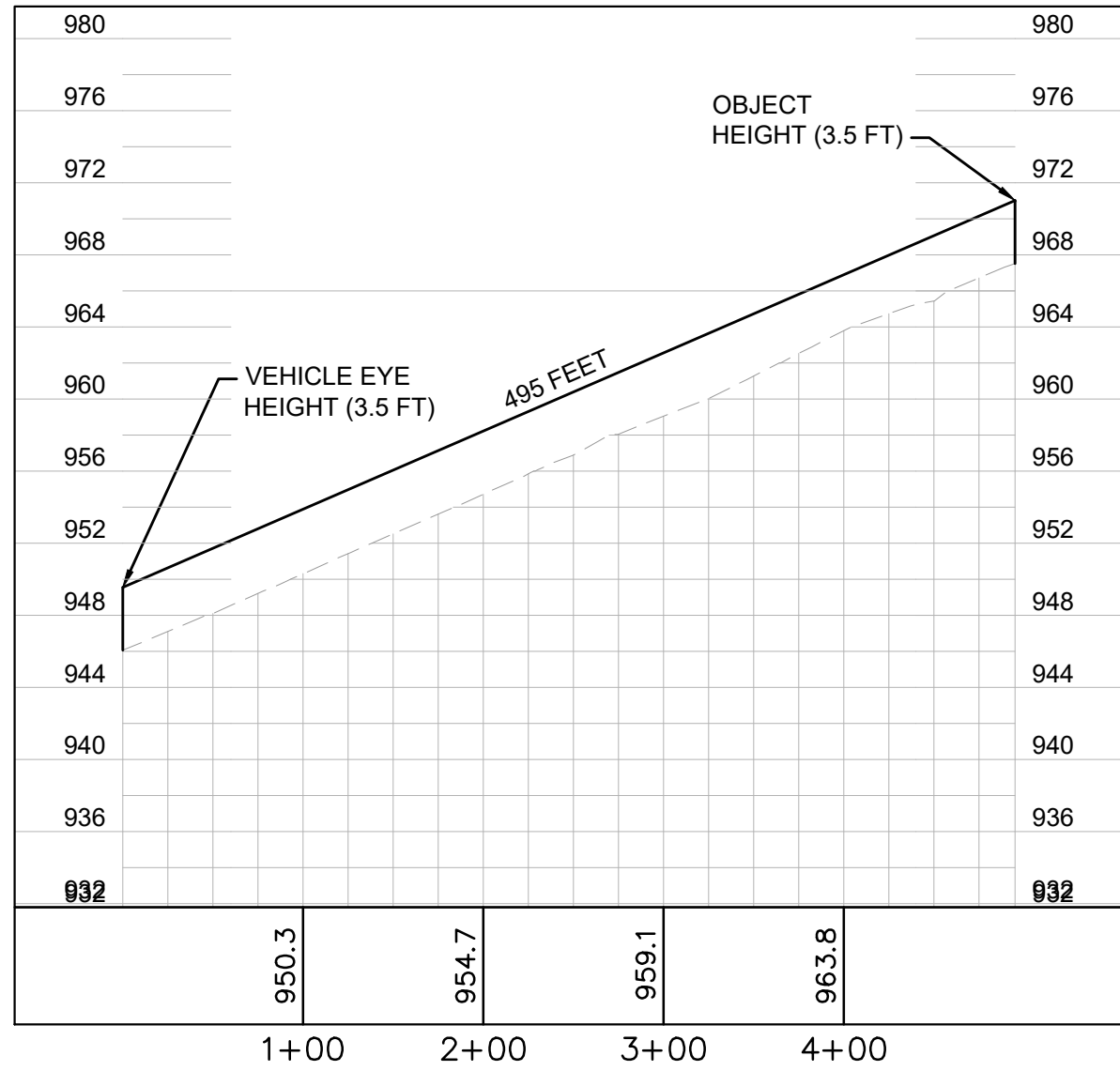
Table 2-1: Stopping Sight Distance

Design Speed	Brake Reaction Distance (ft)	Braking Distance on Level (ft)	Stopping Sight Distance	
			Calculated (ft)	Design (ft)
15	55.1	21.6	76.7	80
20	73.5	38.4	111.9	115
25	91.9	60.0	151.9	155
30	110.3	86.4	196.7	200
35	128.6	117.6	246.2	250
40	147.0	153.6	300.6	305
45	165.4	194.4	359.8	360
50	183.8	240.0	423.8	425
55	202.1	290.3	492.4	495
60	220.5	345.5	566.0	570
65	238.9	405.5	644.4	645
70	257.3	470.5	727.6	730
75	275.6	539.9	815.5	820
80	294.0	614.3	908.3	910

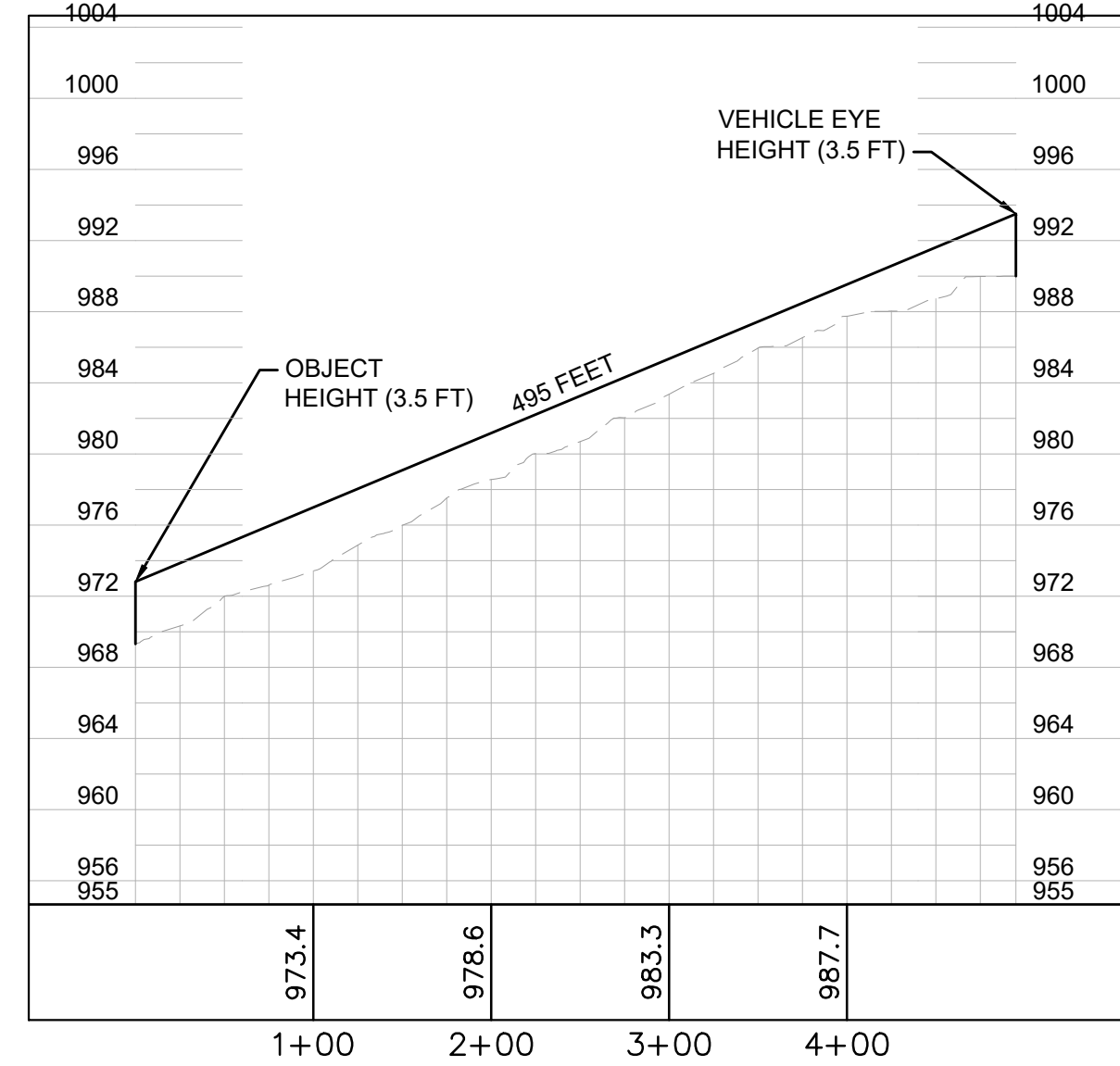
Note: brake reaction distance predicated on a time of 2.5s; deceleration rate 11.2 ft/sec²

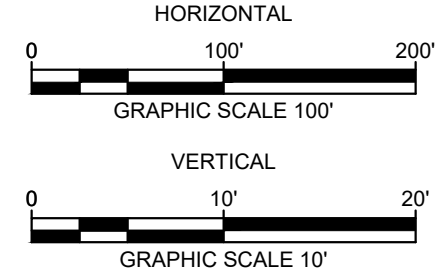


DRIVEWAY 1 NORTHBOUND
STOPPING SIGHT DISTANCE

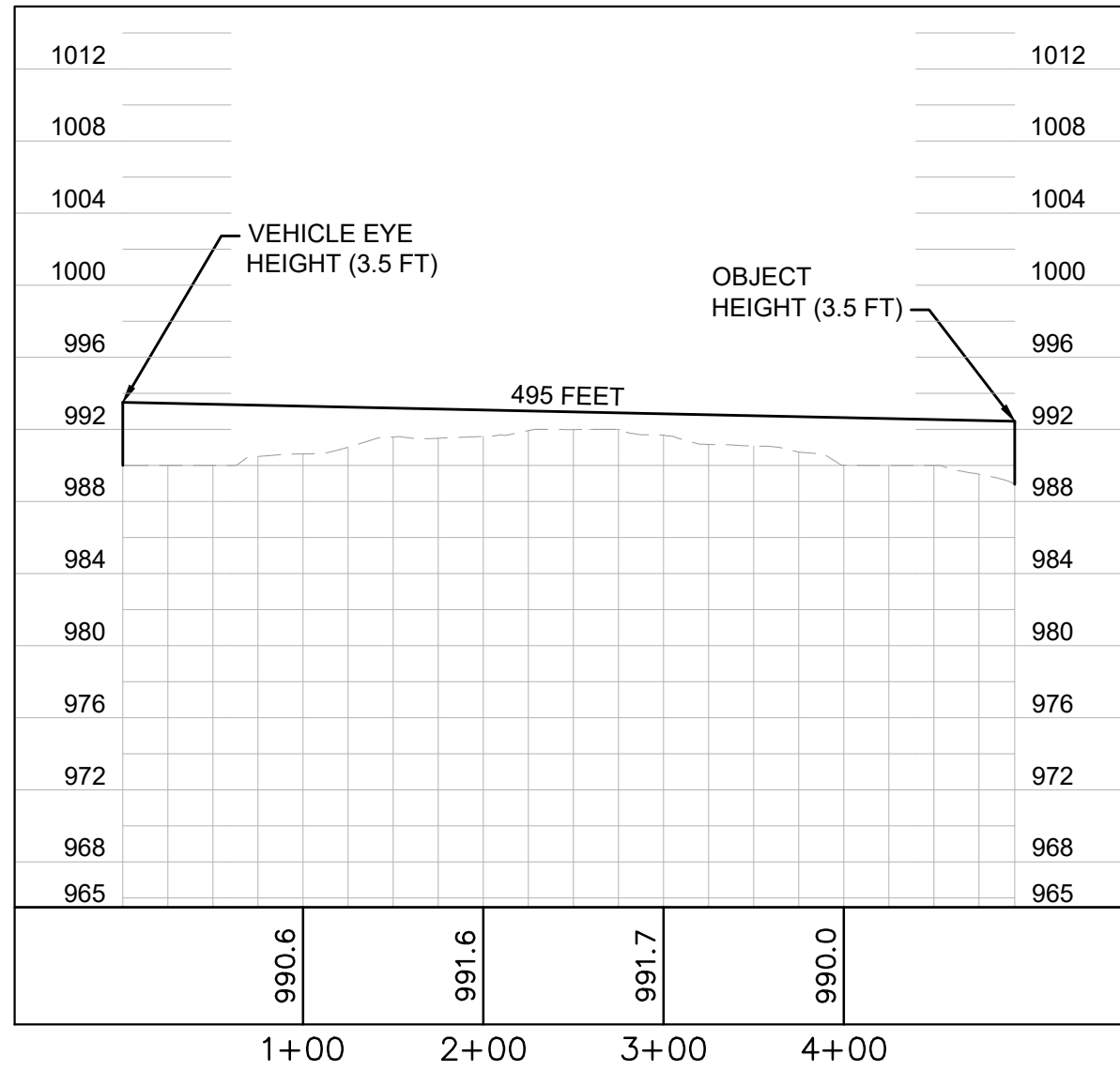


DRIVEWAY 1 SOUTHBOUND
STOPPING SIGHT DISTANCE

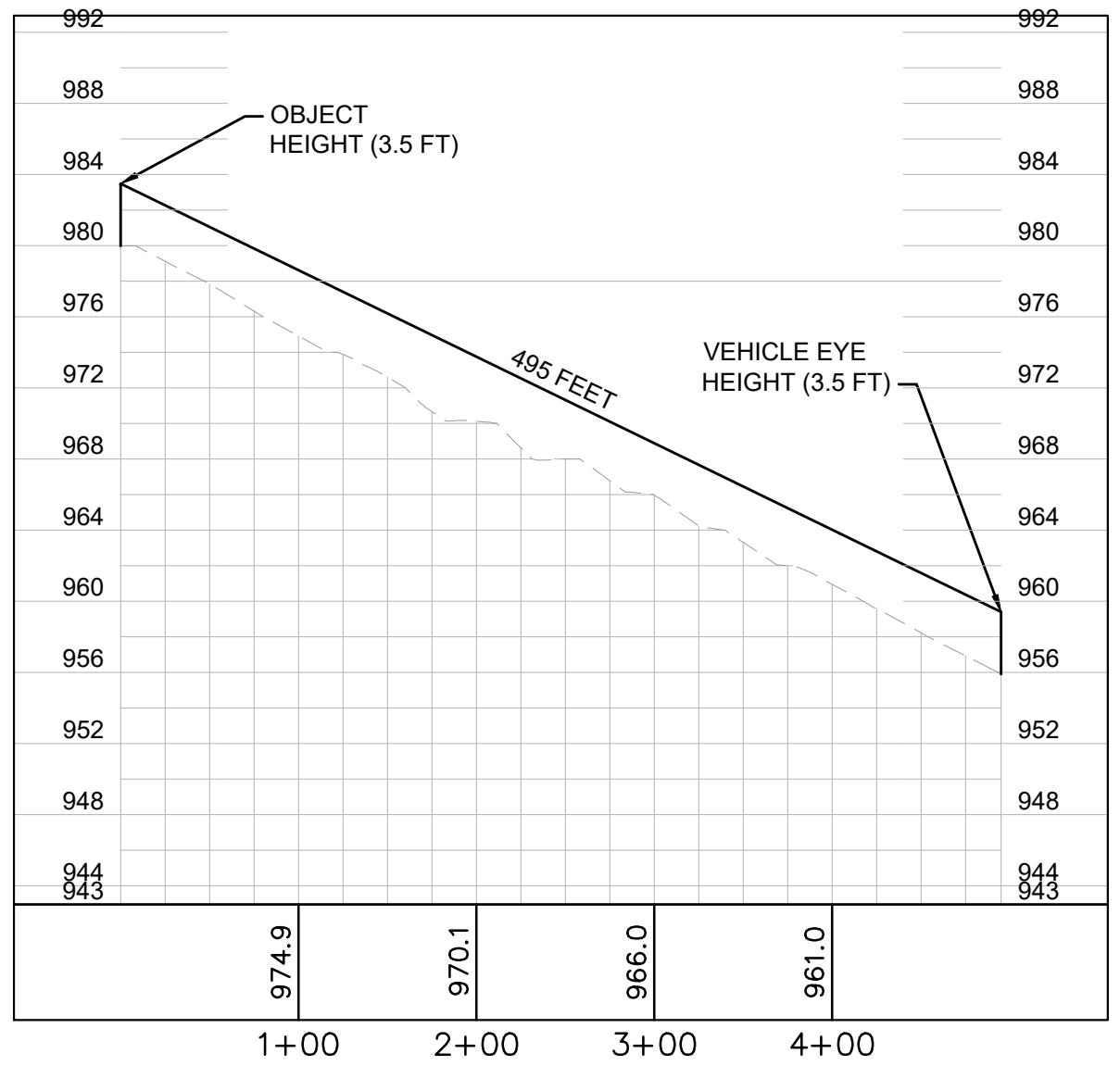


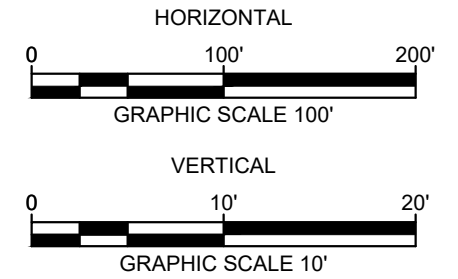


DRIVEWAY 2 NORTHBOUND
STOPPING SIGHT DISTANCE

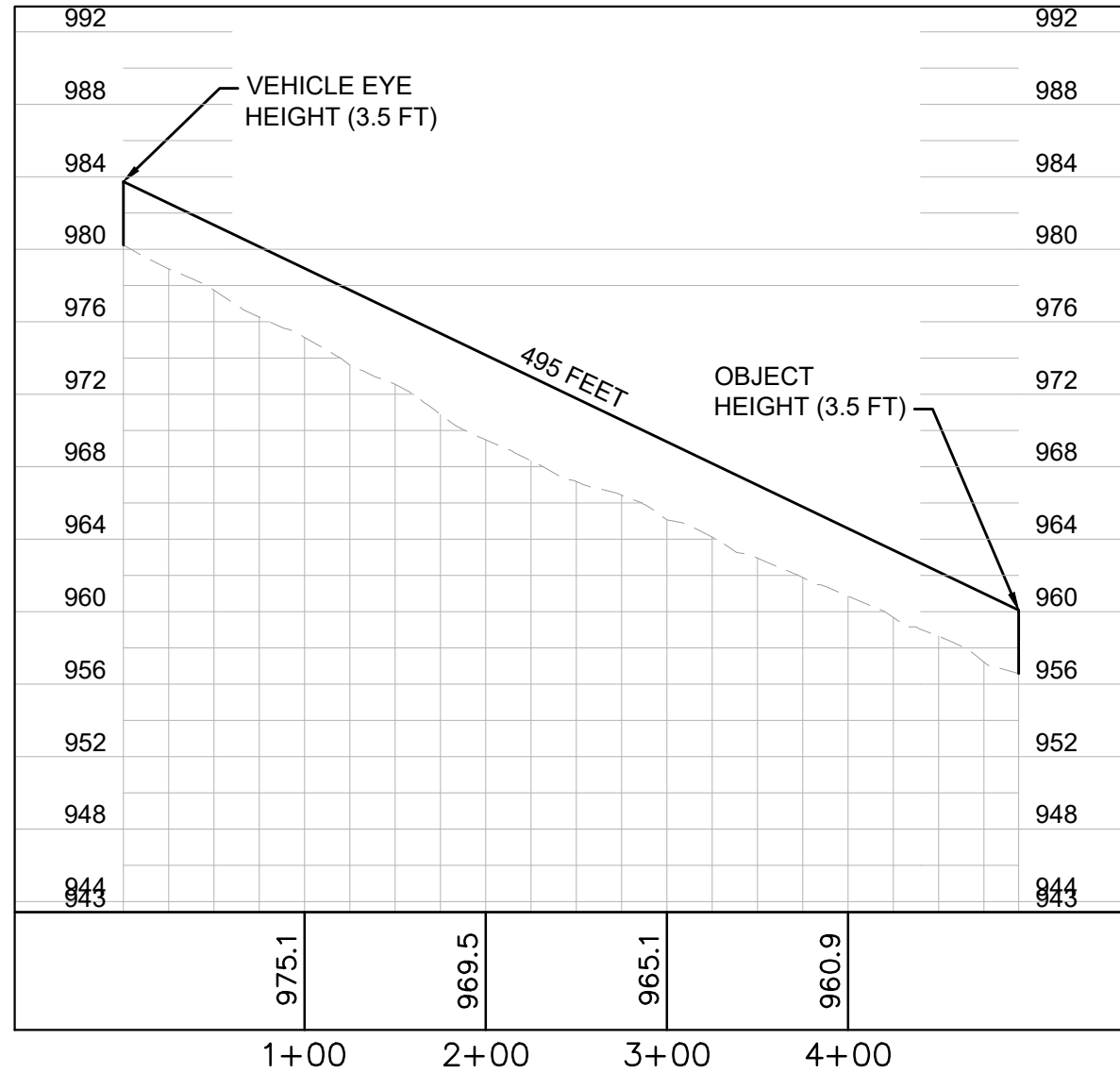


DRIVEWAY 2 SOUTHBOUND
STOPPING SIGHT DISTANCE

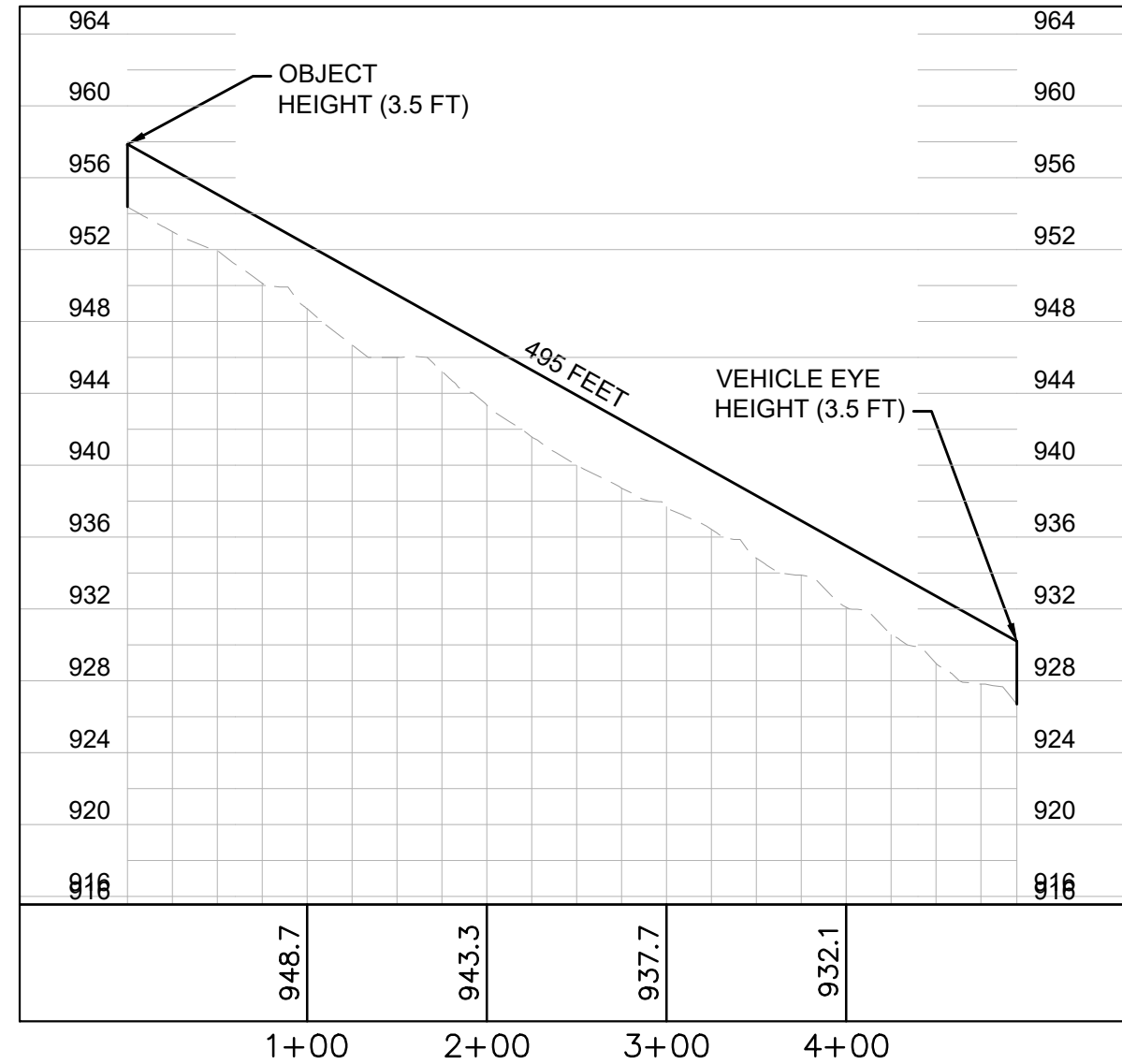




DRIVEWAY 3 NORTHBOUND
STOPPING SIGHT DISTANCE



DRIVEWAY 3 SOUTHBOUND
STOPPING SIGHT DISTANCE



Appendix J: Signal Warrant Analysis

Summary of Warrants			
Intersection:	1		
Major Street:	SH 71	Minor Street:	Driveway 2
Intersection:	SH 71 & Driveway 2		
City/Twp:	Austin ETJ		
Date Performed:	1/18/2022	Performed By:	Kimley-Horn
Date Volumes Collected:	12/8/2021		
Warrant		Condition	Is Warrant Met
WARRANT 1: Eight-Hour Vehicular Volume			YES
		Condition A	YES
		Condition B	YES
		Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume		(70%)	YES
WARRANT 3: Peak-Hour Vehicular Volume		(70%)	YES
		Condition A	YES
		Condition B	YES
WARRANT 4: Pedestrian Volume		(70%)	NO
		Four Hour	NO
		Peak Hour	NO
WARRANT 5: School Crossing			N/A
WARRANT 6: Coordinated Signal System			NO
WARRANT 7: Crash Experience			NO
		Condition A	NO
		Condition B	NO
WARRANT 8: Roadway Network			NO
WARRANT 9: Intersection Near a Grade Crossing			NO
Issue to Be Addressed by Signalization:			
Reduce stop delay at intersection during peak weekday hours and mitigate safety issues correctible by a traffic signal.			

Texas Manual on Uniform Traffic Control Devices
 Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	SH 71 & Driveway 2		
Date	1/18/2022	by	Kimley-Horn

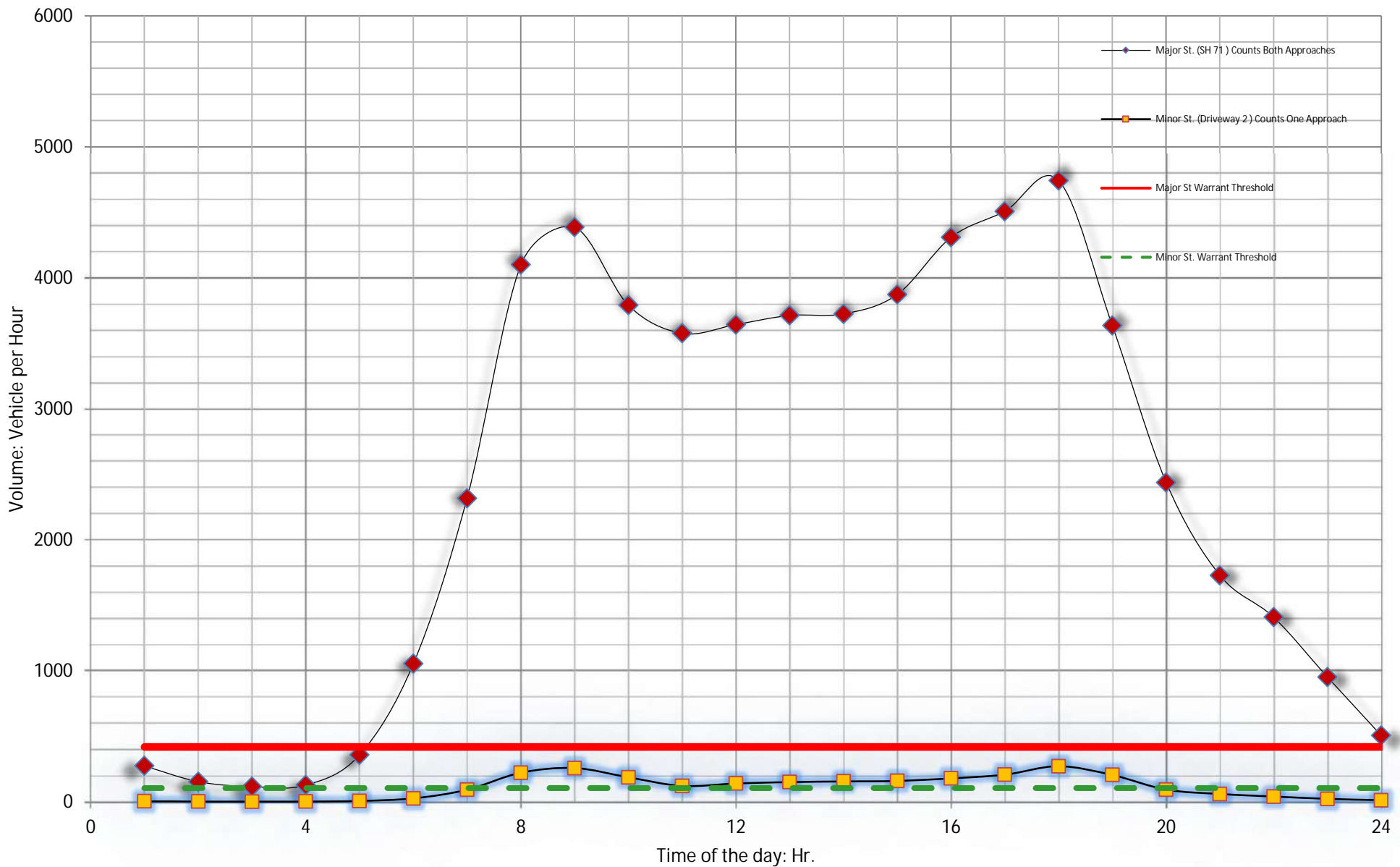
3	: No. of Lanes on Major St?
1	: No. of Lanes on Minor St?
55	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
	: if answer 4 is Yes, then what is the population of the isolated community?
NO	: Have other remedial measures been tried?

USE 70% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
	N-S	E-W	70%	70%		70%	70%		56%	56%	56%	56%	
00:01 - 01:00	275	4	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	154	3	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	117	2	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	128	3	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	359	7	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	1054	27	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	2318	92	420	105	NO	630	53	YES	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	4101	222	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	4387	258	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	3792	187	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	3577	122	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	3644	141	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	3714	151	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	3725	156	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	3873	160	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	4310	179	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	4508	208	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	4743	272	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	3636	206	420	105	YES	630	53	YES	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	2438	93	420	105	NO	630	53	YES	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	1729	60	420	105	NO	630	53	YES	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	1410	41	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	953	23	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 24:00	507	12	420	105	NO	630	53	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the Warrant 1A =	12
Number of Hours that met the Warrant 1B =	15
Number of Hours that met the Combination Warrant 1A & 1B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	YES
B. Is the Interruption of Continuous Traffic Met? (Condition B)	YES
C. Combination of Warrants A and B Criteria Met?	N/A



WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? **YES**

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**

Spot Number: **1**

SH 71 & Driveway 2

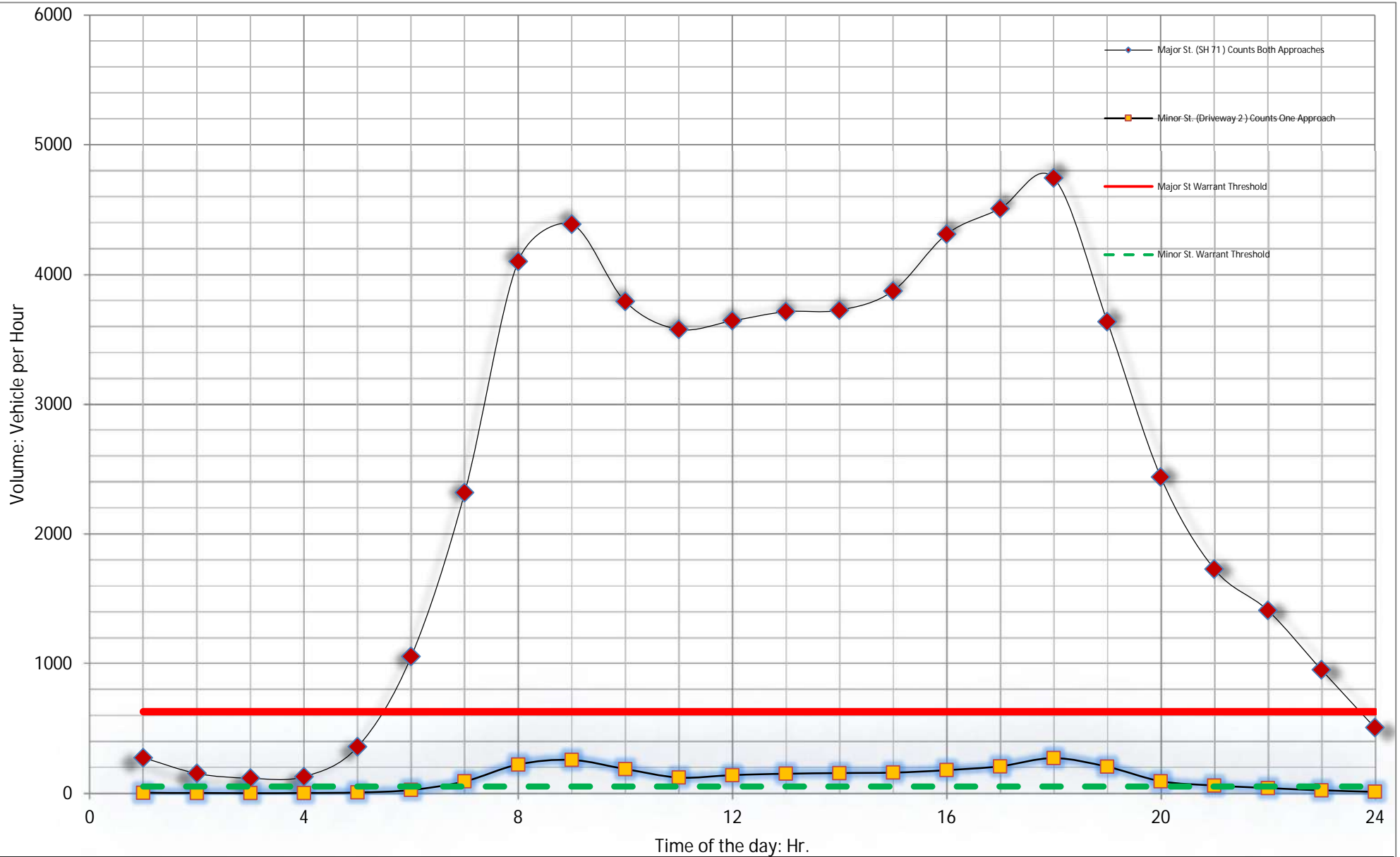
NO. OF LANES ON MAJOR ST.? **3**

NO. OF LANES ON MINOR ST.? **1**

Number of Hours that met the Warrant: **12**

Does this intersection meet Warrant 1A for signal installation? **YES**

Data Collection Date: **12/8/2021**



WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? **YES**

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**

Spot Number: **1**

SH 71 & Driveway 2

NO. OF LANES ON MAJOR ST.? **3**

NO. OF LANES ON MINOR ST.? **1**

Number of Hours that met the Warrant: **15**

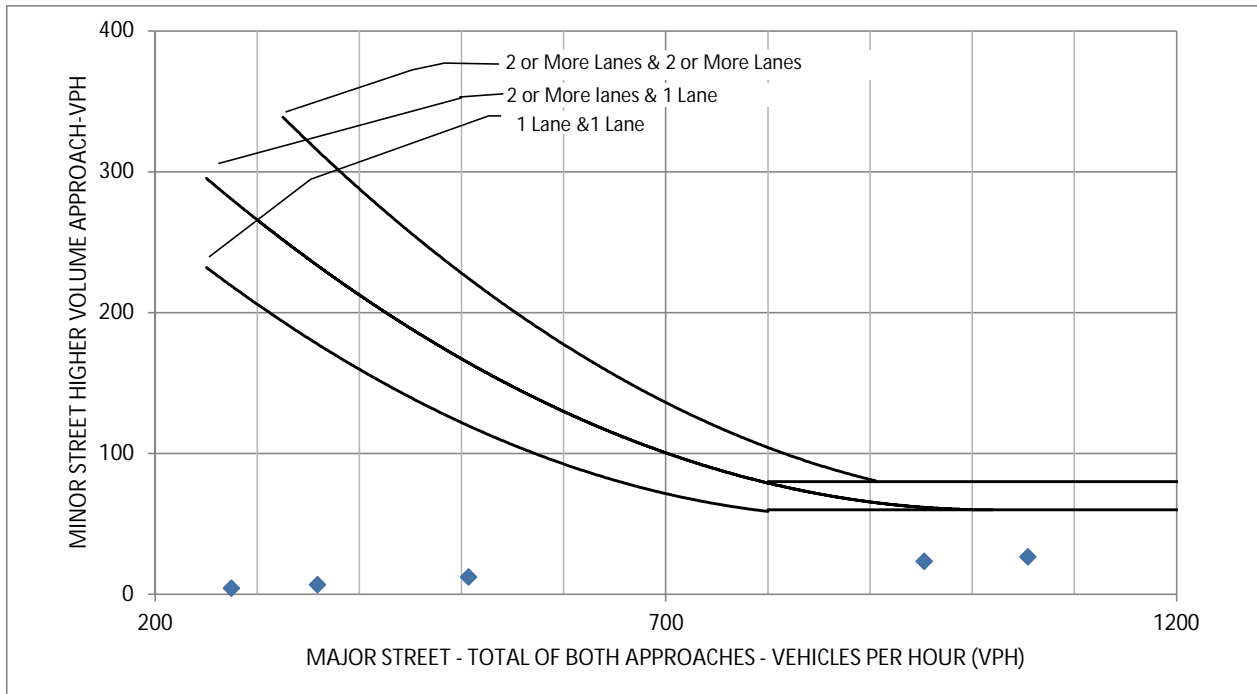
Does this intersection meet Warrant 1B for signal installation? **YES**

Data Collection Date: **12/8/2021**

Texas Manual on Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	1		
Intersection:	SH 71 & Driveway 2		
Date	1/18/2022	by	Kimley-Horn

3	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
55	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
	: What is the population of the isolated community?



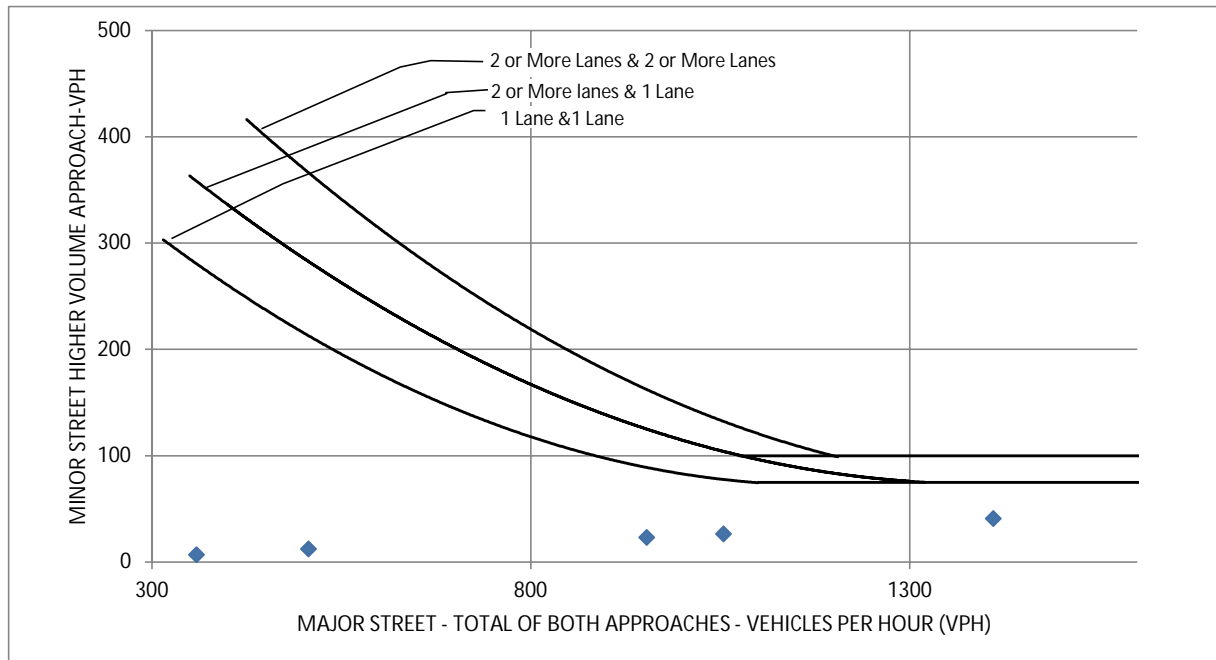
How Many Hours Are Met	15
Is Warrant (70%) Met?	YES

Texas Manual on Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 A: Peak-Hour Vehicular Volume															
Spot Number:	1														
Intersection:	SH 71 & Driveway 2														
Date	1/18/2022	by	Kimley-Horn												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;">35</td> <td>: Total Stop Time Delay (hrs)</td> </tr> <tr> <td style="text-align: center;">1</td> <td>: Minor Street Approach Lanes</td> </tr> <tr> <td style="text-align: center;">3</td> <td>: Total Approaches</td> </tr> <tr> <td style="text-align: center;">272</td> <td>: Minor Approach Volume</td> </tr> <tr> <td style="text-align: center;">5015</td> <td>: Total Entering Volume</td> </tr> <tr> <td style="text-align: center;">17:00 - 18:00</td> <td>: Peak Hour</td> </tr> </tbody> </table>				35	: Total Stop Time Delay (hrs)	1	: Minor Street Approach Lanes	3	: Total Approaches	272	: Minor Approach Volume	5015	: Total Entering Volume	17:00 - 18:00	: Peak Hour
35	: Total Stop Time Delay (hrs)														
1	: Minor Street Approach Lanes														
3	: Total Approaches														
272	: Minor Approach Volume														
5015	: Total Entering Volume														
17:00 - 18:00	: Peak Hour														
Is Warrant 3 A Met?			YES												

Texas Manual on Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(70%): Peak-Hour Vehicular Volume

Spot Number:	1		
Intersection:	SH 71 & Driveway 2		
Date:	1/18/2022	by	Kimley-Horn

3	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
55	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
	: What is the population of the isolated community?



How Many Hours Are Met	13
Is Warrant (70%) Met?	YES

Appendix K: Background TIA Reports

**AMARRA MULTI FAMILY
TRAFFIC IMPACT ANALYSIS**
FOR
STRATUS PROPERTIES OPERATING Co., L.P.

Travis County
My Permit Now No.: 20-27921

City of Austin - Case No.: SPC-2020-0168C



Chad Andrew Wood, P.E., PTOE
LJA Engineering, Inc.

LJA Project No. A1076-0409

LJA Engineering, Inc. 

2700 La Frontera, Suite 150
Round Rock, Texas 78681
Phone: 512.439.4700
www.lja.com
FRN-F-1386

REVISED - November 13, 2020

EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) considers the effects that a proposed residential development, known as the Amarra Multi-Family site, will have on the surrounding transportation network. The site is located on the northeast corner of the intersection of Southwest Parkway and Barton Creek Boulevard in Travis County, in the city limits of Austin, Texas. The proposed site plan, available in **Appendix A**, depicts the 182 dwelling-unit multi-family development on the 35.79 acres site. The proposed development is intended to be ready for occupancy by the end of 2021.

The developer's engineer worked with Travis County's transportation engineering staff to determine the scope of study for this TIA, including the limits of the study area. These details are presented in the county's study scoping document included as **Appendix B**.

Vehicular traffic analysis will focus on four scenarios: Existing, Future No-Build, Future Build, and Future Build with Improvements. All future scenarios have been studied at the 2021 horizon year for the residential site. Existing conditions and traffic volumes were observed in September of 2020. Due to the current pandemic effects, additional work has been required to understand the true nature of the system's performance. A pandemic reduction factor was determined based on traffic data from the Southwest Parkway at William Cannon Drive collected for a previous TIA in April of 2018. That data shows that today's traffic has reduced by approximately one-third, presumably due to the pandemic response protocols. The existing daily traffic volumes and peak-hour turning movement count data, along with the 2018 study data, are located in **Appendix C** and are also summarized within the report.

Unfortunately, multi-modal and active trip infrastructure are limited in the study area as the closest CapMetro bus lines run almost two miles from the project site and there are no existing sidewalks along either boundary road. However, the existing eight-foot shoulders along Southwest Parkway serve as de facto bike lanes and the City of Austin has posted "Bike Route 66" signs between MoPac and SH 71.

The east/west route, Southwest Parkway, is a six-lane major arterial roadway while the minor street, Barton Creek Boulevard/Travis Cook Road, exists as a two-lane collector. A single proposed driveway will connect to Barton Creek Boulevard and is planned as a full-service access. Only emergency vehicle access will be allowed at the proposed connection to Southwest Parkway. The intersection of Barton Creek/Travis Cook with Southwest Parkway and the one access drive to Barton Creek are the only two intersections included for capacity analysis in this study.

The proposed site is expected to generate less than 1,400 vehicles per day and the expected traffic distribution should split between Southwest Parkway and Travis Cook Road just as the existing vehicular traffic along Barton Creek Boulevard does today.

EXHIBIT 1 – PROJECT LOCATION MAP

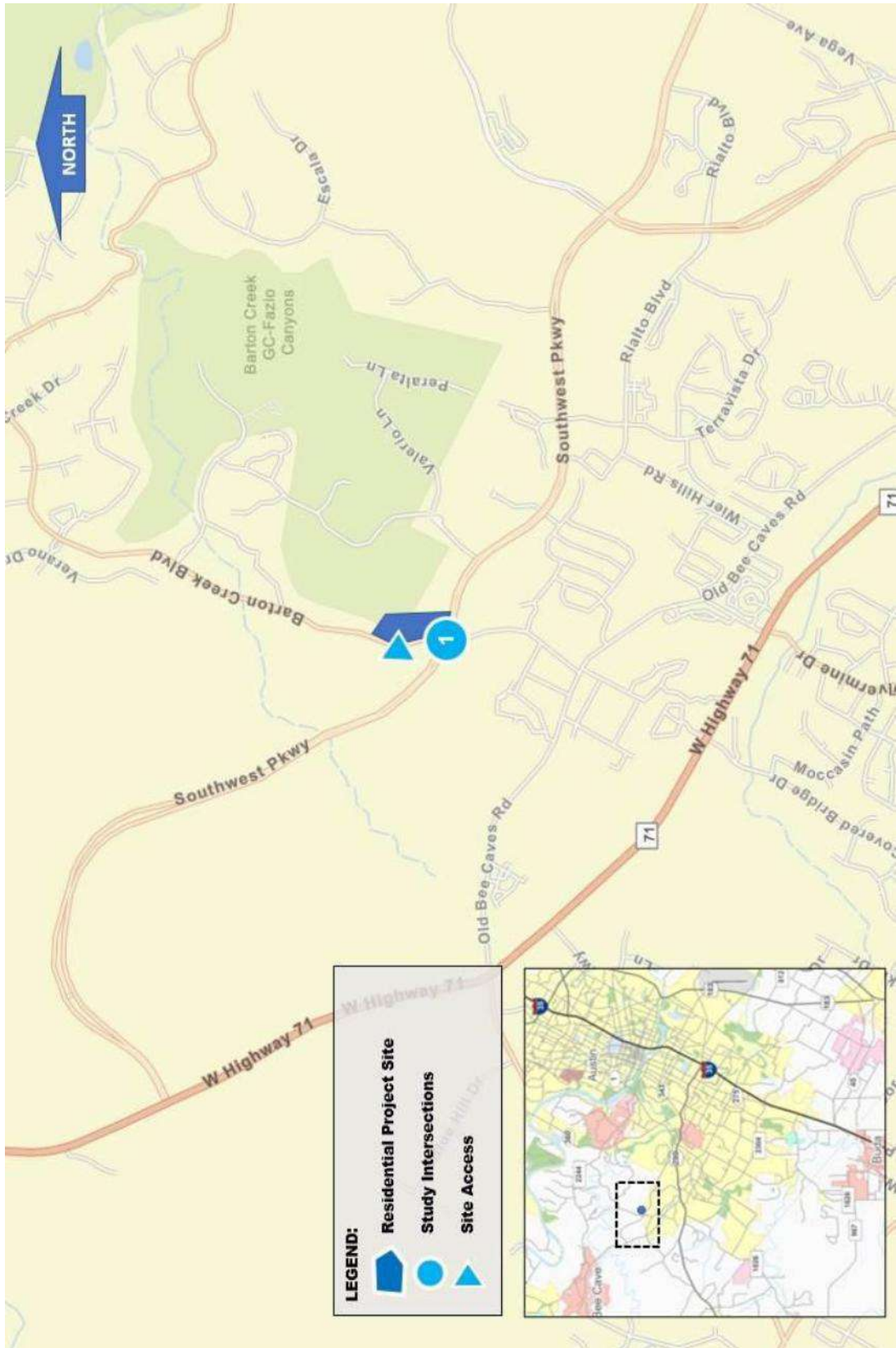


TABLE 2 – PROPOSED SITE TRIP GENERATION DATA

AM Peak-Hour Trip Generation Data																	
Land Use Description	ITE Land Use Code	Units	Quantity	Vehicle Trip Generation					Trip Reductions				NET Vehicle Trips				
				Daily Rate	Daily Vol (vpd)	AM Pk-Hr Volumes			% PB	Pass-By			AM Pk-Hr Vols				
						Rate	Total	Enter		Exit	Total	Enter	Exit	Total	Enter	Exit	
																	Rate
Multi-Family (Low Rise)	220	Dwelling Units	182	7.32	1,332	0.46	84	19	64	0%	0	0	0	0	84	19	64
Totals					1,332		84	19	64		0	0	0	0	84	19	64

PM Peak-Hour Trip Generation Data																	
Land Use Description	ITE Land Use Code	Units	Quantity	Vehicle Trip Generation					Trip Reductions				NET Vehicle Trips				
				Daily Rate	Daily Vol (vpd)	PM Pk-Hr Volumes			% PB	Pass-By			PM Pk-Hr Vols				
						Rate	Total	Enter		Exit	Total	Enter	Exit	Total	Enter	Exit	
																	Rate
Multi-Family (Low Rise)	220	Dwelling Units	182	7.32	1,332	0.56	102	64	38	0%	0.0	0.0	0.0	0.0	102	64	38
Totals					1,332		102	64	38		0	0	0	0	102	64	38

EXHIBIT 7 – AM SITE TRAFFIC DISTRIBUTION PLAN

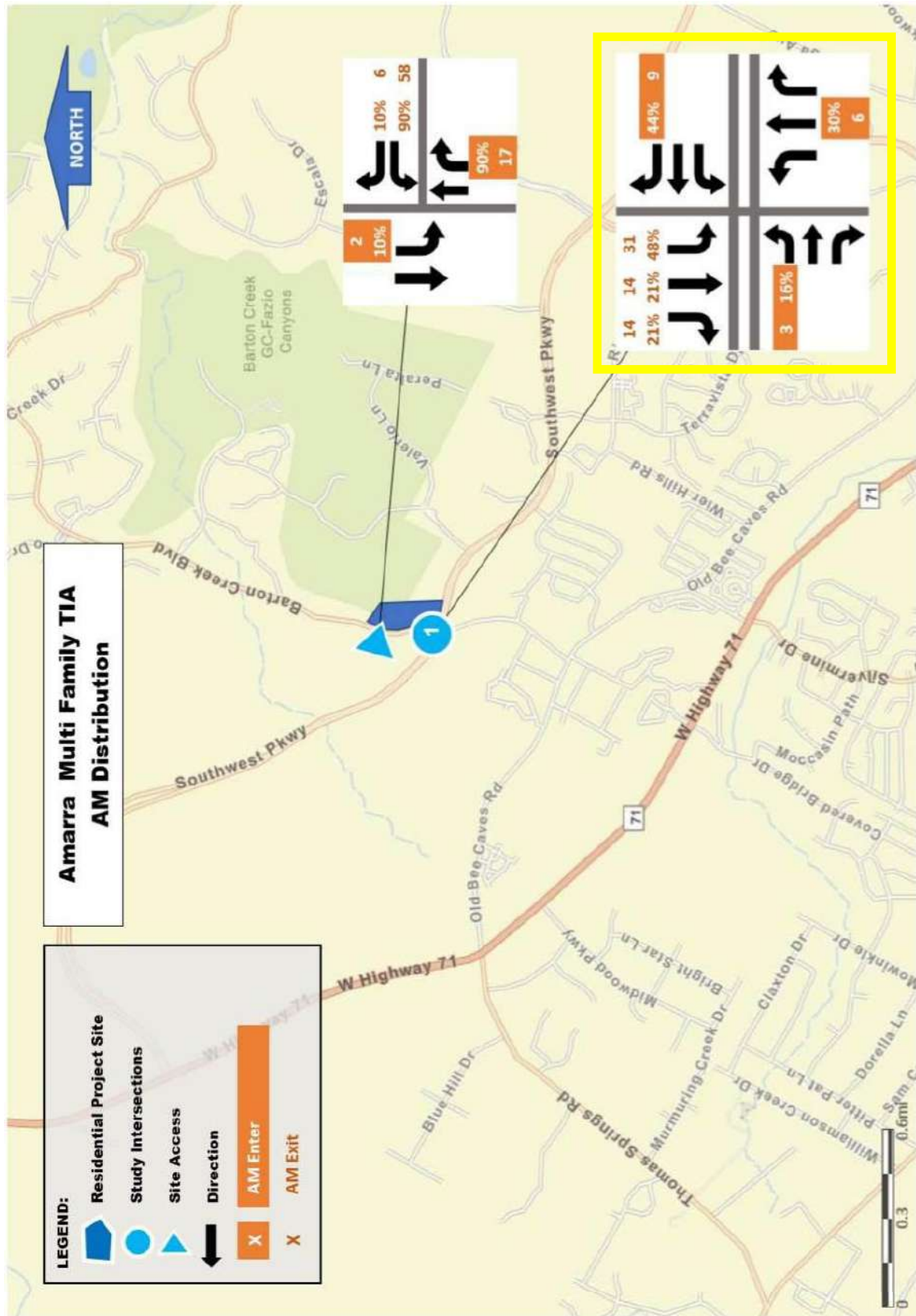
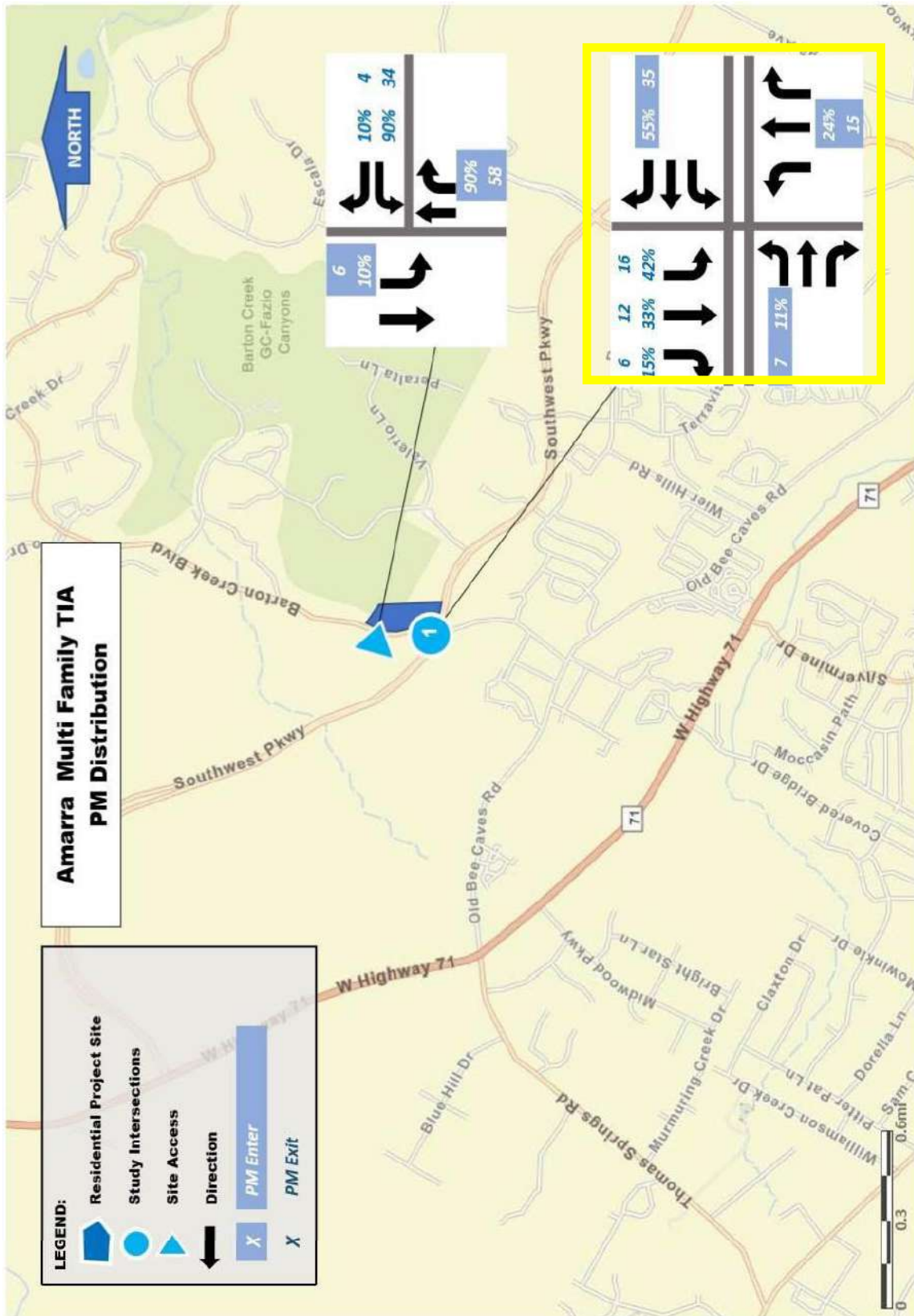


EXHIBIT 8 – PM SITE TRAFFIC DISTRIBUTION PLAN





Leif Johnson Ford Traffic Impact Analysis

TBPE Registration Firm No: 6324

Prepared for:
Leif Johnson Ford

Prepared by:
Nicola Gheno, P.E., PTOE



Nicola Gheno
Digitally signed
by Gheno, Nicola
Date: 2021.05.20
18:48:19 -05'00'

LEIF JOHNSON FORD TRAFFIC IMPACT ANALYSIS

May 20, 2021

EXECUTIVE SUMMARY

This report documents a Traffic Impact Analysis (TIA) performed for the proposed Leif Johnson Ford development. The development is located east of State Highway 71 and south of Old Bee Caves Road in the City of Austin, Texas.

The proposed Leif Johnson Ford development includes 100,000 square feet of Automobile Sales which will sell new and used vehicles as well as provide service and repairs. The development is expected to be constructed by 2022.

There are four (4) proposed driveways for the development; two (2) driveways located on Old Bee Caves Road and two (2) driveways located on State Highway 71.

2020 existing traffic counts were unable to be collected due to the current COVID-19 pandemic which has resulted in irregular and decreased traffic levels. Hence historical traffic volumes collected in 2017 were used and a growth rate was applied to bring the counts to existing 2020 conditions. A calculated growth rate from historical TxDOT annual average daily traffic (AADT) volumes was calculated at 6% which was agreed to and used to estimate 2020 Existing baseline conditions as per the TIA scoping documents. There were two (2) background projects identified that were included in the background traffic. An analysis of 2022 Forecasted No Build and 2022 Build condition was performed.

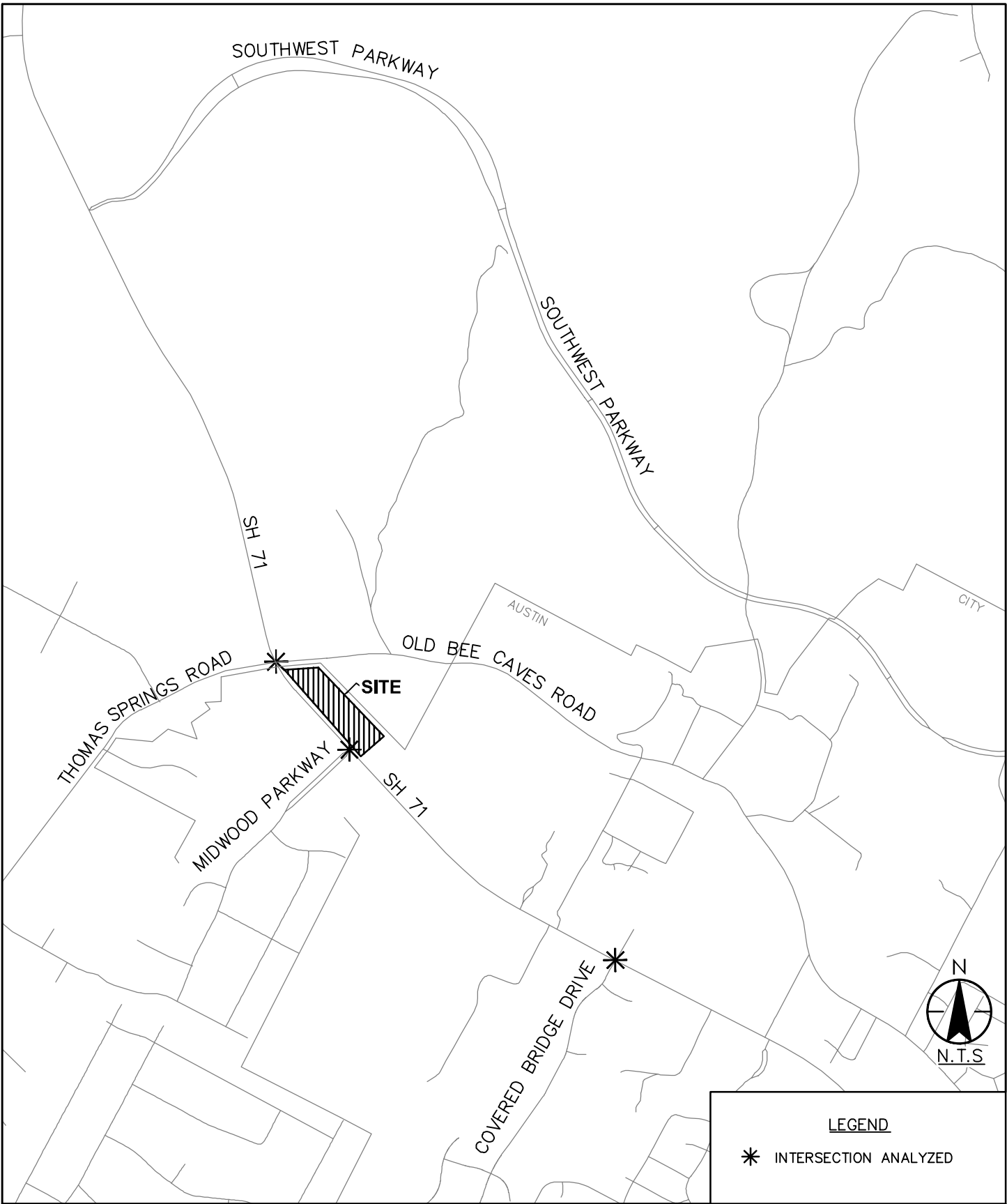
ANALYSES AND RECOMMENDATIONS

In the 2020 Existing conditions, all the study area intersections except for the intersection of Thomas Springs Road/Old Bee Caves Road/SH-71 operate at acceptable level of service. The intersection of Thomas Springs Road/Old Bee Caves Road and SH- 71 is performing with Level of Service (LOS) F during the 2020 Existing AM and PM Peak Hour and continues to perform at LOS F for the 2022 Forecasted as well as 2022 Site+Forecasted AM and PM Peak Hour.

To improve intersection operations, consideration should be given to restripe the eastbound approach of Thomas Springs Road to provide for a shared thru/right lane and a dedicated left-turn lane with a left-turn bay of 500 feet. The westbound approach of Old Bee Caves Road was analyzed with a modified approach to include left and right turn bays which helped reduce the volume to capacity ratio of the thru movement to 0.93. Due to the recently constructed drainage facilities on either side of Old Bee Caves Road at the westbound approach, widening the approach with turn bays and bike and pedestrian facility may not be feasible. For the northbound approach, the maximum queue length for the thru movement will conflict with vehicles turning into Driveway C. An increase in cycle length and optimization of signal timing reduces the northbound approach queuing. A separate right-turn bay was analyzed for the southbound approach to improve the LOS of the heavy thru movement. The additional right turn-bay did not significantly reduce the queuing and therefore is not recommended.

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2020.07.21 1:10:05 PM



LEGEND

* INTERSECTION ANALYZED



Stantec

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1905 Aldrich Street Suite 300
Austin TX 78723-3544
Tel: (512) 328-0011
www.stantec.com

TBPE # F-6324
TBPLS # 10194230

Client/Project

LEIF JOHNSON FORD

Project No.

222012133

Title

**SITE LOCATION MAP WITH
STUDY INTERSECTIONS**

Revision	Date
#	2020/07/21
Reference Sheet	Exhibit No.
1	1

May 20, 2021

4. PROJECTED SITE AND FUTURE BUILD TRAFFIC

The proposed site traffic was estimated through trip generation and trip distribution analyses. This section also provides the resulting turning movement volumes at each study intersection generated by the proposed site.

TRIP GENERATION

The proposed Leif Johnson Ford development includes 100,000 square feet of Automobile Sales which will sell new and used vehicles as well as provide service and repairs. The development is expected to be constructed by 2022. A summary of the proposed land uses and intensity can be seen within **Table 1** below.

Table 1 – Proposed Unadjusted Site Trip Generation

ITE Code	Land Use	Size	24-Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Proposed Development									
840	Automobile Sales - New Car	100,000 sf.	2,784	137	50	187	97	146	243
Proposed Subtotal			2,784	137	50	187	97	146	243

Pass-by and internal trips can account for a significant portion of a site's generated traffic. Internal trips use only internal roadways within the site traveling from one land use to another. Pass-by trips are attracted to the site from traffic passing on an adjacent street and are based on information contained in the ITE Trip Generation Handbook (Trip Generation Handbook, ITE). No Pass-By and Internal Capture Trips have been considered for the proposed Leif Johnson Ford development per the Scoping Agreement with the City of Austin. A full summary of the trip generation can be found in the Appendix of this report as **Exhibit 6**.

OVERALL TRIP DISTRIBUTION

The trip distribution for the site was evaluated utilizing the existing traffic counts as well as applying engineering judgment for projected traffic patterns with regards to where the origin and destinations of the traffic accessing the site and confirmed with the City of Austin as referenced in **Exhibit 1**. Based on discussions, 23% of the site trips are allocated to the north of the proposed site, 17% of the site trips are allocated to east of the proposed site, 20% of the site trips are allocated to the west of the proposed site, and 40% of the site trips are allocated to the south of the proposed site.

Table 2 below provides a summary of the bi-directional trip distribution to and from the development.

May 20, 2021

Table 2 – Overall Directional Distribution of Site Traffic

Direction	% of Site Traffic
North State Highway 71	23%
South State Highway 71	40%
West Thomas Springs Road	20%
East Old Bee Caves Road	17%

Given the location of the site driveways, the overall distributions we split based on the service and sales trip information provided by the dealership. Analysis of the existing traffic counts indicate that 20% of the site traffic will use Thomas Springs Road for access to/from the west. 17% of the overall trips have been allocated to trips going to/from the east using Old Bee Caves Road. 23% site traffic will travel to/from north on SH-71. And 40% of the overall trips have been allocated to trips going to/from the south on SH-71. The trip distribution can be found in the Appendix of this report as **Exhibit 7**.

DRIVERAY TRIP DISTRIBUTION

To obtain a better understanding of driveway access distribution of site generated trips, additional information was obtained from the existing dealership on current customer trip type during peak hours. The information obtained classified the trips made in the AM and PM peak hour as either Sales or Service & Parts trips. This information was used to estimate the assignment of site generated trips to access driveways.

Based on the trip information provided for the existing dealership, the percentage of Sales and Service & Parts trips were calculated below:

Table 3 – Sales, Service & Parts Percentages

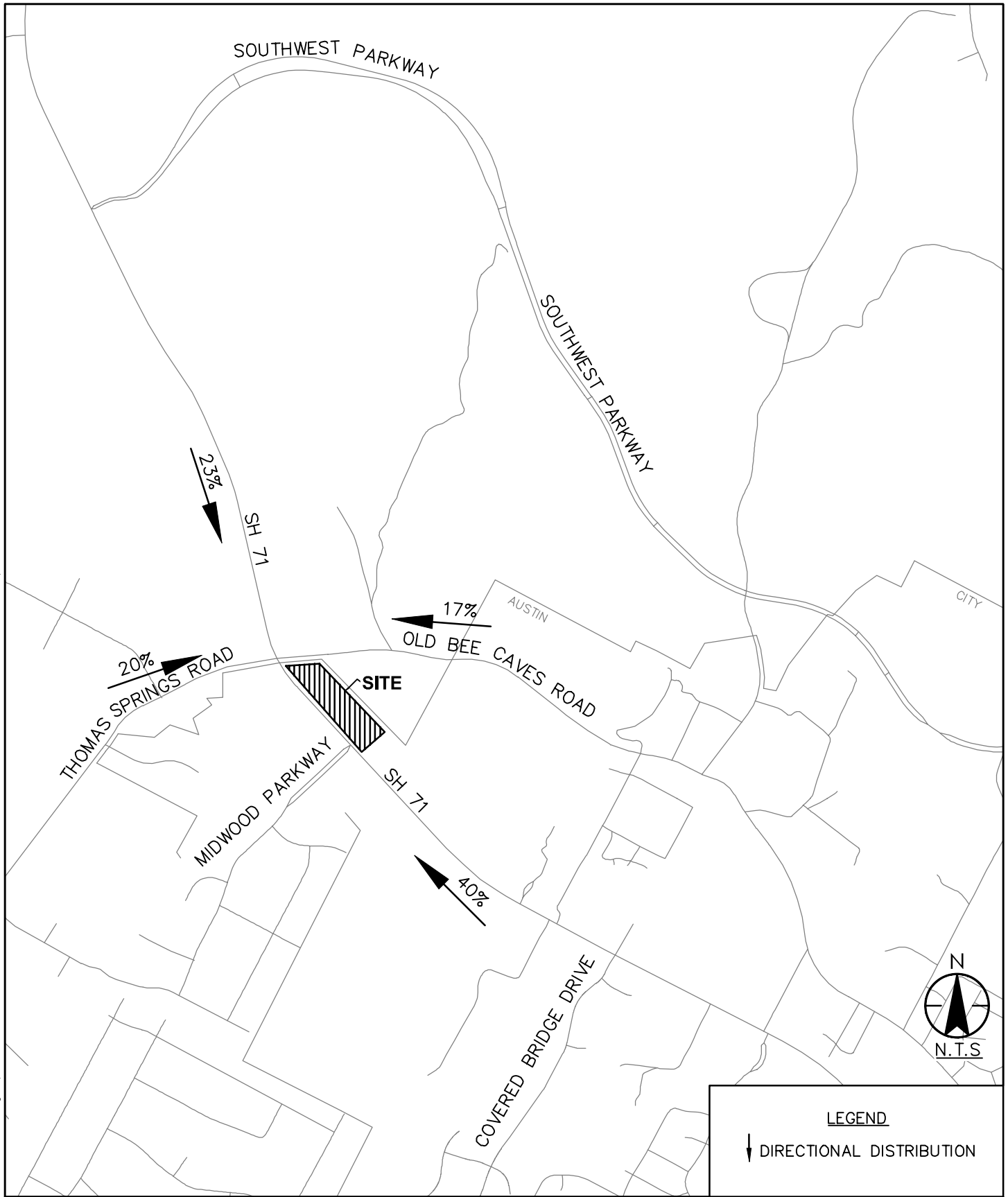
	AM	PM
Sale	5	15
Service & Parts	55	65

	AM	PM
Sale	5/60 = 8%	15/80 = 19%
Service & Parts	55/60 = 92%	65/80 = 81%

Based on the information provided, AM peak hour we have 8% customers for sale purposes, 92% customers for service and parts. In PM peak hour we have 19% customers for sale and 81% customers for service and parts.

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LEGEND

↓ DIRECTIONAL DISTRIBUTION



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TBPE # F-6324
 TBPLS # 10194230

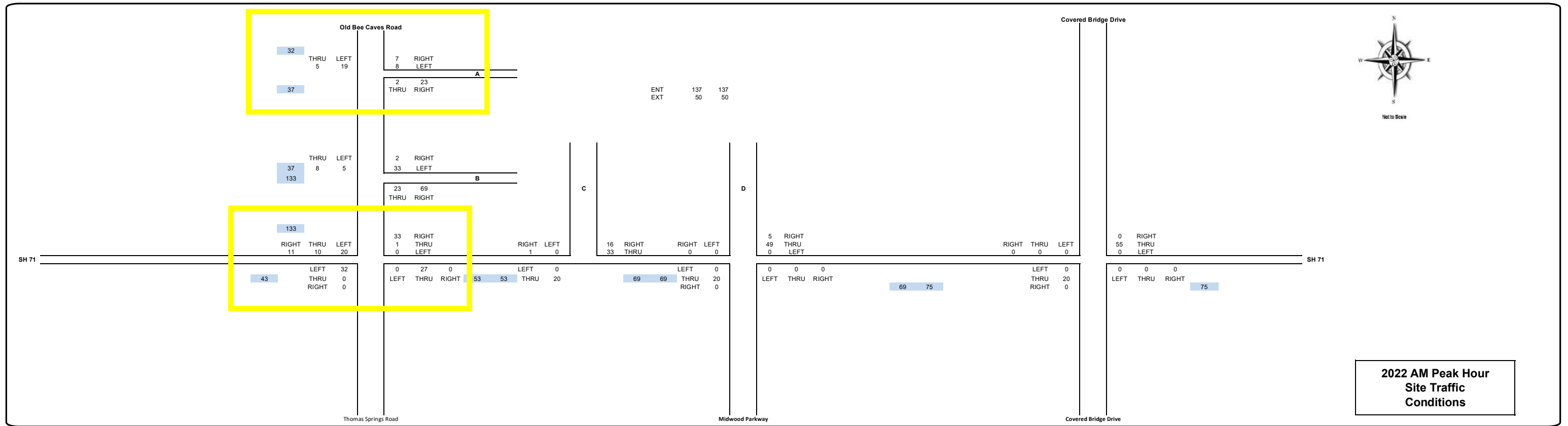
Client/Project
LEIF JOHNSON FORD

Project No.
222012133

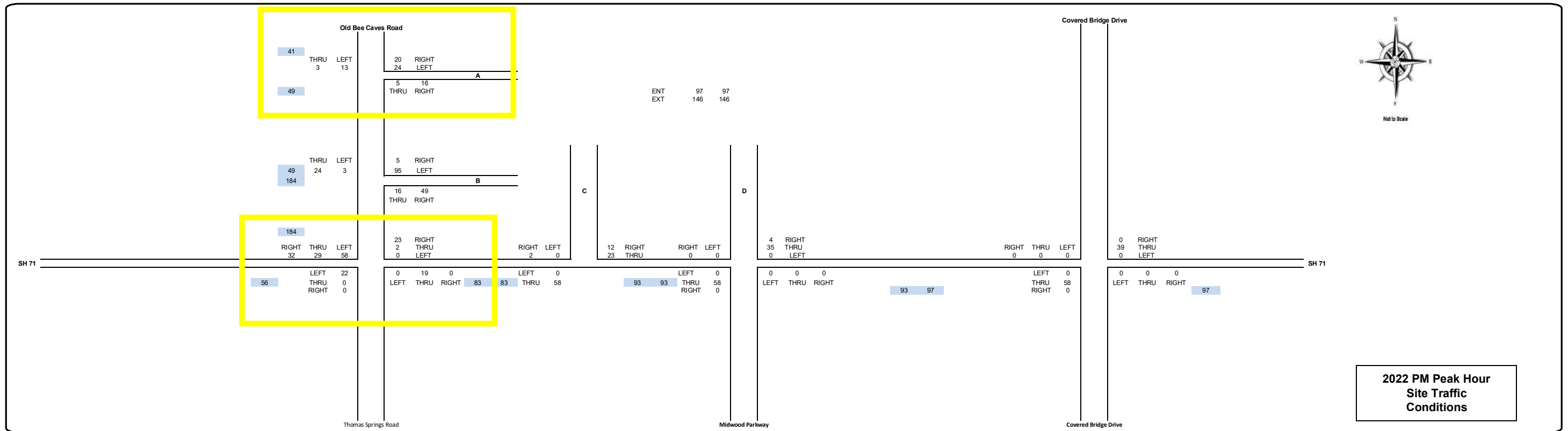
Title
DISTRIBUTION MAP

Revision #	Date
1	2020/08/18
Reference Sheet	Exhibit No.
1	3

Leif Johnson Ford Trip Distribution



Leif Johnson Ford Trip Distribution

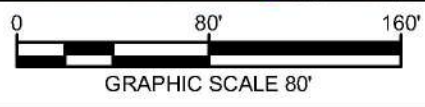
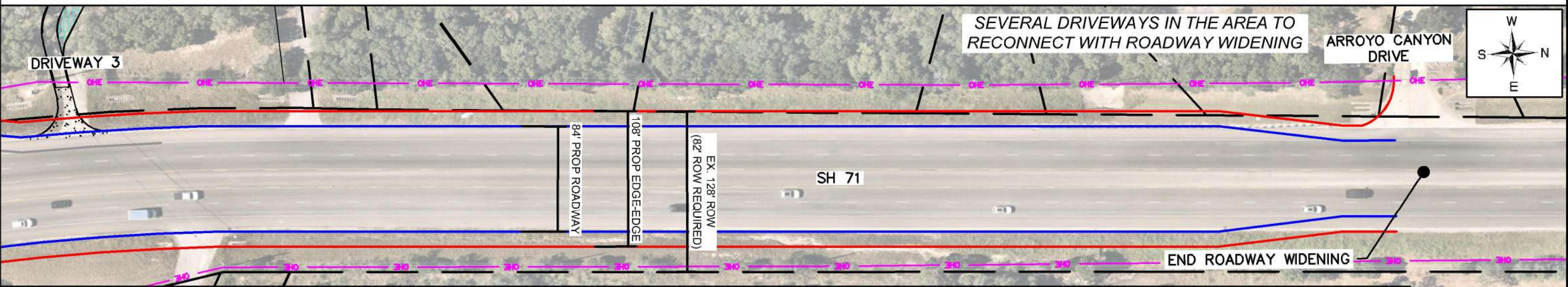
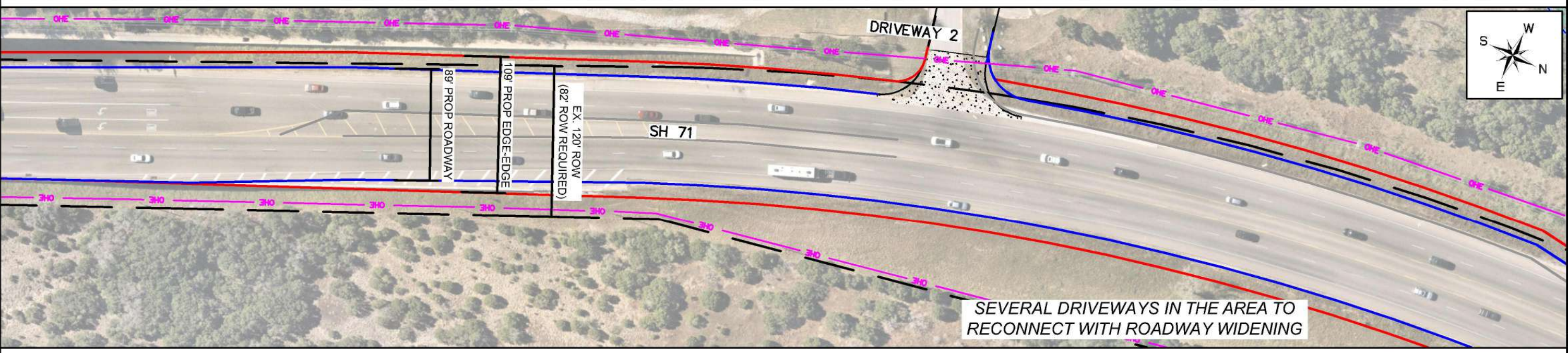
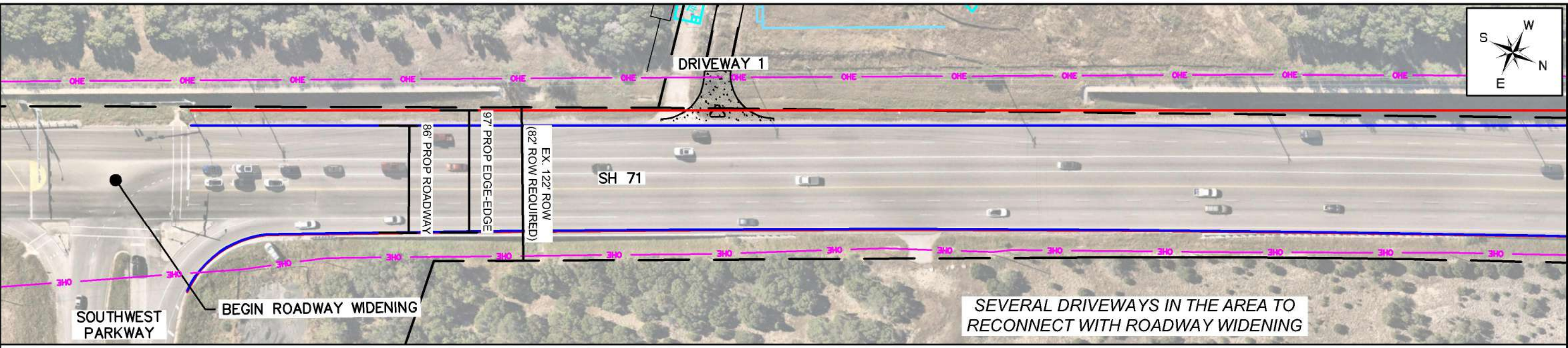


Appendix L: Road Sizing Analysis

APPENDIX N: ROAD SIZING ANALYSIS CALCULATIONS

		Phase 1					
Peak Period		AM					
Segment	SH 71 from Arroyo Canyon Drive to Driveway 2	SH 71 from Driveway 2 to Southwest Parkway	SH 71 from Southwest Parkway to Old Bee Cave Road/Thomas Springs Road	Thomas Springs Road from SH 71 to Circle Drive	Driveway 1 from SH 71 to Internal	Driveway 2 from SH 71 to Internal	
Upstream Intersection (IN)	1,842	1,858	714	319	22	194	
Upstream Intersection (OUT)	1,799	1,858	744	641	0	205	
Downstream Intersection (IN)	2,641	2,678	1,470	0	0	0	
Downstream Intersection (OUT)	2,673	2,678	1,458	0	0	0	
Peak Hour Total	4,515	4,537	2,214	959	22	399	
K Factor	0.09	0.09	0.09	0.09	0.09	0.09	
ADT	50,167	50,406	24,605	10,660	239	4,428	
TCM Threshold	34000	34000	35500	15250	15250	15250	
Widening Needed	Yes	Yes	No	No	No	No	

		Phase 1					
Peak Period		PM					
Segment	SH 71 from Arroyo Canyon Drive to Driveway 2	SH 71 from Driveway 2 to Southwest Parkway	SH 71 from Southwest Parkway to Old Bee Cave Road/Thomas Springs Road	Thomas Springs Road from SH 71 to Circle Drive	Driveway 1 from SH 71 to Internal	Driveway 2 from SH 71 to Internal	
Upstream Intersection (IN)	2,700	2,777	1,544	636	31	275	
Upstream Intersection (OUT)	2,692	2,750	1,539	379	0	344	
Downstream Intersection (IN)	1,955	1,858	736	0	0	0	
Downstream Intersection (OUT)	1,878	1,894	732	0	0	0	
Peak Hour Total	4,655	4,672	2,280	1,015	31	619	
K Factor	0.09	0.09	0.09	0.09	0.09	0.09	
ADT	51,719	51,907	25,331	11,274	339	6,872	
TCM Threshold	34000	34000	35500	15250	15250	15250	
Widening Needed	Yes	Yes	No	No	No	No	



- EDGE OF PAVEMENT
- EDGE OF TRAVEL LANE
- RIGHT OF WAY
- OHE
- OVERHEAD ELECTRIC

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