Ken Caryl Lands

Traffic Impact Study

Jefferson County, Colorado

Date: *revised* November 2, 2021
(2nd Submittal)

Submitted To:
NADG Ken-Caryl Ranch LP
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FOX TUTTLE

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KEN CARYL LANDS
TRAFFIC IMPACT STUDY

1.0 INTRODUCTION

This traffic impact study has been prepared by the Fox Tuttle Transportation Group for the Ken Caryl Lands residential project. The project proposes to build up to a total of 758 residential units on three separate parcels located along W. Ken Caryl Avenue just east of the C-470 interchange in unincorporated Jefferson County.

The purpose of this study is to assist in identifying potential traffic impacts within the study area with buildout of this project in the short and long-term scenarios. The traffic study addresses morning and evening peak hour intersection conditions in the study area without and with the project added traffic. The information contained in this study is anticipated to be used by Jefferson County in identifying any intersection or roadway deficiencies and potential improvements for both the near term and long-term future scenarios necessary to service project-added traffic volumes.

2.0 PROJECT DESCRIPTION

The Ken Caryl Lands project proposes to develop single-family detached, single-family paired homes, and multi-family dwelling units on three currently vacant parcels, as described below:

- Parcel A = ± 59 acres to be developed with 249 single-family residential units
- Parcel B = ± 28 acres to be developed with 201 multi-family residential units
- Parcel C = ± 12 acres to be developed with 308 multi-family residential units

A vicinity map is shown on **Figure 1**. Existing adjacent land uses include single-family and multi-family residential, retail, restaurant, and other commercial uses. Parcel C is located adjacent to the existing Regional Transportation District (RTD) Ken Caryl & C-470 Park-n-Ride.

The concept site plans illustrating proposed access are provided on **Figure 2**. Parcels A and C propose access from W. Ken Caryl Avenue via Shaffer Parkway/Indore Place and via an extension of S. Alkire Street into Parcel A. Access to Parcel B is proposed via a new south leg at the W. Ken Caryl Avenue & 12300 Block intersection and via a right-in, right-out access along W. Chatfield Avenue approximately 700’ south of W. Ken Caryl Avenue.

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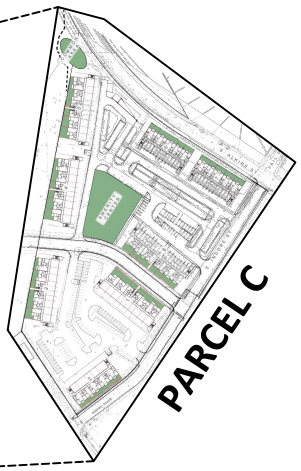
KEN CARYL LANDS TRAFFIC IMPACT STUDY

VICINITY MAP

FT #	20011	Original Scale	1"=1500'	Date	11/2/21	Drawn by	SGT	Figure #	1

PARCEL A SITE TABULATION

60 UNITS - SINGLE FAMILY DETACHED (24%) 45' X 109' LOTS	
119 UNITS - SINGLE FAMILY DETACHED (48%) 50' X 109' LOTS	
70 UNITS - SINGLE FAMILY DETACHED (28%) 60' X 109' LOTS	
TOTAL UNITS	249 D.U.
MAX ALLOWED	330 D.U.
SITE AREA	58.73 ACRES
DENSITY	4.23 D.U./ACRE



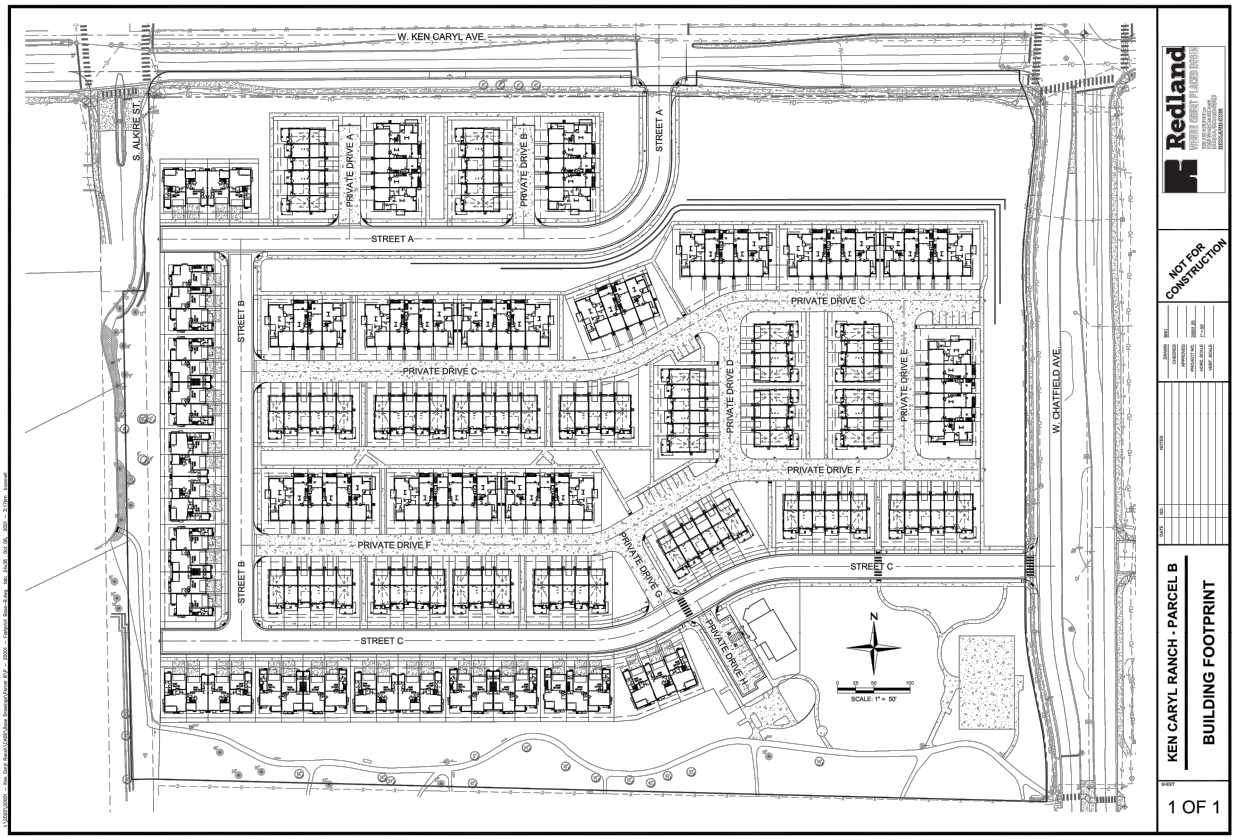
SITE PLAN - PARCEL A

KEN CARYL RANCH

JEFFERSON COUNTY, CO

DATE: JUNE 1, 2021 (V.11)
CLIENT: North American Development Group
PROJECT NO: 20001.02
AUTHOR: SMW

Redland
WHERE GREAT PLACES BEGIN
720.283.6783 Office
7500 West Canal Court
Littleton, Colorado 80120
REDLAND.COM



Redland
WHERE GREAT PLACES BEGIN

NOT FOR CONSTRUCTION

KEN CARYL RANCH - PARCEL B

BUILDING FOOTPRINT

1 OF 1

PARCEL B

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KEN CARYL LANDS TRAFFIC IMPACT STUDY

CONCEPTUAL SITE PLANS

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	2

3.0 EXISTING TRAFFIC CONDTIONS

3.1 Study Area and Circulation Network

The study area boundaries took into consideration the amount of traffic to be generated by the project and potential impact to the existing and proposed roadway network.

The existing study area street network consists of arterial, collector and local streets. The primary public roadways that serve the project site are discussed in the following text. Roadway classifications discussed are consistent with the Jefferson County Major Thoroughfare Plan[1]. The existing study area roadway network is illustrated on **Figure 1**.

W. Ken Caryl Avenue is a six-lane roadway that is classified as a principal arterial between C-470 and W. Chatfield Avenue. East of W. Chatfield Avenue, there exist three westbound through lanes and two eastbound through lanes, with the roadway classified as a minor arterial. Per Colorado Department of Transportation (CDOT) data available on the Transportation Data Management System (TDMS), W. Ken Caryl Avenue is currently servicing approximately 19,800 vehicles per day (vpd) just east of C-470.The posted speed limit is 40 miles per hour (mph).

Per Section 3.4 of the Transportation Design and Construction Manual[2], a principal arterial street can carry over 25,000 vpd. On this basis, W. Ken Caryl Avenue is currently operating below its theoretical capacity for average daily traffic (ADT). There are no short or long-term improvement plans for W. Ken Caryl Avenue within the study area in the Jefferson County Capital Improvement Program (CIP) or most recent addendum (2014) to the Countywide Transportation Plan.

W. Chatfield Avenue is a four-lane roadway that is classified in the Thoroughfare Plan as a minor arterial roadway. Per CDOT data, W. Chatfield Avenue is currently servicing approximately 10,700 vpd just south of W. Ken Caryl Avenue adjacent to the proposed Parcel B access location. Per the Jefferson County criteria, W. Chatfield Avenue is operating within the 15,000-20,000 vpd theoretical capacity range for ADT. There are no short-term or long-term improvement plans for W. Chatfield Avenue within the study area in the Jefferson County CIP or Transportation Plan. The posted speed limit is 40 mph within the project vicinity. W. Chatfield Avenue becomes S. Simms Street as it continues to the north of W. Ken Caryl Avenue.

Shaffer Parkway is a two-to-four lane roadway (within the study area) that is classified in the Thoroughfare Plan as a major collector. Per Denver Regional Council of Governments (DRCOG) data, Shaffer Parkway is currently servicing approximately 10,000 vehicles per day (vpd) just south of W. Ken Caryl Avenue where it is a four-lane facility. Per the Jefferson County criteria, a major collector can carry 8,000 to 15,000 vpd. On this basis, Shaffer Avenue is currently operating within its theoretical capacity for ADT. There are no short-term or long-term improvement plans for Shaffer Parkway in the Jefferson County CIP or Transportation Plan. The posted speed limit is 30 mph within the project vicinity.

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1 Major Thoroughfare Plan. Jefferson County. Approved January 10, 2018.

2 Transportation Design and Construction Manual. Jefferson County. Revised May 21, 2019.

S. Alkire Street is a two-lane roadway that is not specifically classified in the Thoroughfare Plan but is assumed to operate functionally as a collector roadway with a 44' flow-line width (wider than Jefferson County collector street cross-sections) with permitted on-street parking. Per DRCOG data, S. Alkire Street is currently servicing approximately 2,900 vpd just north of W. Ken Caryl Avenue. Per the Jefferson County criteria, a collector can carry 1,000 to 8,000. On this basis, S. Alkire Street is currently operating within its theoretical capacity for average daily traffic. There are no short-term or long-term improvement plans for Alkire Street within the study area in the Jefferson County CIP or Transportation Plan. The posted speed limit is 25 mph within the project vicinity.

3.2 Existing Traffic Volumes

Weekday AM and PM peak period turning-movement were collected in February 2020 during typical conditions. The existing traffic volumes, including available CDOT TDMS daily traffic volumes (collected in 2019) are illustrated on **Figure 3**. The existing intersection geometry and traffic control are also shown on the traffic volume figure. Count data sheets are provided in the Appendix.

3.3 Existing Intersection Capacity Analysis

In determining the operational characteristics of an intersection, "Levels of Service" (LOS) A through F are applied, with LOS A indicating very good operations and LOS F indicating congested operations. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement. A more detailed discussion of LOS methodology is contained in the Appendix for reference. Criteria contained in the Highway Capacity Manual (HCM)[3] was applied for these analyses in order to determine existing levels of service and 95th-percentile queues during peak hour periods. Existing signal timing and phasing parameters were obtained from Jefferson County and incorporated into the Synchro models.

The results of the LOS and queue calculations for the intersections are summarized in **Table 1** for existing conditions. The intersection level of service and queue worksheets are attached in the Appendix. The data in the tables shows that all study intersections are operating acceptably overall and for individual movements (LOS D or better) in both peak hours, with the following exception:

- W. Ken Caryl Avenue / W. Chatfield Avenue: The northbound and southbound left-turn movements are calculated to operate at LOS E in the PM peak hours. This is due to the protected-only left-turn phasing used to improve safety for the dual left-turn lane configuration and relatively short left-turn time allotted to these movements. This level of service is common for a protected-only left-turn at an arterial intersection and does not warrant mitigation. Note that the eastbound and westbound left-turns also operate in

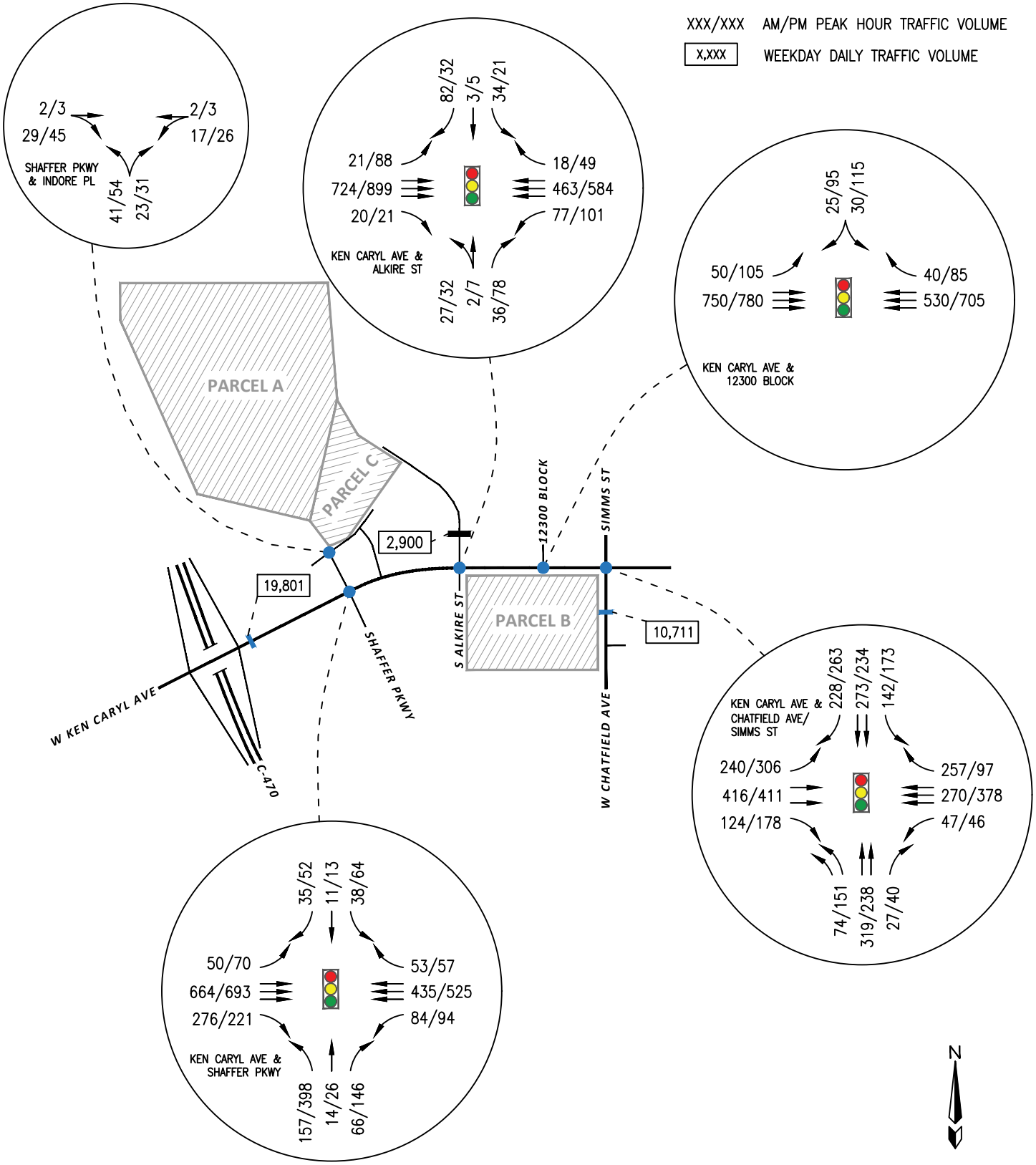
[3] Highway Capacity Manual, Sixth Edition, Transportation Research Board, National Research Council, 2016. Synchro v10 software utilized.

protected-only mode but have been provided longer left-turn phases by the County as a result of being single-lane left-turn lane configurations.

3.4 Transportation Safety Analysis

An analysis of 5-year crash history at existing signalized intersections was requested by County staff as part of this study and is included in the Appendix. The intent of the analysis was to examine crash records and the frequency of occurrence of different types of crashes to determine whether any correctible crash patterns exist or may be exacerbated by increased traffic related this project and, if so, to identify countermeasures that may reduce the incidence of crashes within the study area.

Per the findings of this analysis of crash records from 2011 through 2015, which were provided by County staff, only the Ken Caryl Ave. and Simms St/Chatfield Ave. intersection showed a crash pattern that was overrepresented vs. statewide averages: approach turn crashes, specifically involving eastbound left-turns vs. westbound through vehicles. Mitigation for this type of crash pattern would typically involve changing from permissive or protected-permissive left-turn operation to protected-only left-turn phasing. Per discussions with County staff, we understand that the change to protected-only phasing for the eastbound and westbound left-turn movements was already implemented in 2020 due to the County's identification of this same crash trend. The operational modeling using Synchro for this report includes this recent change.



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EXISTING TRAFFIC VOLUMES

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	3

Table 1 – Intersection LOS Summary (Existing and Future-Year Background)

Int.	Lane	Existing Conditions				Year 2025 Background				Year 2040 Background			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Ken Caryl Ave & Shaffer Pkwy	*Overall (Signal)*	**23.7**	**C**	**27.8**	**C**	**24.4**	**C**	**28.7**	**C**	**26.4**	**C**	**31.7**	**C**
	EBL	18	B	22	C	19	B	22	C	19	B	23	C
	EBT	24	C	27	C	25	C	28	C	26	C	29	C
	EBR	29	C	29	C	31	C	30	C	38	D	33	C
	WBL	19	B	22	C	20	B	22	C	21	C	24	C
	WBT	22	C	25	C	22	C	26	C	22	C	27	C
	WBR	20	B	23	C	21	C	23	C	21	C	24	C
	NBL	22	C	35	C	23	C	38	D	23	C	48	D
	NBT	22	C	26	C	23	C	26	C	23	C	27	C
	NBR	24	C	30	C	24	C	30	C	25	C	32	C
	SBL	22	C	25	C	22	C	25	C	22	C	25	C
	SBT	24	C	28	C	24	C	28	C	24	C	28	C
	SBR	25	C	29	C	25	C	29	C	25	C	29	C
Ken Caryl Ave & Alkire St	*Overall (Signal)*	**20.6**	**C**	**18.6**	**B**	**20.9**	**C**	**19.4**	**B**	**21.4**	**C**	**19.9**	**B**
	EBL	17	B	14	B	17	B	14	B	17	B	14	B
	EBT	22	C	18	B	23	C	20	B	23	C	20	C
	EBR	18	B	15	B	18	B	16	B	18	B	16	B
	WBL	17	B	14	B	18	B	15	B	18	B	16	B
	WBTR	19	B	16	B	19	B	18	B	20	B	18	B
	NBLT	19	B	28	C	19	B	29	C	19	B	29	C
	NBR	19	B	29	C	19	B	30	C	19	B	30	C
	SBL	21	C	30	C	21	C	30	C	21	C	30	C
	SBT	19	B	27	C	19	B	27	C	19	B	27	C
	SBR	21	C	30	C	21	C	28	C	21	C	28	C
Ken Caryl Ave & Chatfield Blvd/Simms St	*Overall (Signal)*	**30.9**	**C**	**34.2**	**C**	**31.5**	**C**	**34.5**	**C**	**31.7**	**C**	**34.9**	**C**
	EBL	52	D	18	B	53	D	18	B	53	D	19	B
	EBT	7	A	31	C	7	A	32	C	8	A	33	C
	EBR	7	A	31	C	7	A	32	C	8	A	32	C
	WBL	63	E	20	B	62	E	20	B	61	E	21	C
	WBT	31	C	23	C	32	C	24	C	33	C	25	C
	WBR	0	A	0	A	0	A	0	A	0	A	0	A
	NBL	51	D	60	E	50	D	42	D	50	D	59	E
	NBTR	35	C	42	D	35	C	43	D	35	C	43	D
	SBL	54	D	59	E	56	E	60	E	56	E	61	E
	SBT	29	C	39	D	60	E	39	D	29	C	39	D
	SBR	37	D	34	C	38	D	34	C	39	D	34	C
Chatfield Ave & 12300 Block	*Overall (Signal)*	**4.8**	**A**	**5.3**	**A**	**4.7**	**A**	**8.9**	**A**	**4.9**	**A**	**9.3**	**A**
	EBL	6	A	7	A	6	A	7	A	6	A	8	A
	EBTR	6	A	7	A	6	A	7	A	6	A	7	A
	WBL												
	WBT	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	0	A	0	A	0	A	0	A	0	A	0	A
	NBLTR												
	SBLTR	35	C	40	D	35	C	53	D	35	D	54	D
RI/RO Access	EBRT												
	SBR												
	SBT												
Shaffer Pkwy & Indore	EBTR	9	A	9	A	9	A	9	A	9	A	9	A
	WBLT	10	A	10	B	10	A	11	B	10	B	11	B
	NBLR	5	A	5	A	5	A	5	A	5	A	5	A

Note: Delay represented in average seconds per vehicle. Delay and queues calculated using Synchro v10 and HCM6 methodology.

4.0 FUTURE TRAFFIC CONDITIONS WITHOUT PROJECT

4.1 Annual Growth Factor and Future Volume Methodology

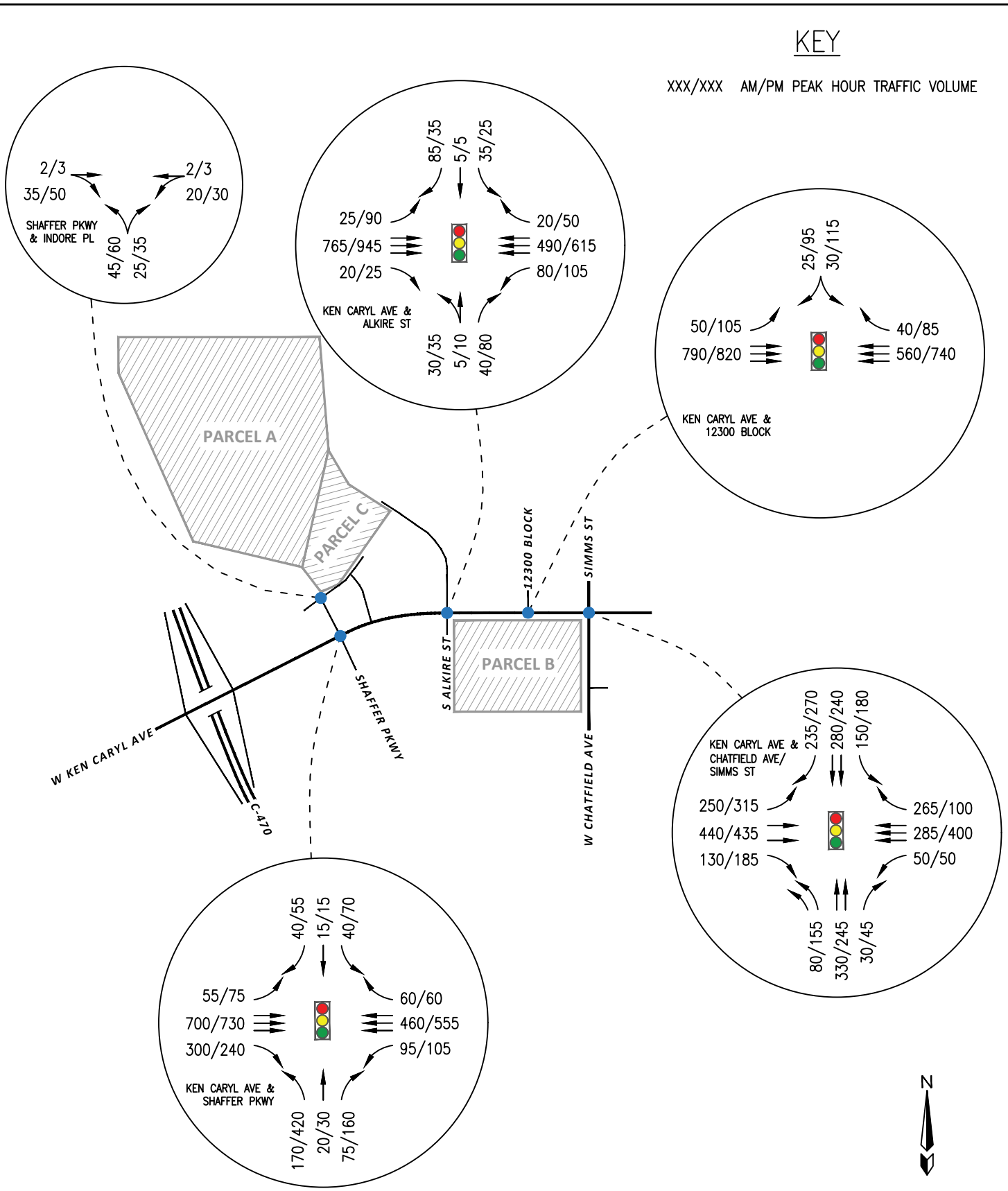
Potential for background (non-project) traffic growth in the project vicinity was considered based on DRCOG regional travel model data and potential future development along the study area roadways. In general, with the exception of the project parcels, the area is largely built out, with some commercial development in-fill along Shaffer Parkway and W. Chatfield Avenue south of the project area. A comparison of the DRCOG base year and Year 2040 volume projections was performed to develop potential background growth on each study area roadway. Based on this data, a 1% annual background growth rate was applied within the study area, with lower growth assumed for W. Chatfield Avenue (0.5% annual) and S. Alkire Street (minimal growth as residential uses with direct access to S. Alkire Street are built out).

The project is anticipated to be fully built and occupied within the next 5 years. Thus, the Year 2025 planning horizon was assumed for the build-out or “opening day” scenario, with Year 2040 as the long-term planning scenario. Using the above growth rates, the projected Year 2025 background traffic volumes are provided on **Figure 4** with the projected Year 2040 background traffic volumes on **Figure 5**.

4.2 Future Year Background (without Project) Capacity Analysis

The level of service criteria discussed Section 3.3 was applied to the study area intersections to determine baseline operations for the Year 2025 and Year 2040 background traffic scenarios. The results of the LOS calculations are summarized on **Table 1** on the previous page. The intersection level of service and queue worksheets are attached in the Appendix.

The data on **Table 1** shows that all study intersections are projected to operate acceptably overall and for individual movements (LOS D or better) in both peak hours, with the exception of the northbound and southbound protected-only (dual) left-turn movements at the W. Ken Caryl Avenue & W. Chatfield Avenue intersection in the PM peak hour. As discussed previously, the protected-only operation is due to safety considerations for dual left-turns and the calculated LOS E does not warrant mitigation.



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YEAR 2025 BACKGROUND TRAFFIC VOLUMES

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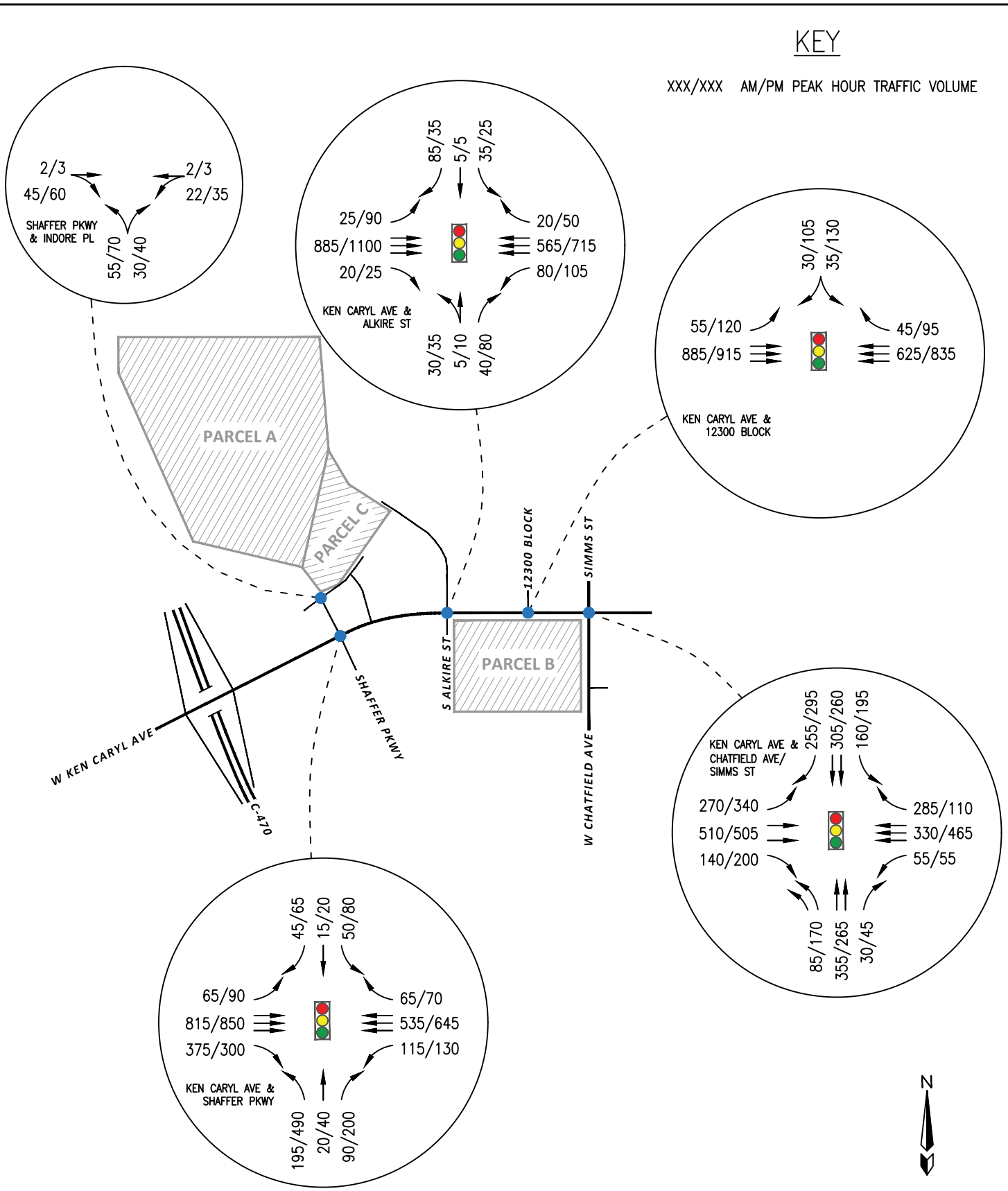

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KEN CARYL LANDS TRAFFIC IMPACT STUDY

YEAR 2040 BACKGROUND TRAFFIC VOLUMES

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	5

5.0 PROPOSED DEVELOPMENT TRAFFIC

5.1 Trip Generation

In order to estimate the anticipated volume of trips generated by the site at build-out of all three parcels, residential trip rates contained in the Institute of Transportation Engineers (ITE) Trip Generation manual[4] for the appropriate land use categories were applied. The resulting existing trip estimates for each parcel are summarized on **Table 2** on the following page.

As shown, the 758 residential units on the three parcels combined are anticipated to generate a total of 5,036 daily, 364 AM peak hour and 464 PM peak hour trips at full build-out and occupancy. A 5% vehicular trip reduction was applied to the Parcel C multi-family trip estimates to account for adjacent mixed-use and proximity to the RTD Park-n-Ride facility which provides regional bus service via the 116X route to/from downtown (Civic Center Station).

5.2 Trip Distribution and Assignment

The estimated project build-out trips were distributed onto the surrounding roadway and intersection based on existing residential traffic patterns in the study area determined with the existing count data. Using this data, it is estimated that roughly 65% of the project traffic will be oriented to/from the west along W. Ken Caryl Avenue (including C-470) with 30% of the traffic along W. Ken Caryl Avenue towards W. Chatfield Avenue/S. Simms Street. Approximately 5% of the trips is assumed to be oriented towards local retail and commercial use in the project area. At W. Chatfield Avenue/S. Simms Street, 15% of the site trips area anticipated to be oriented to/from the east along W. Ken Caryl Avenue, 10% to/from the south along W. Chatfield Avenue, and 5% to/from the north along S. Simms St.

The anticipated project-added volumes at build-out, along with the trip distribution assumptions, is provided on **Figure 6**.

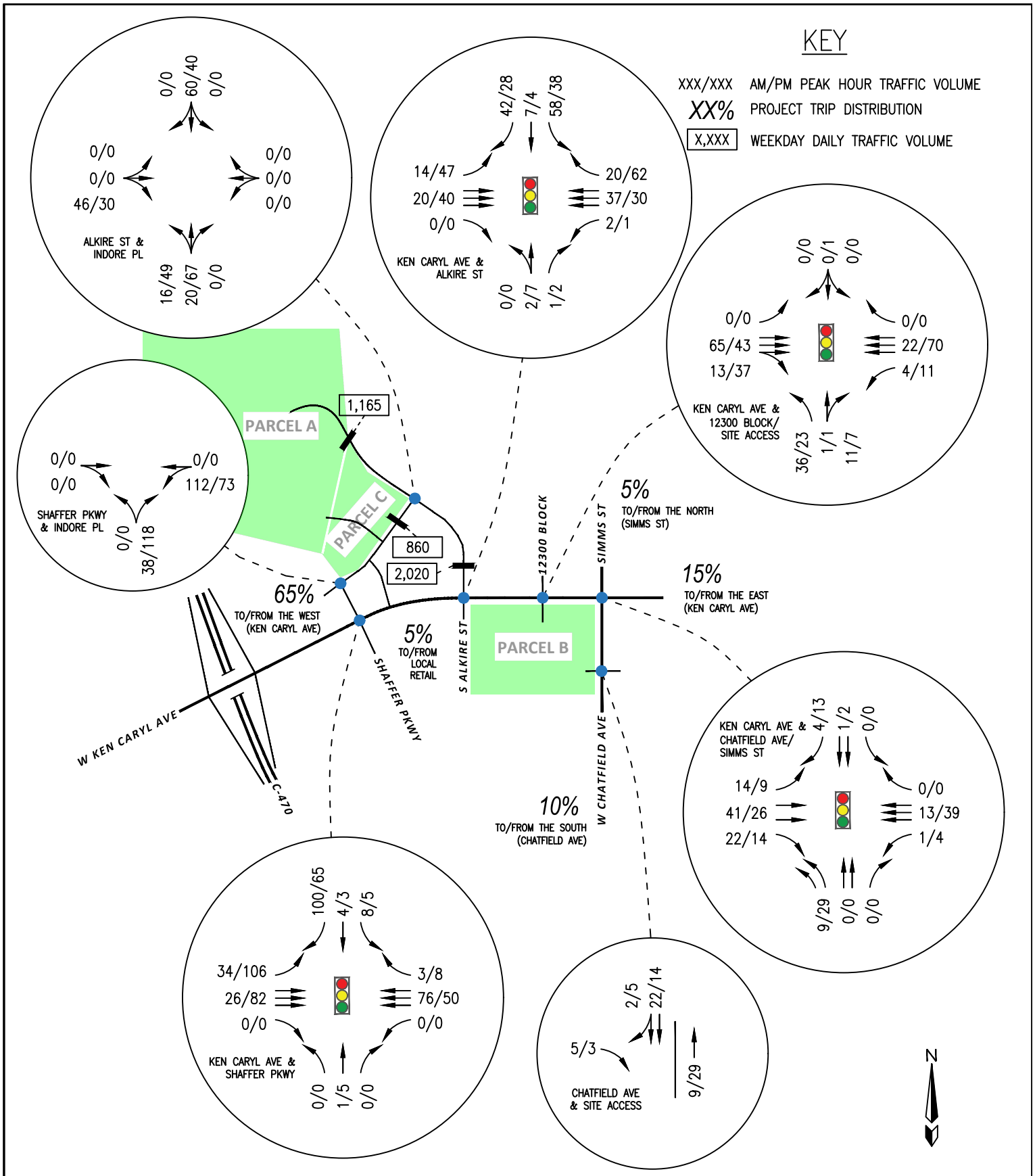
[4] Trip Generation 10th Edition, Institute of Transportation Engineers, 2016.

Table 2 - Trip Generation Estimate

Land Use	Size	Unit	MXD Factor*	Average Daily Trips				A.M. Peak Hour Trips				P.M. Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Parcel A: ITE 210 - Single-Family Detached Housing	249	D.U.	1.00	9.44	2,351	1,175	1,176	0.75	187	47	140	0.99	247	155	92
Parcel B: ITE 221 - Multifamily Housing (Mid-Rise)	201	D.U.	1.00	5.44	1,093	547	546	0.36	72	19	53	0.44	88	54	34
Parcel C: ITE 221 - Multifamily Housing (Mid-Rise)	308	D.U.	0.95	5.44	1,592	796	796	0.36	105	27	78	0.44	129	79	50
Project Totals:	**758**	**D.U.**			**5,036**	**2,518**	**2,518**		**364**	**93**	**271**		**464**	**288**	**176**

Source: ITE Trip Generation 10th Edition. 2017.

* MXD factor accounts for non-auto trips that occur between the project residential and adjacent retail/commercial uses and also reflects use of RTD Park-n-Ride transit service adjacent to Parcel C



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KEN CARYL LANDS TRAFFIC IMPACT STUDY

SITE-GENERATED TRAFFIC VOLUMES

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	6

6.0 FUTURE TRAFFIC CONDITIONS WITH PROJECT

This analysis has been conducted in order to determine impacts associated with full development and occupancy of the project in the short-term (build-out) and long-term scenarios.

6.1 Intersection Capacity Analysis for Short-Term + Project Scenario

The site-generated traffic volumes were added to the Year 2025 background traffic volumes to analyze potential site impacts in the short-term, build-out scenario. The Year 2025 total traffic volumes are illustrated on **Figure 7**. The level of service criteria discussed in prior sections was applied to the study area intersections to determine impacts with the addition of project build-out traffic volumes in the short-term. The results of the LOS calculations for the intersections are summarized for each scenario in **Table 3**. The intersection level of service and queue worksheets are attached in the Appendix.

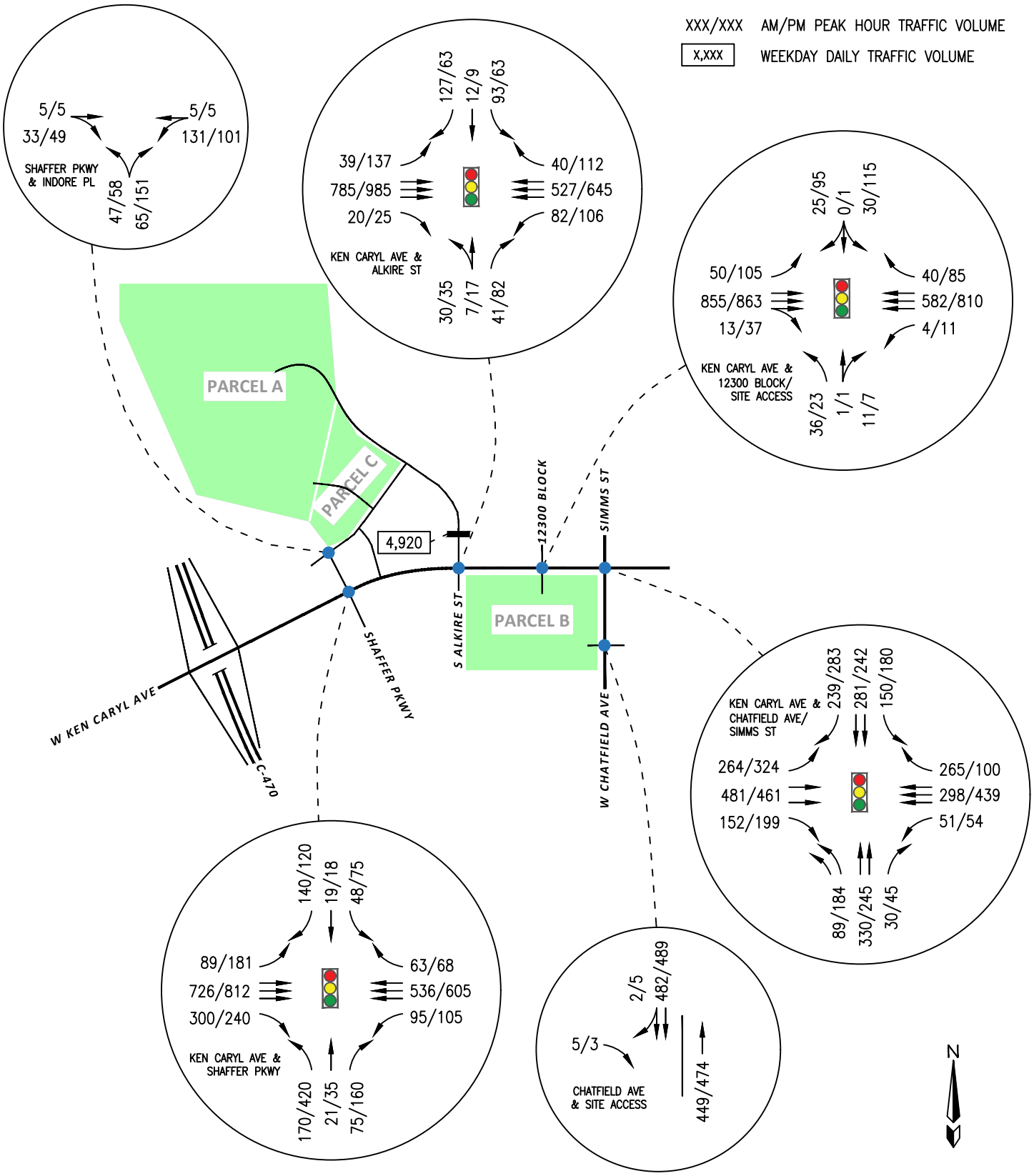
The data contained in **Table 3** illustrates that the study area intersections and proposed accesses will operate acceptably with the addition of project traffic at build-out in the short-term. Other than constructing the new access points as proposed, **no mitigation measures were identified as necessary to support project added traffic in the short-term planning horizon.**

6.2 Intersection Capacity Analysis for Long-Term + Project Scenario

The site-generated traffic volumes were added to the Year 2040 background traffic volumes to analyze potential site impacts in the long-term, build-out scenario. The Year 2040 total traffic volumes are illustrated on **Figure 8**. The level of service criteria discussed in prior sections was applied to the study area intersections to determine impacts with the addition of project build-out traffic volumes in the long-term. The results of the LOS calculations for the intersections are summarized for each scenario in **Table 3**. The intersection level of service and queue worksheets are attached in the Appendix.

The data contained in **Table 3** illustrates that the study area intersections and proposed accesses will operate acceptably with the addition of project traffic at build-out in the long-term. Other than constructing the new access points as proposed, **no mitigation measures were identified as necessary to support project added traffic in the long-term planning horizon.**

As discussed previously, the northbound and southbound left-turn movements at the W. Ken Caryl Avenue & W. Chatfield Avenue intersection are calculated to operate at LOS E in the PM peak hours in all scenarios. This is due to the protected-only left-turn phasing used to improve safety for the dual left-turn lane configuration. This level of service is typical for a protected-only left-turn at an arterial intersection and does not warrant mitigation.



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KEN CARYL LANDS TRAFFIC IMPACT STUDY

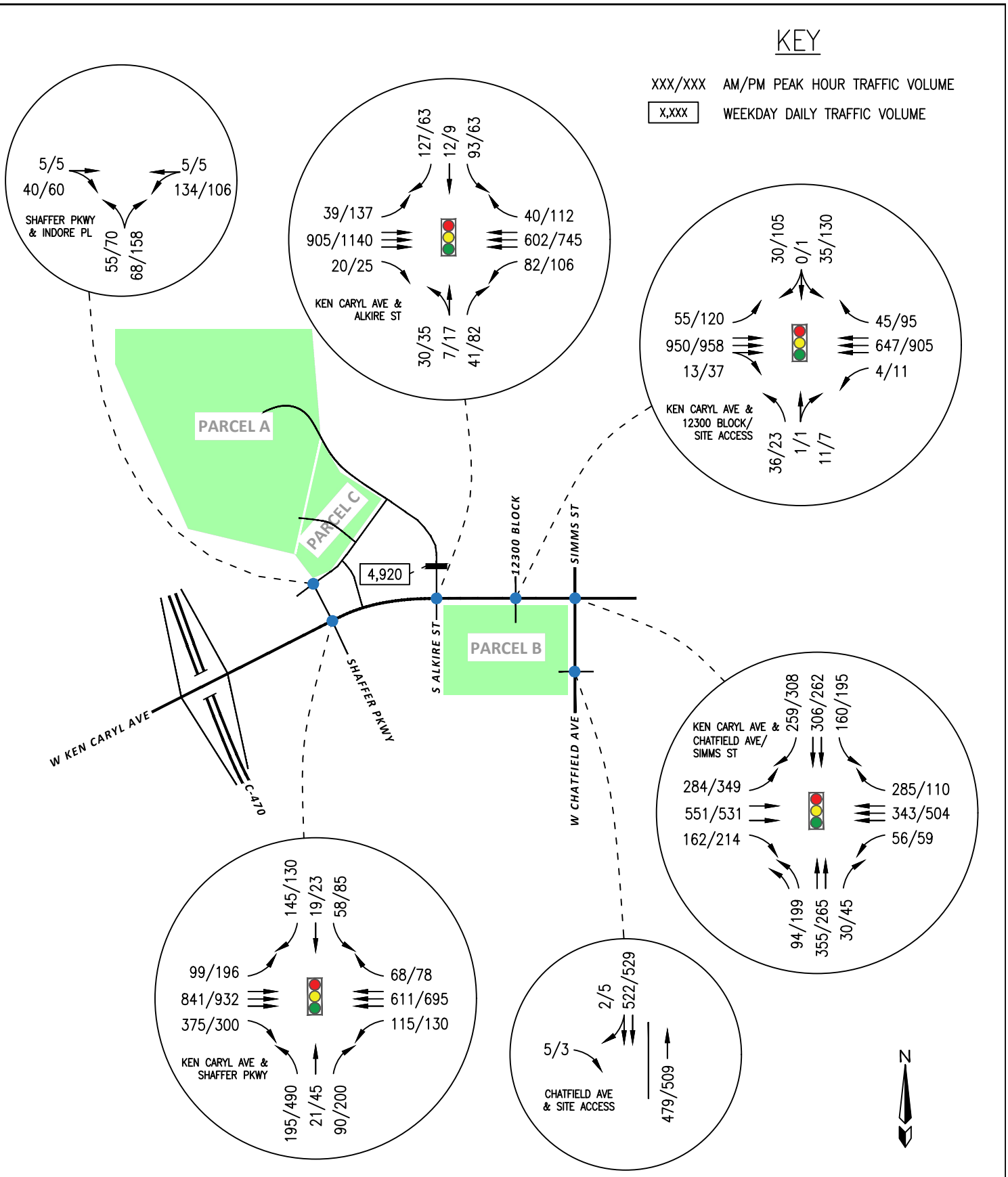
YEAR 2025 TOTAL TRAFFIC VOLUMES

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	7

Table 3 – Intersection LOS Summary (w/Project)

Int.	Lane	Year 2025 Total				Year 2040 Total			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Ken Caryl Ave & Shaffer Pkwy	*Overall (Signal)*	**24.9**	**C**	**30.5**	**C**	**27.4**	**C**	**34**	**C**
	EBL	19	B	23	C	19	B	24	C
	EBT	25	C	29	C	27	C	31	C
	EBR	31	C	30	C	41	D	33	C
	WBL	20	B	24	C	22	C	26	C
	WBT	23	C	30	C	24	C	31	C
	WBR	22	C	27	C	22	C	28	C
	NBL	23	C	41	D	24	C	54	D
	NBT	23	C	27	C	23	C	28	C
	NBR	24	C	31	C	25	C	33	C
	SBL	22	C	25	C	22	C	25	C
	SBT	24	C	28	C	24	C	28	C
	SBR	29	C	32	C	29	C	31	C
Ken Caryl Ave & Alkire St	*Overall (Signal)*	**21.4**	**C**	**20.4**	**C**	**22.2**	**C**	**20.9**	**C**
	EBL	17	B	15	B	17	B	15	B
	EBT	23	C	20	B	24	C	21	C
	EBR	18	B	16	B	18	B	16	B
	WBL	18	B	16	B	18	B	16	B
	WBTR	20	B	20	B	21	C	20	B
	NBLT	19	B	29	C	21	C	29	C
	NBR	19	B	30	C	19	B	30	C
	SBL	23	C	32	C	23	C	32	C
	SBT	19	B	28	C	19	B	28	C
	SBR	22	C	29	C	22	C	29	C
Ken Caryl Ave & Chatfield Blvd/Simms St	*Overall (Signal)*	**31.5**	**C**	**34.9**	**C**	**32.2**	**C**	**35.4**	**D**
	EBL	54	D	19	B	53	D	19	B
	EBT	8	A	32	C	9	A	33	C
	EBR	8	A	32	C	9	A	33	C
	WBL	62	E	20	B	61	E	21	C
	WBT	33	C	24	C	35	C	25	C
	WBR	0	A	0	A	0	A	0	A
	NBL	50	D	59	E	50	D	59	E
	NBTR	35	C	42	D	36	D	43	D
	SBL	56	E	60	E	57	E	61	E
	SBT	29	C	40	D	29	C	41	D
	SBR	39	D	35	C	42	D	35	C
Chatfield Ave & 12300 Block	*Overall (Signal)*	**5.7**	**A**	**9.4**	**A**	**5.8**	**A**	**9.9**	**A**
	EBL	6	A	8	A	6	A	9	A
	EBTR	6	A	8	A	7	A	9	A
	WBL	1	A	1	A	1	A	1	A
	WBT	1	A	1	A	1	A	1	A
	WBR	1	A	1	A	1	A	1	A
	NBLTR	33	C	38	D	32	C	36	D
	SBLTR	34	C	53	D	35	C	54	D
RI/RO Access	EBRT	9	A	9	A	9	A	9	A
	SBR	0	A	0	A	0	A	0	A
	SBT	0	A	0	A	0	A	0	A
Shaffer Pkwy & Indore	EBTR	9	A	9	A	9	A	9	A
	WBLT	11	B	13	B	12	B	13	B
	NBLR	3	A	2	A	3	A	3	A

Note: Delay represented in average seconds per vehicle. Delay and queues calculated using Synchro v10 and HCM6 methodology.



FOX TUTTLE
TRANSPORTATION GROUP

KEN CARYL LANDS TRAFFIC IMPACT STUDY

YEAR 2040 TOTAL TRAFFIC VOLUMES

FT #	20011	Original Scale	NTS	Date	11/2/21	Drawn by	SGT	Figure #	7

6.3 Site Access and Circulation

The project proposes the following access points and configurations:

1) (Parcel A and C) **Access via a new local street connection to Indore Place opposite the RTD Park-n-Ride.** This driveway should optimally align with the Park-n-Ride access to reduce turning movement path conflicts. This access will be controlled with a stop sign on the southbound (site access) approach. As part of this project, Indore Place will be extended to S. Alkire Street to align with Vail Pass to the east. The extension of Indore Pl. to S. Alkire Street is anticipated to carry approximately 1,000 vpd at buildout.

2) (Parcel A) **Access via an extension of S. Alkire Street to the north into the site.** S. Alkire Street is currently closed north of Vail Pass, though a portion of the curb/gutter, sidewalk, and roadway was previously built but not maintained. As shown on **Figure 6**, the project is anticipated to generate approximately 2,020 vpd S. Alkire Street just north of Ken Caryl Avenue and approximately 1,165 vpd north of Vail Pass. This is anticipated to increase the existing traffic on S. Alkire Street just north of Ken Caryl Avenue from approximately 2,900 vpd to 4,920 vpd. S. Alkire Street is operating as a collector roadway and per Jefferson County criteria collector roadways have a volume capacity of up to 8,000 vpd. Thus, this roadway will still be operating within its capacity with the addition of site traffic.

3) (Parcel B) **Access via a fourth (south) leg of the existing 12300 Block signalized intersection.** The south leg should be constructed by the project to align with the north leg of the intersection, with the signal improved to provide signal indications for all four legs in compliance with the Manual on Uniform Traffic Control Devices (MUTCD). A westbound left-turn lane should be constructed by the project to include a 100' deceleration lane with median modifications required to provide a back-to-back taper with the existing eastbound left-turn lane approaching W. Chatfield Avenue/S. Simms Street. It is recommended that the existing 200' bay taper be shortened to accommodate this lane without decreasing storage for the eastbound left-turn lane approach W Chatfield Avenue/S. Simms Street. Note that an eastbound right-turn deceleration lane is not necessary at this access. Using CDOT Access Code criteria, a right-turn lane is not necessary if there are three though lanes as exists on W. Ken Caryl Avenue, unless operational or safety conditions would dictate doing so. The projected volumes and future year operational analysis reinforce that an eastbound right-turn deceleration is not needed. New crosswalks should be installed across Ken Caryl Avenue with the signal rebuild and new access at the 12300 Block intersection.

4) (Parcel B) **Access via W. Chatfield Avenue approximately 700' south of W. Ken Caryl Avenue.** This access will be restricted to right-in, right-out movements with the existing landscape median on W. Chatfield Avenue. A southbound right-turn deceleration lane on W. Chatfield Avenue is not warranted based on projected volumes. This access will be controlled with a stop sign on the eastbound (site access) approach.

The intersection of Shaffer Parkway with Indore Place is currently controlled with stop signs on the sidestreet (Indore Place) approaches, with flashing beacons to reinforce the stop condition when fire trucks are utilizing the West Metro Fire Rescue Station 13 access on the north leg of this intersection. There is also a beacon on the northbound approach to require vehicles to stop for fire trucks when flashing. Per **Table 3**, this intersection is anticipated to operate acceptably with LOS B or better on all approaches with the addition of project traffic with the existing stop control. Per the queuing reports provided for each intersection/scenario in the Appendix, the westbound approach is projected to operate with a 95th-percentile queue of 24', or less than one vehicles during the busiest peak hour. This illustrates that the projected-added traffic will have minimal impact on RTD bus operations with the bus exit driveway located roughly 60' to the east of the westbound stop bar.

The southbound approach on Shaffer Parkway at the W. Ken Caryl Avenue intersection will experience an increase of traffic with the project-added volumes. The southbound approach is projected to continue to operate with an acceptable level of service with the existing lane geometry and signal timing. The longest 95th-percentile peak hour queues for the southbound approach are anticipated to increase from 59' (< three vehicles) (existing PM) to 76' (approx. 3 vehicles) (2040 total AM), indicating that the project-added traffic will not result in any future operational issues on this approach. Similarly, the project will increase the eastbound left-turn volume from W. Ken Caryl Avenue to northbound Shaffer Parkway. The average queue in the busiest peak hour (2040 total PM) is projected to be roughly 89' (3.6 vehicles) with the 95th-percentile queue projected at 139' (5.6 vehicles). The average queue will be contained within the 120' existing left-turn storage, with the 95th-percentile queue extending approximately ½-vehicle into the 180' taper area (less than a ½ vehicle). If any spillback of this lane into the adjacent eastbound through lane is observed in the future, this can be mitigated with minor timing adjustments to increase the protected portion of the protected-permissive left-turn phasing while maintaining adequate level of service for the opposing (westbound) through movement.

Pedestrian and bicycle traffic is anticipated to be accommodated via extensions of existing roadway and sidewalk facilities into the site and via internal connections to existing regional trail facilities. A pedestrian/bike connection to the C-470 trail is proposed at the west side of Parcel A. A pedestrian connection at the south boundary of Parcel B will connect to the off-street 8' asphalt trail, which provides access to the retail sites to the west and a mid-block rectangular rapid flash beacon (RRFB) crossing of W. Chatfield Avenue and multi-use paths to the east and south. The RTD Park-n-Ride located adjacent to Parcel C provides access to local and regional transit routes.

7.0 CONCLUSIONS

This traffic impact study has been prepared by the Fox Tuttle Transportation Group for the Ken Caryl Lands residential project. The project proposes to build a total of 758 residential units on three separate Parcels located along W. Ken Caryl Avenue just east of the C-470 interchange in unincorporated Jefferson County. Access is proposed via Indore Place (via Shaffer Parkway and S. Alkire Street), an extension of S. Alkire Street, access via W. Ken Caryl Avenue, and via W. Chatfield Avenue. The purpose of this study is to assist in identifying potential traffic impacts within the study area with buildout of this project in the short and long-term scenarios. The traffic study addresses morning and evening peak hour intersection conditions in the study area without and with the project added traffic.

The project is anticipated to generate a total of approximately 5,036 daily, 364 AM peak hour and 464 PM peak hour trips at full build-out and occupancy. It was determined that the project-added traffic can be accommodated on the existing and future roadway and intersection network with minimal impacts.

The following improvements are recommended to be implemented by the project to service project-added traffic:

- Construct a fourth (south) leg of the 12300 Block & W. Ken Caryl Avenue intersection, to align with the existing north leg. Reconstruct the signal to include signal indications for all movements per the MUTCD, along with pedestrian accommodations to facilitate walking trips from Parcel B to retail on the north side of W. Ken Caryl Avenue. A new cabinet and controlled will be needed at the southwest corner due to the location of the new access which will be in conflict with the existing cabinet. Crosswalks in all directions, including crossing Ken Caryl Avenue, should be included with the modifications. Reconstruct the median on the east leg to include a 100’ westbound left-turn lane into the site and a back-to-back taper with the eastbound left-turn lane approaching W. Chatfield Avenue/S. Simms Street. It is recommended that the existing 200’ bay taper be shortened to accommodate this lane without decreasing storage for the eastbound left-turn lane approach W Chatfield Avenue/S. Simms Street.

- Construct S. Alkire Street extension, Indore Place and W. Chatfield Avenue (restricted right-in, right-out) accesses as proposed.

- Construct the extension of Indore Place east to S. Alkire Street

- Construct bicycle and pedestrian connections to existing sidewalks and local/regional trails as proposed.

APPENDIX

Crash Pattern Analysis Memorandum
Level of Service Definitions
Intersection Capacity Worksheets
Traffic Count Data Sheets

Crash Pattern Analysis Memorandum

MEMORANDUM

To: Lindsey Wire, P.E., Civil Planning Engineer, Jefferson County

From: Wesley Dismore, PE, Fox Tuttle Transportation Group

Date: October 7, 2021

Project: 20011 – Ken Caryl Residential TIS

Subject: Crash Pattern Analysis

The Fox Tuttle Transportation Group has completed an analysis of crash records and patterns at four intersections along Ken Caryl Ave east of C-470 in Jefferson County, CO. The analysis was completed in support of a Traffic Impact Study (TIS) for residential development in the area. The intent of the analysis was to examine crash records and the frequency of occurrence of different types of crashes to determine whether any correctible crash patterns exist and, if so, to identify countermeasures that may reduce the incidence of crashes along the corridor. The four study intersections are:

- W Ken Caryl Ave and Shaffer Pkwy
- W Ken Caryl Ave and S Alkire St
- W Ken Caryl Ave and 12300 Blk commercial access
- W Ken Caryl Ave and S Simms St/W Chatfield Ave

The four study intersections and vicinity are shown in **Figure 1.** This memo outlines the methodology, findings, conclusions, and recommendations of the analysis.

The first step in the process was to download digital crash records in GIS format from the Jefferson County Open Data Catalog.[1] Jefferson County maintains a digital database of crashes occurring between the years 2011 and 2015. These crash records were sorted using GIS software, and the relevant crashes were selected from the database for each of the four study intersections. The next step was to determine the traffic volumes experienced on the study corridor during the crash analysis period. For this purpose, the Denver Regional Council of Governments (DRCOG) Traffic

[1] https://data-jeffersoncounty.opendata.arcgis.com/datasets/jeffersoncounty::crash/about

Count Database[2] was consulted. Because the crash analysis period was 2011 through 2015, traffic counts taken in 2013 (the midpoint of the analysis period) were chosen. For sites at which traffic volumes were not available in 2013, the existing count was modified to match 2013 by adjusting it up or down by 2% per year. This provides a reasonable approximation.

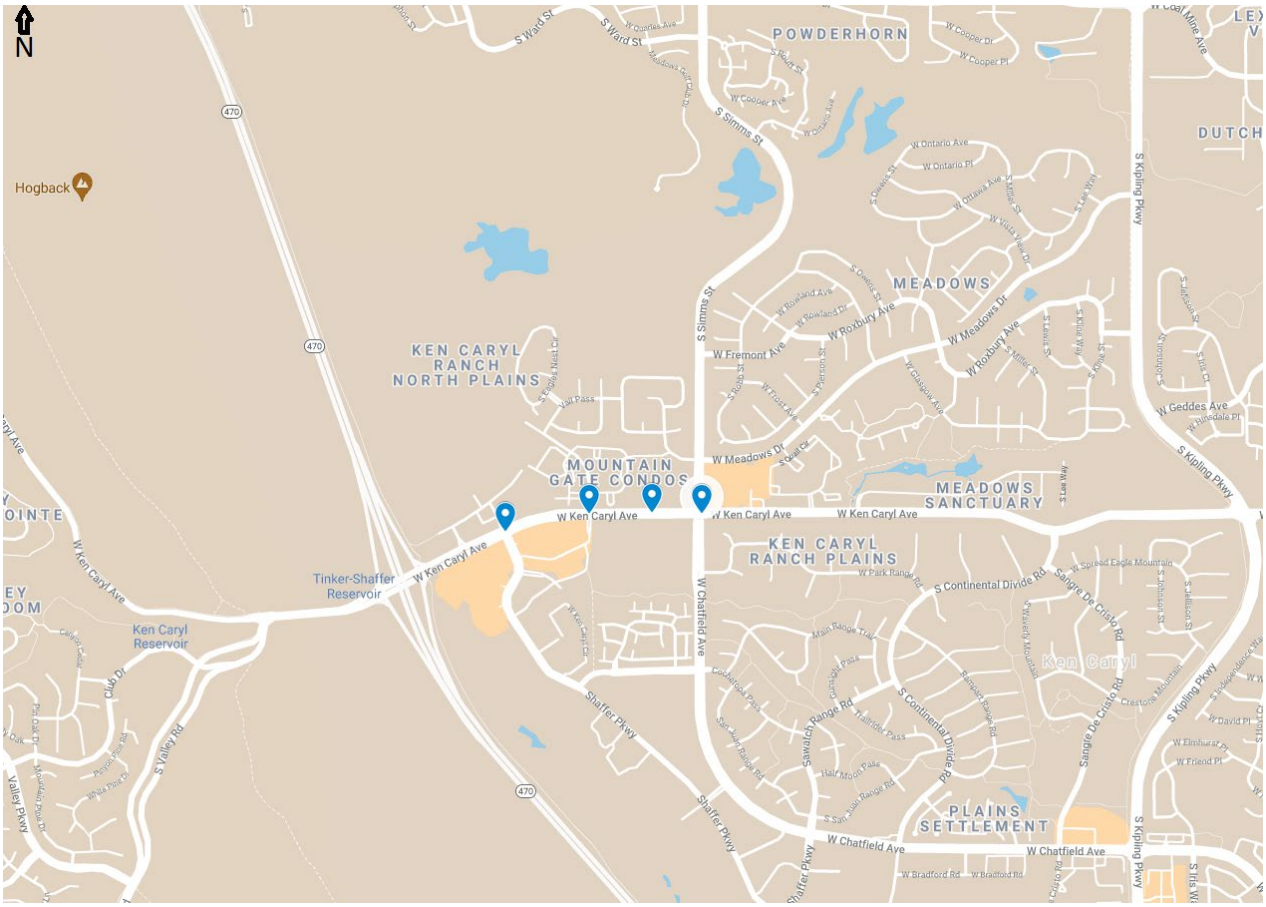


Figure 1 - Study Intersections and Vicinity

Subsequently, each intersection was evaluated using Safety Performance Functions (SPF)[3] developed by the Colorado Department of Transportation (CDOT) for this purpose. An SPF describes the expected rate of crash occurrence at an intersection based on the intersection type (for example, 6-lane divided signalized four-leg intersection) and the Annual Daily Traffic (ADT) on the major and minor approaches. An example SPF graph is shown in **Figure 2.**

[2] https://drcog.org/planning-great-region/transportation-planning/regional-traffic-count-program
[3] https://www.codot.gov/safety/traffic-safety/assets/safety-analysis-information/spf

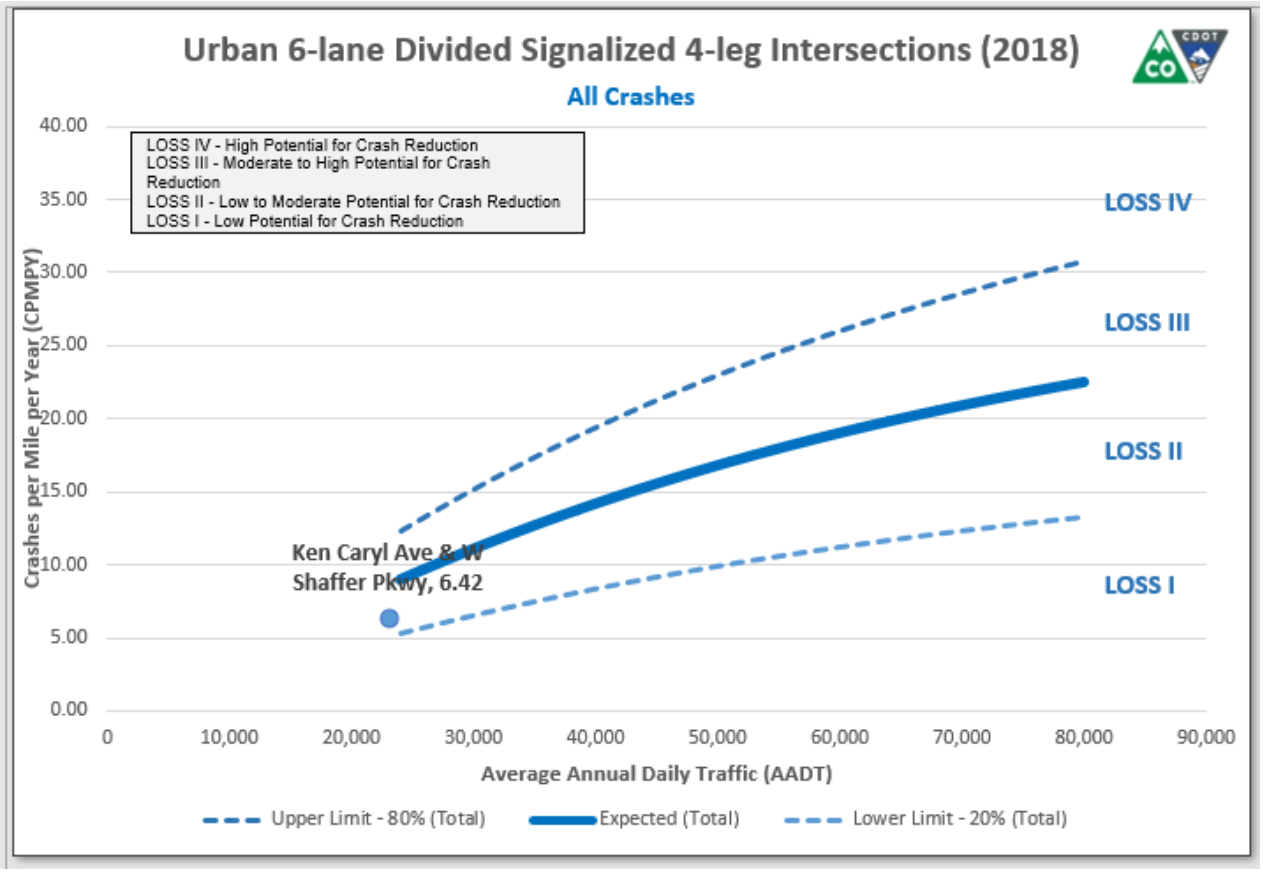


Figure 2 – Example SPF Graph

The graph in **Figure 2** shows a slice of a 3-dimensional surface that relates the two approach volumes and the crash rate. The dark blue line in the center represents the expected number of crashes per mile per year based on the AADT along the main road. The dashed blue lines represent the 80th and 20th percentile of similar intersections across Colorado, which indicates the upper and lower bound of what is considered normal performance. The blue dot in the lower left[4] represents one of the study intersections, which is experiencing 6.42 crashes per year. The solid and dashed blue lines separate the graph into quarters, each representing a Level of Service of Safety (LOSS) which are ranked I-IV. As shown in the graph, LOSS represents the potential for the reduction of crashes. A LOSS-IV intersection is one experiencing more crashes per year for a given approach ADT than 80% of similar intersections statewide, and thus it's likely that some measures could be taken to reduce the crash rate. A LOSS-I intersection is experiencing fewer crashes per year than all but 20% of similar intersections statewide, and thus it's unlikely that much could be done to further lower the crash rate. In this manner it's possible to identify over- and underperforming intersections and focus safety improvements where they're likely to do the most

[4] Generally the dot is within the left-to-right extents of the solid and dashed lines. In this case, since the dot is off to the left, it's indicating that the ADT at this intersection is significantly lower than that for other similar facilities statewide The results are still valid but must be interpreted within that context.

good. LOSS is calculated separately for total crashes and only crashes causing injuries or fatalities (INJ+FAT LOSS).

The rest of the memo outlines the results of SPF analysis of the study intersections.

Ken Caryl Ave and Shaffer Pkwy

The intersection of Ken Caryl Ave and Shaffer Parkway experienced 31 crashes during the crash analysis period: 18 Property Damage Only (PDO) crashes, 13 injury-causing crashes (INJ) and 0 fatal crashes (FAT). The Total Crash and INJ/FAT LOSS graphs are shown in the **Appendix.** This intersection experiences a Total Crash and INJ/FAT LOSS of II, indicating "low to moderate potential for crash reduction." The 31 crashes break down by type as follows:

- Broadside: 9 (29%)
- Approach Turn: 8 (26%)
- Overtaking Turn: 1 (3%)
- Rear-End: 5 (16%)
- Sideswipe (same direction): 3 (10%)
- Light/Utility pole: 2 (6%)
- Rock: 1 (3%)
- Bicycle: 1 (3%)
- Head-On: 1 (3%)

In addition to providing SPFs, CDOT also provides a set of "normative baselines" identifying the expected breakdown of crash occurrence by type at an intersection. For example, for intersections like Ken Caryl and Shaffer (Urban, 6-lane, Divided, Signalized, 4-leg, ADT < 48,000) it would be anticipated that Broadside crashes would make up 11.3% of the crashes. Since they make up 29% of the crashes here, the pattern of broadside crashes here is more than expected and that probably represents something about the intersection that is causing those crashes. The crash types and normative baseline probability for each type are shown in **Table 1.**

Crash Type	*Expected*	*Observed*
Broadside	11%	**29%**
Approach Turn	17%	**26%**
Overtaking Turn	1%	3%
Rear-End	51%	**16%**
Sideswipe (same direction)	11%	10%
Fixed Object	3%	9%
Bicycle	2%	3%
Head-On	1%	3%

Table 1 - Crash Types and Expected vs Observed Probability

The comparison between expected and observed probability indicates that the categories with major deviation are Broadside and Approach Turn (over-represented) and Rear-End (under-represented).[5] Any discussion of safety improvement countermeasures should focus on the over-represented categories.

The broadside crashes were relatively evenly distributed among approach directions so there likely isn't a single approach that would be an issue. In most of the broadside crashes, at least one driver was cited for failure to obey a traffic signal, which might be because they couldn't see it or it wasn't possible to obey due to the timing. A few countermeasures to consider would include adding signal heads (since the signal is deficient in that a signal head is not located above each lane) and adding backplates with reflective borders to mastarm-mounted signal heads to increase visibility, and signal retiming to ensure that yellow and red clearance intervals match ITE-recommended guidance. The signal timing issue might also explain the low incidence of rear-end crashes: if the yellow change interval is incorrect, drivers might run the red light instead of stopping short at the intersection and getting into a rear-end crash.

To address approach turn crashes, the best countermeasures are to increase the green cycle time dedicated to protected left turns, or to run the signal with protected-only left turn phasing entirely. This will reduce capacity but also significantly reduce crashes.

There was only one bicycle-involved crash, a right-hook in eastbound traffic. This is not a correctible pattern so no countermeasure is recommended.

[5] Over- or under-representation of a few percentage points is likely statistical noise, especially at intersections with low (<100 crashes in 5 years) overall crash totals

Ken Caryl Ave and Alkire St

The intersection of Ken Caryl Ave and Alkire St experienced 16 crashes during the crash analysis period: 12 PDO, 4 INJ and 0 FAT. The Total Crash and INJ/FAT LOSS graphs are shown in the **Appendix.** This intersection experiences a Total Crash and INJ/FAT LOSS of I, indicating "low potential for crash reduction." The 16 crashes break down by type as follows:

- Rear-End: 6 (38%)
- Pedestrian: 1 (6%)
- Bicycle: 2 (12%)
- Broadside: 2 (12%)
- Curb/Raised Median: 1 (6%)
- Approach Turn: 4 (24%)

The crash types and normative baseline probability for each type are shown in **Table 2.**

Crash Type	*Expected*	*Observed*
Rear-End	51%	**38%**
Pedestrian	2%	6%
Bicycle	2%	**12%**
Broadside	12%	11%
Curb/Raised Median	3%	6%
Approach Turn	17%	24%

Table 2 - Crash Types and Expected vs Observed Probability

Since the intersection experiences LOSS I it is not likely that any crash countermeasures would have a significant effect on reducing crash rates. However, we can still evaluate any patterns that arise from the normative baseline comparison: for example, the over-representation of bicycle crashes at this intersection. Especially when combined with the presence of a bicycle crash at Shaffer Pkwy, this starts to seem like a pattern: It is likely that many bicyclists are using this corridor despite the lack of bicycle facilities. One countermeasure that could help reduce the incidence of bicycle crashes would be to install some sort of bicycle facility either on this corridor or on a parallel route for bicyclists to use to access the C-470 trail and surrounding commercial and residential developments.

The only other available countermeasure would be to eliminate permissive left turns for east-west traffic, which would eliminate the four approach turn crashes (all of which were east-westbound vehicles). This countermeasure has an excellent impact on safety performance because approach

turn crashes tend to be more likely to cause injury, so eliminating them prevents injuries and not just property damage.

Ken Caryl Ave and 12300 Block

Only two crashes were identified at this intersection, which is understandable since it's a lower-volume commercial access. Both of those crashes took place in a parking lot: one fender-bender, and one alcohol-involved single-vehicle crash with a wall. Neither represent correctible patterns. Additionally, traffic volumes are not available for the commercial access so it is not possible to conduct SPF analysis for this location.

Ken Caryl Ave and Simms St/Chatfield Ave

The intersection of Ken Caryl Ave and Simms St/Chatfield Ave experienced 51 crashes during the crash analysis period: 35 PDO, 16 INJ and 0 FAT. The Total Crash and INJ/FAT LOSS graphs are shown in the **Appendix.** This intersection experiences a Total Crash and INJ/FAT LOSS of III, indicating "moderate to high potential for crash reduction." The 16 crashes break down by type as follows:

- Rear-End: 16 (31%)
- Approach Turn: 24 (47%)
- Broadside: 5 (10%)
- Sign/Fence: 2 (4%)
- Head-On: 1 (2%)
- Sideswipe (same direction): 3 (6%)

The crash types and normative baseline probability for each type are shown in **Table 3.**

Crash Type	*Expected*	*Observed*
Rear-End	51%	**31%**
Approach Turn	17%	**47%**
Broadside	12%	10%
Fixed Object	3%	4%
Head-On	1%	2%
Sideswipe (same direction)	11%	6%

Table 3 - Crash Types and Expected vs Observed Probability

Since the LOSS is III for both total crashes and INJ/FAT crashes, there are likely some countermeasures that can be taken to reduce the incidence of crashes to at least the statewide average for facilities of this type. The first and most obvious pattern is Approach Turn crashes, which represent 17% of the crashes at a state-average intersection but 47% of the crashes at this intersection. That's a significant disparity, to the point that reducing approach turn crashes to a baseline level will dramatically improve safety at the intersection even if no other countermeasures are implemented.

Analyzing the approach turn crashes separately, 15 of the 24 crashes occurred between an eastbound left turning vehicle and a westbound through vehicle. The remaining crashes were fairly evenly distributed among the remaining three approaches. This is a significant pattern; some factor at the intersection was creating a situation where Eastbound Left Turning (EBLT) vehicles are substantially more likely to get into a crash. It could be several different factors: perhaps the geometry of the intersection is such that EBLT vehicles could not see around a westbound vehicle in the westbound left turn lane waiting to make the turn. Perhaps the EBLT volume is high enough that drivers were experiencing delay, becoming impatient, and accepting shorter gaps than they should. Perhaps the signal phase was too short for EBLT vehicles. It's possible that a more detailed analysis would yield the cause of the pattern, but the recommended countermeasure to correct the pattern is the same: protect eastbound left turns, at least during the AM and PM peak hours. The signal is already equipped with a 4-section "flashing yellow arrow" signal head for EBLT which can operate in protected-only mode so the improvement should be as simple as uploading a new program into the controller. This measure reduces capacity at the intersection, but substantially improves safety. Per discussions with County staff, we understand that protected-only left-turn phases in the eastbound and westbound directions was recently implemented (in late 2020) as a result of a similar assessment performed by the County. As the crash records provided by the County were from 2011 through 2015, it is anticipated that left-turn crash frequency for these movements may have improved over the last year.

Conclusions

This memo has outlined the results of an analysis of crash incidence and patterns at four intersections along Ken Caryl Ave in Jefferson County, CO, as well as the recommendations for safety improvement made because of the analysis. Of the four intersections, one had no identifiable crash patterns and the remaining three exhibited correctible crash patterns ranging from mild to moderate. Specific recommendations have been made for each intersection for potential improvements to intersection geometry, signal infrastructure, and signal timing to correct the identified crash patterns.

I hope this analysis has been helpful, and please let me know if there's anything else you need.

/AWD

Attachments: LOSS Chart for Shaffer Pkwy
LOSS Chart for Alkire St
LOSS Chart for Simms St/Chatfield Ave

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle *(a)*		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

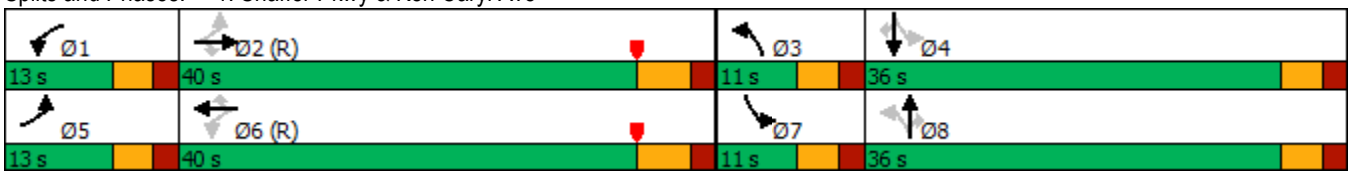
(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.

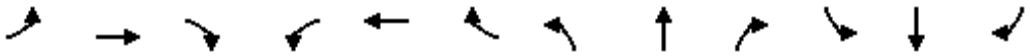
Intersection Capacity Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	664	276	84	435	53	157	14	66	38	11	35
Future Volume (vph)	50	664	276	84	435	53	157	14	66	38	11	35
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	13.0	40.0	40.0	13.0	40.0	40.0	11.0	36.0	36.0	11.0	36.0	36.0
Total Split (%)	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%	11.0%	36.0%	36.0%	11.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	43.7	36.7	36.7	44.3	37.0	37.0	39.0	35.4	35.4	36.9	31.0	31.0
Actuated g/C Ratio	0.44	0.37	0.37	0.44	0.37	0.37	0.39	0.35	0.35	0.37	0.31	0.31
v/c Ratio	0.14	0.43	0.42	0.30	0.26	0.09	0.33	0.02	0.12	0.08	0.02	0.07
Control Delay	15.0	25.4	4.5	19.8	8.4	0.6	21.8	24.1	0.4	17.9	24.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	25.4	4.5	19.8	8.4	0.6	21.8	24.1	0.4	17.9	24.3	0.2
LOS	B	C	A	B	A	A	C	C	A	B	C	A
Approach Delay		19.0			9.3			15.9			11.3	
Approach LOS		B			A			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 39 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 46.2%	ICU Level of Service A
Analysis Period (min) 15	

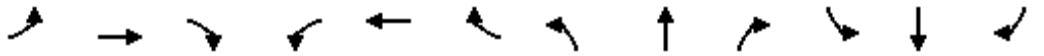
Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	60	800	333	95	494	60	178	16	75	45	13	42
v/c Ratio	0.14	0.43	0.42	0.30	0.26	0.09	0.33	0.02	0.12	0.08	0.02	0.07
Control Delay	15.0	25.4	4.5	19.8	8.4	0.6	21.8	24.1	0.4	17.9	24.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	25.4	4.5	19.8	8.4	0.6	21.8	24.1	0.4	17.9	24.3	0.2
Queue Length 50th (ft)	20	145	0	9	21	0	72	7	0	17	6	0
Queue Length 95th (ft)	39	165	41	65	49	0	117	22	0	35	18	0
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	442	1866	792	321	1883	668	535	659	652	537	577	588
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.43	0.42	0.30	0.26	0.09	0.33	0.02	0.12	0.08	0.02	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	664	276	84	435	53	157	14	66	38	11	35
Future Volume (veh/h)	50	664	276	84	435	53	157	14	66	38	11	35
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	800	333	95	494	60	178	16	75	45	13	42
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.88	0.88	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	1893	588	286	1937	601	590	625	530	540	580	491
Arrive On Green	0.04	0.37	0.37	0.05	0.38	0.38	0.06	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	60	800	333	95	494	60	178	16	75	45	13	42
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.1	11.7	16.7	3.3	6.6	2.4	6.0	0.6	3.3	1.7	0.5	1.9
Cycle Q Clear(g_c), s	2.1	11.7	16.7	3.3	6.6	2.4	6.0	0.6	3.3	1.7	0.5	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	1893	588	286	1937	601	590	625	530	540	580	491
V/C Ratio(X)	0.15	0.42	0.57	0.33	0.25	0.10	0.30	0.03	0.14	0.08	0.02	0.09
Avail Cap(c_a), veh/h	482	1893	588	341	1937	601	590	625	530	584	580	491
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	23.5	25.1	18.6	21.3	20.0	22.1	22.3	23.3	22.0	24.0	24.5
Incr Delay (d2), s/veh	0.2	0.7	3.9	0.7	0.3	0.3	0.3	0.1	0.6	0.1	0.1	0.3
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	0.8	4.6	6.8	1.3	2.6	0.9	2.9	0.3	1.3	0.7	0.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	24.2	29.0	19.3	21.6	20.3	22.4	22.4	23.8	22.0	24.0	24.8
LnGrp LOS	B	C	C	B	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1193			649			269			100	
Approach Delay, s/veh		25.2			21.2			22.8			23.5	
Approach LOS		C			C			C			C	

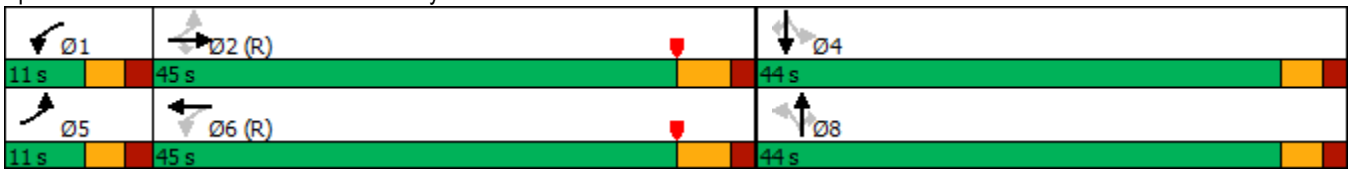
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	43.1	11.0	36.0	9.1	43.9	8.6	38.4
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	34.0	6.0	31.0	8.0	34.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	5.3	18.7	8.0	3.9	4.1	8.6	3.7	5.3
Green Ext Time (p_c), s	0.0	5.7	0.0	0.2	0.0	3.4	0.0	0.3

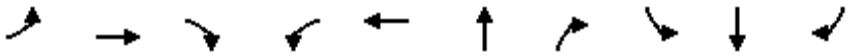
Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	21	724	20	77	463	27	2	36	34	3	82
Future Volume (vph)	21	724	20	77	463	27	2	36	34	3	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	45.0	45.0	11.0	45.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	46.9	41.2	41.2	49.0	45.6		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.47	0.41	0.41	0.49	0.46		0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.06	0.43	0.04	0.30	0.24		0.05	0.06	0.09	0.01	0.16
Control Delay	5.9	8.6	0.1	18.8	22.5		19.4	0.4	20.0	18.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	8.6	0.1	18.8	22.5		19.4	0.4	20.0	18.7	4.5
LOS	A	A	A	B	C		B	A	B	B	A
Approach Delay		8.3			22.0		8.8			9.3	
Approach LOS		A			C		A			A	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 48 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 40.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Alkire St & Ken Caryl Ave

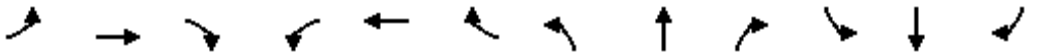




Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	894	25	89	553	32	40	47	4	112
v/c Ratio	0.06	0.43	0.04	0.30	0.24	0.05	0.06	0.09	0.01	0.16
Control Delay	5.9	8.6	0.1	18.8	22.5	19.4	0.4	20.0	18.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	8.6	0.1	18.8	22.5	19.4	0.4	20.0	18.7	4.5
Queue Length 50th (ft)	3	42	0	44	103	12	0	19	2	0
Queue Length 95th (ft)	m7	45	m0	82	164	32	2	34	7	18
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	438	2095	696	295	2309	599	670	534	726	685
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.43	0.04	0.30	0.24	0.05	0.06	0.09	0.01	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	724	20	77	463	18	27	2	36	34	3	82
Future Volume (veh/h)	21	724	20	77	463	18	27	2	36	34	3	82
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	894	25	89	532	21	30	2	40	47	4	112
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	2064	641	322	2139	84	544	34	618	584	729	618
Arrive On Green	0.03	0.40	0.40	0.05	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	5106	1585	1781	5041	198	1217	88	1585	1365	1870	1585
Grp Volume(v), veh/h	26	894	25	89	358	195	32	0	40	47	4	112
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1835	1304	0	1585	1365	1870	1585
Q Serve(g_s), s	0.8	12.6	1.0	2.9	6.8	6.8	1.3	0.0	1.6	2.2	0.1	4.6
Cycle Q Clear(g_c), s	0.8	12.6	1.0	2.9	6.8	6.8	1.5	0.0	1.6	3.7	0.1	4.6
Prop In Lane	1.00		1.00	1.00		0.11	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	422	2064	641	322	1444	778	578	0	618	584	729	618
V/C Ratio(X)	0.06	0.43	0.04	0.28	0.25	0.25	0.06	0.00	0.06	0.08	0.01	0.18
Avail Cap(c_a), veh/h	483	2064	641	348	1444	778	578	0	618	584	729	618
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	1.00	1.00
Uniform Delay (d), s/veh	16.6	21.5	18.0	16.9	18.5	18.5	19.0	0.0	19.1	20.2	18.6	20.0
Incr Delay (d2), s/veh	0.1	0.7	0.1	0.5	0.4	0.8	0.2	0.0	0.2	0.3	0.0	0.6
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	0.3	4.9	0.4	1.2	2.6	2.9	0.5	0.0	0.6	0.8	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	22.2	18.1	17.3	18.9	19.3	19.2	0.0	19.3	20.5	18.7	20.7
LnGrp LOS	B	C	B	B	B	B	B	A	B	C	B	C
Approach Vol, veh/h		945			642			72			163	
Approach Delay, s/veh		21.9			18.8			19.3			20.6	
Approach LOS		C			B			B			C	

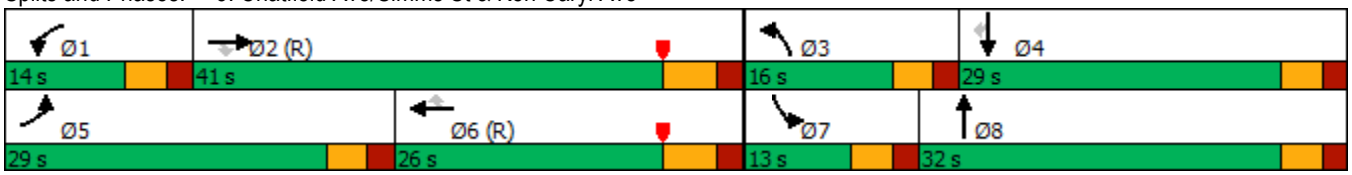
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	46.4		44.0	7.6	48.4		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	6.0	39.0		39.0	6.0	39.0		39.0				
Max Q Clear Time (g_c+I1), s	4.9	14.6		6.6	2.8	8.8		3.6				
Green Ext Time (p_c), s	0.0	6.4		0.5	0.0	3.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	240	416	124	47	270	257	74	319	142	273	228
Future Volume (vph)	240	416	124	47	270	257	74	319	142	273	228
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	23.0
Total Split (s)	29.0	41.0	41.0	14.0	26.0	26.0	16.0	32.0	13.0	29.0	29.0
Total Split (%)	29.0%	41.0%	41.0%	14.0%	26.0%	26.0%	16.0%	32.0%	13.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	Max
Act Effct Green (s)	21.8	38.2	38.2	7.9	22.2	22.2	8.4	27.0	8.0	28.8	28.8
Actuated g/C Ratio	0.22	0.38	0.38	0.08	0.22	0.22	0.08	0.27	0.08	0.29	0.29
v/c Ratio	0.84	0.42	0.24	0.41	0.29	0.54	0.36	0.51	0.67	0.35	0.44
Control Delay	55.6	6.5	0.8	52.4	33.9	8.9	46.4	32.6	57.9	30.6	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	6.5	0.8	52.4	33.9	8.9	46.4	32.6	57.9	30.6	6.0
LOS	E	A	A	D	C	A	D	C	E	C	A
Approach Delay		20.7			24.2			35.0		27.9	
Approach LOS		C			C			C		C	

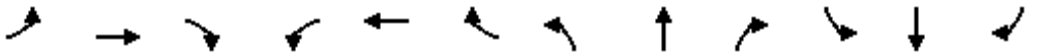
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 52.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	324	562	168	57	329	313	104	487	184	355	296
v/c Ratio	0.84	0.42	0.24	0.41	0.29	0.54	0.36	0.51	0.67	0.35	0.44
Control Delay	55.6	6.5	0.8	52.4	33.9	8.9	46.4	32.6	57.9	30.6	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	6.5	0.8	52.4	33.9	8.9	46.4	32.6	57.9	30.6	6.0
Queue Length 50th (ft)	100	26	0	35	65	8	32	135	59	97	0
Queue Length 95th (ft)	142	29	0	68	85	57	45	140	80	120	32
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	424	1352	708	159	1131	583	377	951	274	1020	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.42	0.24	0.36	0.29	0.54	0.28	0.51	0.67	0.35	0.44

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	416	124	47	270	257	74	319	27	142	273	228
Future Volume (veh/h)	240	416	124	47	270	257	74	319	27	142	273	228
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	324	562	168	57	329	0	104	449	38	184	355	296
Peak Hour Factor	0.74	0.74	0.74	0.82	0.82	0.82	0.71	0.71	0.71	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1445	644	74	1279		166	896	76	249	1046	466
Arrive On Green	0.39	0.81	0.81	0.04	0.25	0.00	0.05	0.27	0.27	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3317	280	3456	3554	1585
Grp Volume(v), veh/h	324	562	168	57	329	0	104	240	247	184	355	296
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1820	1728	1777	1585
Q Serve(g_s), s	17.3	4.3	2.5	3.2	5.2	0.0	3.0	11.4	11.5	5.2	7.8	16.2
Cycle Q Clear(g_c), s	17.3	4.3	2.5	3.2	5.2	0.0	3.0	11.4	11.5	5.2	7.8	16.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	351	1445	644	74	1279		166	480	491	249	1046	466
V/C Ratio(X)	0.92	0.39	0.26	0.77	0.26		0.63	0.50	0.50	0.74	0.34	0.63
Avail Cap(c_a), veh/h	428	1445	644	160	1279		380	480	491	276	1046	466
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	6.0	5.8	47.5	30.0	0.0	46.7	30.8	30.8	45.5	27.7	30.6
Incr Delay (d2), s/veh	22.4	0.8	1.0	15.8	0.5	0.0	3.9	3.7	3.6	9.0	0.9	6.4
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	7.6	1.4	0.9	1.7	2.1	0.0	1.3	5.2	5.3	2.5	3.3	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	6.7	6.7	63.2	30.5	0.0	50.6	34.5	34.5	54.4	28.5	37.1
LnGrp LOS	D	A	A	E	C		D	C	C	D	C	D
Approach Vol, veh/h		1054			386	A		591			835	
Approach Delay, s/veh		20.6			35.3			37.3			37.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	46.7	9.8	34.4	24.7	31.0	12.2	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	24.0	24.0	20.0	8.0	27.0
Max Q Clear Time (g_c+I1), s	5.2	6.3	5.0	18.2	19.3	7.2	7.2	13.5
Green Ext Time (p_c), s	0.0	4.4	0.1	1.6	0.4	1.6	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

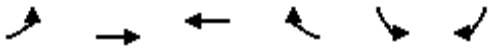
Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	50	750	530	40	30
Future Volume (vph)	50	750	530	40	30
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	13.0	75.0	62.0	62.0	25.0
Total Split (%)	13.0%	75.0%	62.0%	62.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	70.0	69.0	59.6	59.6	20.0
Actuated g/C Ratio	0.70	0.69	0.60	0.60	0.20
v/c Ratio	0.11	0.25	0.21	0.05	0.18
Control Delay	2.9	6.0	5.0	1.2	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	6.0	5.0	1.2	22.1
LOS	A	A	A	A	C
Approach Delay		5.8	4.7		22.1
Approach LOS		A	A		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.25	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 31.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave & 12300 Block

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	59	882	624	47	64
v/c Ratio	0.11	0.25	0.21	0.05	0.18
Control Delay	2.9	6.0	5.0	1.2	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	6.0	5.0	1.2	22.1
Queue Length 50th (ft)	8	43	24	0	18
Queue Length 95th (ft)	15	49	46	2	51
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	571	3508	3029	962	363
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	0.10	0.25	0.21	0.05	0.18

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	750	530	40	30	25
Future Volume (veh/h)	50	750	530	40	30	25
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	1870	1870
Adj Flow Rate, veh/h	59	882	624	47	35	29
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	603	3523	3062	951	182	151
Arrive On Green	0.04	0.69	1.00	1.00	0.20	0.20
Sat Flow, veh/h	1781	5274	5274	1585	910	754
Grp Volume(v), veh/h	59	882	624	47	65	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1689	0
Q Serve(g_s), s	1.2	6.5	0.0	0.0	3.2	0.0
Cycle Q Clear(g_c), s	1.2	6.5	0.0	0.0	3.2	0.0
Prop In Lane	1.00			1.00	0.54	0.45
Lane Grp Cap(c), veh/h	603	3523	3062	951	338	0
V/C Ratio(X)	0.10	0.25	0.20	0.05	0.19	0.00
Avail Cap(c_a), veh/h	674	3523	3062	951	338	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.94	1.00	0.00
Uniform Delay (d), s/veh	6.0	5.8	0.0	0.0	33.3	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.1	1.3	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	0.4	1.9	0.0	0.0	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.0	0.1	0.1	34.5	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		941	671		65	
Approach Delay, s/veh		6.0	0.1		34.5	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.0		25.0	9.0	66.0
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		69.0		20.0	8.0	56.0
Max Q Clear Time (g_c+I1), s		8.5		5.2	3.2	2.0
Green Ext Time (p_c), s		7.1		0.1	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	29	17	2	41	23
Future Volume (Veh/h)	2	29	17	2	41	23
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	34	20	2	48	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	123	0	144	110	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	123	0	144	110	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	97	97	100	97	
cM capacity (veh/h)	745	1085	779	758	1623	

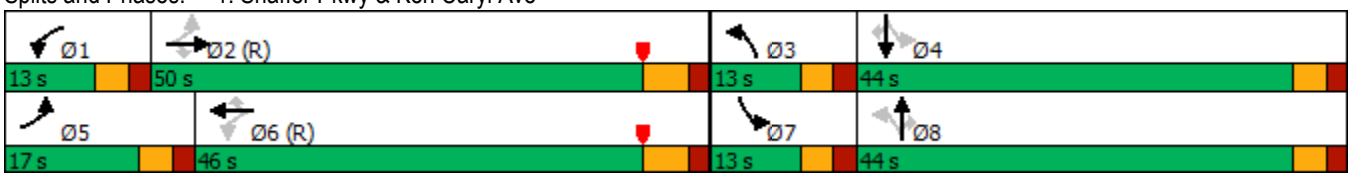
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	36	22	75
Volume Left	0	20	48
Volume Right	34	0	27
cSH	1058	777	1623
Volume to Capacity	0.03	0.03	0.03
Queue Length 95th (ft)	3	2	2
Control Delay (s)	8.5	9.8	4.7
Lane LOS	A	A	A
Approach Delay (s)	8.5	9.8	4.7
Approach LOS	A	A	

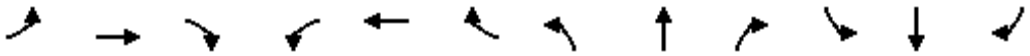
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	693	221	94	525	57	398	26	146	64	13	52
Future Volume (vph)	70	693	221	94	525	57	398	26	146	64	13	52
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	17.0	50.0	50.0	13.0	46.0	46.0	13.0	44.0	44.0	13.0	44.0	44.0
Total Split (%)	14.2%	41.7%	41.7%	10.8%	38.3%	38.3%	10.8%	36.7%	36.7%	10.8%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	53.4	44.3	44.3	53.5	46.1	46.1	48.1	41.7	41.7	46.5	39.0	39.0
Actuated g/C Ratio	0.44	0.37	0.37	0.45	0.38	0.38	0.40	0.35	0.35	0.39	0.32	0.32
v/c Ratio	0.18	0.38	0.31	0.32	0.30	0.09	0.76	0.04	0.24	0.15	0.03	0.11
Control Delay	18.0	28.6	4.5	30.1	39.4	11.0	39.5	28.2	5.4	21.1	27.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	28.6	4.5	30.1	39.4	11.0	39.5	28.2	5.4	21.1	27.9	0.8
LOS	B	C	A	C	D	B	D	C	A	C	C	A
Approach Delay		22.4			35.7			30.3			13.6	
Approach LOS		C			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	714	228	104	583	63	428	28	157	81	16	66
v/c Ratio	0.18	0.38	0.31	0.32	0.30	0.09	0.76	0.04	0.24	0.15	0.03	0.11
Control Delay	18.0	28.6	4.5	30.1	39.4	11.0	39.5	28.2	5.4	21.1	27.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	28.6	4.5	30.1	39.4	11.0	39.5	28.2	5.4	21.1	27.9	0.8
Queue Length 50th (ft)	29	147	0	69	159	1	243	15	0	37	8	0
Queue Length 95th (ft)	56	184	52	115	201	22	#347	37	47	59	22	0
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	449	1876	727	331	1951	674	564	647	652	565	605	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.38	0.31	0.31	0.30	0.09	0.76	0.04	0.24	0.14	0.03	0.11

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	693	221	94	525	57	398	26	146	64	13	52
Future Volume (veh/h)	70	693	221	94	525	57	398	26	146	64	13	52
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	714	228	104	583	63	428	28	157	81	16	66
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.93	0.93	0.93	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	1955	607	318	2019	627	599	651	551	528	608	515
Arrive On Green	0.04	0.38	0.38	0.05	0.40	0.40	0.07	0.35	0.35	0.04	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	72	714	228	104	583	63	428	28	157	81	16	66
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.9	12.0	12.4	4.2	9.4	3.0	8.0	1.2	8.6	3.6	0.7	3.5
Cycle Q Clear(g_c), s	2.9	12.0	12.4	4.2	9.4	3.0	8.0	1.2	8.6	3.6	0.7	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	1955	607	318	2019	627	599	651	551	528	608	515
V/C Ratio(X)	0.19	0.37	0.38	0.33	0.29	0.10	0.71	0.04	0.28	0.15	0.03	0.13
Avail Cap(c_a), veh/h	487	1955	607	347	2019	627	599	651	551	568	608	515
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	26.6	26.7	21.2	24.8	22.8	31.2	25.9	28.3	25.0	27.6	28.5
Incr Delay (d2), s/veh	0.2	0.5	1.8	0.6	0.4	0.3	4.0	0.1	1.3	0.1	0.1	0.5
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	4.9	5.0	1.8	3.8	1.2	7.4	0.6	3.5	1.6	0.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	27.1	28.5	21.8	25.1	23.2	35.2	26.0	29.6	25.2	27.7	29.0
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		1014			750			613			163	
Approach Delay, s/veh		27.0			24.5			33.4			27.0	
Approach LOS		C			C			C			C	

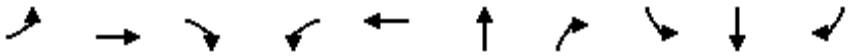
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	51.9	13.0	44.0	9.5	53.5	10.3	46.7
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	44.0	8.0	39.0	12.0	40.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	6.2	14.4	10.0	5.5	4.9	11.4	5.6	10.6
Green Ext Time (p_c), s	0.0	6.0	0.0	0.3	0.1	4.2	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	25	765	20	80	490	30	5	40	35	5	85
Future Volume (vph)	25	765	20	80	490	30	5	40	35	5	85
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	63.0	63.0	13.0	63.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	10.8%	52.5%	52.5%	10.8%	52.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	66.0	59.8	59.8	68.7	63.0		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.55	0.50	0.50	0.57	0.52		0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.05	0.32	0.03	0.22	0.20		0.08	0.08	0.09	0.01	0.16
Control Delay	3.6	14.4	3.9	6.4	4.9		28.8	2.9	28.9	27.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	14.4	3.9	6.4	4.9		28.8	2.9	28.9	27.6	6.5
LOS	A	B	A	A	A		C	A	C	C	A
Approach Delay		13.8			5.1		15.0			13.5	
Approach LOS		B			A		B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 41.2%	ICU Level of Service A
Analysis Period (min) 15	

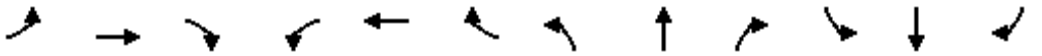
Splits and Phases: 2: Alkire St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	27	823	22	82	520	41	47	38	5	93
v/c Ratio	0.05	0.32	0.03	0.22	0.20	0.08	0.08	0.09	0.01	0.16
Control Delay	3.6	14.4	3.9	6.4	4.9	28.8	2.9	28.9	27.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	14.4	3.9	6.4	4.9	28.8	2.9	28.9	27.6	6.5
Queue Length 50th (ft)	2	190	3	6	14	22	0	20	3	0
Queue Length 95th (ft)	4	224	m15	16	18	47	11	47	12	38
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	530	2534	821	385	2656	495	563	442	605	577
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.03	0.21	0.20	0.08	0.08	0.09	0.01	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	765	20	80	490	20	30	5	40	35	5	85
Future Volume (veh/h)	25	765	20	80	490	20	30	5	40	35	5	85
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	823	22	82	500	20	35	6	47	38	5	93
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	513	2567	797	395	2604	104	429	69	515	472	608	515
Arrive On Green	0.02	0.50	0.50	0.04	0.52	0.52	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5038	200	1149	213	1585	1351	1870	1585
Grp Volume(v), veh/h	27	823	22	82	337	183	41	0	47	38	5	93
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1834	1363	0	1585	1351	1870	1585
Q Serve(g_s), s	0.9	11.5	0.8	2.7	6.4	6.4	2.0	0.0	2.5	2.4	0.2	5.0
Cycle Q Clear(g_c), s	0.9	11.5	0.8	2.7	6.4	6.4	2.4	0.0	2.5	4.8	0.2	5.0
Prop In Lane	1.00		1.00	1.00		0.11	0.85		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	513	2567	797	395	1760	948	498	0	515	472	608	515
V/C Ratio(X)	0.05	0.32	0.03	0.21	0.19	0.19	0.08	0.00	0.09	0.08	0.01	0.18
Avail Cap(c_a), veh/h	587	2567	797	444	1760	948	498	0	515	472	608	515
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	1.00	1.00
Uniform Delay (d), s/veh	13.7	17.7	15.0	13.8	15.5	15.6	28.1	0.0	28.2	29.8	27.4	29.0
Incr Delay (d2), s/veh	0.0	0.3	0.1	0.3	0.2	0.5	0.3	0.0	0.4	0.3	0.0	0.8
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	0.3	4.4	0.3	1.1	2.4	2.7	0.9	0.0	1.0	0.8	0.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	18.0	15.1	14.1	15.8	16.0	28.4	0.0	28.5	30.1	27.4	29.8
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	C	C
Approach Vol, veh/h		872			602			88			136	
Approach Delay, s/veh		17.8			15.6			28.5			29.8	
Approach LOS		B			B			C			C	

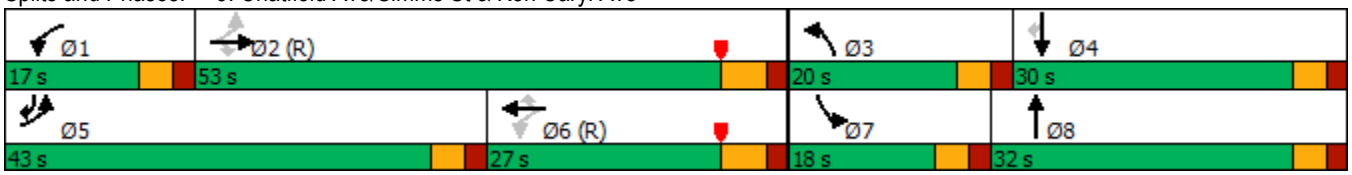
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	66.3		44.0	8.0	68.0		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	8.0	57.0		39.0	8.0	57.0		39.0				
Max Q Clear Time (g_c+I1), s	4.7	13.5		7.0	2.9	8.4		4.5				
Green Ext Time (p_c), s	0.0	6.4		0.4	0.0	3.4		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			18.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	306	411	178	46	378	97	151	238	173	234	263
Future Volume (vph)	306	411	178	46	378	97	151	238	173	234	263
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases	2		2	6		6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	10.0
Total Split (s)	43.0	53.0	53.0	17.0	27.0	27.0	20.0	32.0	18.0	30.0	43.0
Total Split (%)	35.8%	44.2%	44.2%	14.2%	22.5%	22.5%	16.7%	26.7%	15.0%	25.0%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	None
Act Effct Green (s)	65.0	54.0	54.0	48.7	40.7	40.7	11.1	28.6	11.4	28.9	52.3
Actuated g/C Ratio	0.54	0.45	0.45	0.41	0.34	0.34	0.09	0.24	0.10	0.24	0.44
v/c Ratio	0.56	0.27	0.23	0.12	0.24	0.16	0.52	0.36	0.58	0.30	0.38
Control Delay	21.2	7.7	1.2	15.3	29.9	1.9	57.5	38.1	59.1	39.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	7.7	1.2	15.3	29.9	1.9	57.5	38.1	59.1	39.0	15.3
LOS	C	A	A	B	C	A	E	D	E	D	B
Approach Delay		11.0			23.4			44.9		34.9	
Approach LOS		B			C			D		C	

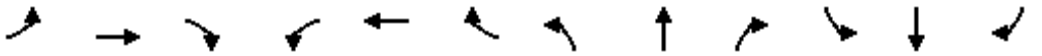
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	326	437	189	50	411	105	164	302	188	254	286
v/c Ratio	0.56	0.27	0.23	0.12	0.24	0.16	0.52	0.36	0.58	0.30	0.38
Control Delay	21.2	7.7	1.2	15.3	29.9	1.9	57.5	38.1	59.1	39.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	7.7	1.2	15.3	29.9	1.9	57.5	38.1	59.1	39.0	15.3
Queue Length 50th (ft)	92	37	0	18	82	0	63	98	72	85	91
Queue Length 95th (ft)	157	60	0	37	122	12	96	143	110	128	149
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	742	1593	816	499	1723	639	429	836	371	853	990
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.27	0.23	0.10	0.24	0.16	0.38	0.36	0.51	0.30	0.29

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	411	178	46	378	97	151	238	40	173	234	263
Future Volume (veh/h)	306	411	178	46	378	97	151	238	40	173	234	263
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	326	437	189	50	411	0	164	259	43	188	254	286
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	622	1757	784	430	2078		225	688	113	248	823	559
Arrive On Green	0.04	0.16	0.16	0.03	0.41	0.00	0.07	0.22	0.22	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3056	501	3456	3554	1585
Grp Volume(v), veh/h	326	437	189	50	411	0	164	149	153	188	254	286
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1780	1728	1777	1585
Q Serve(g_s), s	11.6	12.9	12.5	1.9	6.2	0.0	5.6	8.5	8.7	6.4	7.1	17.1
Cycle Q Clear(g_c), s	11.6	12.9	12.5	1.9	6.2	0.0	5.6	8.5	8.7	6.4	7.1	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	622	1757	784	430	2078		225	400	401	248	823	559
V/C Ratio(X)	0.52	0.25	0.24	0.12	0.20		0.73	0.37	0.38	0.76	0.31	0.51
Avail Cap(c_a), veh/h	970	1757	784	548	2078		432	400	401	374	823	559
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	30.8	30.6	19.3	23.0	0.0	55.0	39.3	39.4	54.7	38.2	30.7
Incr Delay (d2), s/veh	0.7	0.3	0.7	0.1	0.2	0.0	4.5	2.7	2.7	4.8	1.0	3.3
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	5.4	6.2	5.4	0.8	2.5	0.0	2.5	4.0	4.1	2.9	3.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	31.1	31.3	19.5	23.2	0.0	59.5	42.0	42.2	59.4	39.1	34.0
LnGrp LOS	B	C	C	B	C		E	D	D	E	D	C
Approach Vol, veh/h		952			461	A		466			728	
Approach Delay, s/veh		26.5			22.8			48.2			42.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	65.3	12.8	32.8	19.6	54.8	13.6	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	47.0	15.0	25.0	38.0	21.0	13.0	27.0
Max Q Clear Time (g_c+I1), s	3.9	14.9	7.6	19.1	13.6	8.2	8.4	10.7
Green Ext Time (p_c), s	0.0	3.5	0.3	1.3	0.9	2.0	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

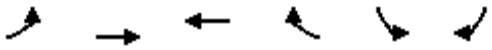
Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	50	750	530	40	30
Future Volume (vph)	50	750	530	40	30
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	15.0	90.0	75.0	75.0	30.0
Total Split (%)	12.5%	75.0%	62.5%	62.5%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	85.0	84.0	74.5	74.5	25.0
Actuated g/C Ratio	0.71	0.70	0.62	0.62	0.21
v/c Ratio	0.09	0.23	0.18	0.04	0.16
Control Delay	2.5	2.2	10.5	4.0	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.5	2.2	10.5	4.0	25.1
LOS	A	A	B	A	C
Approach Delay		2.2	10.0		25.1
Approach LOS		A	B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.23	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 31.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave & 12300 Block

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	54	815	576	43	60
v/c Ratio	0.09	0.23	0.18	0.04	0.16
Control Delay	2.5	2.2	10.5	4.0	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.5	2.2	10.5	4.0	25.1
Queue Length 50th (ft)	3	18	74	2	21
Queue Length 95th (ft)	10	34	90	11	59
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	610	3559	3157	999	375
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	0.09	0.23	0.18	0.04	0.16

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	750	530	40	30	25
Future Volume (veh/h)	50	750	530	40	30	25
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	1870	1870
Adj Flow Rate, veh/h	54	815	576	43	33	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	624	3574	3184	988	190	156
Arrive On Green	0.03	0.70	1.00	1.00	0.21	0.21
Sat Flow, veh/h	1781	5274	5274	1585	914	748
Grp Volume(v), veh/h	54	815	576	43	61	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1690	0
Q Serve(g_s), s	1.2	6.8	0.0	0.0	3.6	0.0
Cycle Q Clear(g_c), s	1.2	6.8	0.0	0.0	3.6	0.0
Prop In Lane	1.00			1.00	0.54	0.44
Lane Grp Cap(c), veh/h	624	3574	3184	988	352	0
V/C Ratio(X)	0.09	0.23	0.18	0.04	0.17	0.00
Avail Cap(c_a), veh/h	710	3574	3184	988	352	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	0.00
Uniform Delay (d), s/veh	6.6	6.4	0.0	0.0	39.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.1	1.1	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	0.4	2.2	0.0	0.0	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.6	6.6	0.1	0.1	40.1	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h		869	619		61	
Approach Delay, s/veh		6.6	0.1		40.1	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.0		30.0	9.2	80.8
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		84.0		25.0	10.0	69.0
Max Q Clear Time (g_c+I1), s		8.8		5.6	3.2	2.0
Green Ext Time (p_c), s		6.4		0.1	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	3	45	26	3	54	31
Future Volume (Veh/h)	3	45	26	3	54	31
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	53	31	4	64	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	164	0	201	146	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	164	0	201	146	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	95	96	99	96	
cM capacity (veh/h)	700	1085	696	716	1623	

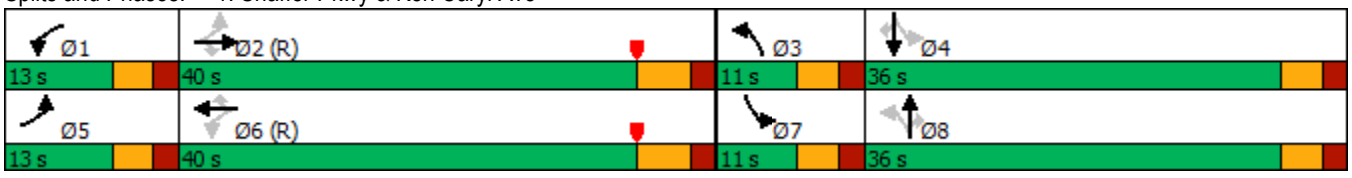
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	57	35	100
Volume Left	0	31	64
Volume Right	53	0	36
cSH	1045	698	1623
Volume to Capacity	0.05	0.05	0.04
Queue Length 95th (ft)	4	4	3
Control Delay (s)	8.6	10.4	4.8
Lane LOS	A	B	A
Approach Delay (s)	8.6	10.4	4.8
Approach LOS	A	B	

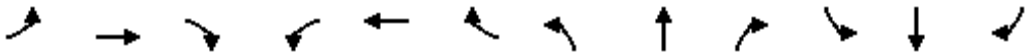
Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	700	300	95	460	60	170	20	75	40	15	40
Future Volume (vph)	55	700	300	95	460	60	170	20	75	40	15	40
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	13.0	40.0	40.0	13.0	40.0	40.0	11.0	36.0	36.0	11.0	36.0	36.0
Total Split (%)	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%	11.0%	36.0%	36.0%	11.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	42.5	34.4	34.4	44.3	37.0	37.0	39.0	35.4	35.4	36.9	31.0	31.0
Actuated g/C Ratio	0.42	0.34	0.34	0.44	0.37	0.37	0.39	0.35	0.35	0.37	0.31	0.31
v/c Ratio	0.16	0.48	0.46	0.37	0.28	0.10	0.36	0.03	0.13	0.09	0.03	0.08
Control Delay	15.2	27.0	4.7	27.4	9.6	0.9	22.4	24.0	1.2	18.0	24.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	27.0	4.7	27.4	9.6	0.9	22.4	24.0	1.2	18.0	24.4	0.3
LOS	B	C	A	C	A	A	C	C	A	B	C	A
Approach Delay		20.1			11.5			16.5			11.6	
Approach LOS		C			B			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 39 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 48.2%	ICU Level of Service A
Analysis Period (min) 15	

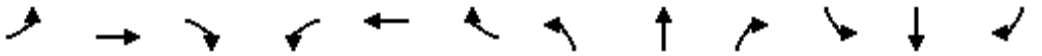
Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	66	843	361	108	523	68	193	23	85	48	18	48
v/c Ratio	0.16	0.48	0.46	0.37	0.28	0.10	0.36	0.03	0.13	0.09	0.03	0.08
Control Delay	15.2	27.0	4.7	27.4	9.6	0.9	22.4	24.0	1.2	18.0	24.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	27.0	4.7	27.4	9.6	0.9	22.4	24.0	1.2	18.0	24.4	0.3
Queue Length 50th (ft)	22	154	0	31	22	0	78	10	0	18	8	0
Queue Length 95th (ft)	42	175	42	83	56	0	125	28	6	37	23	0
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	434	1748	781	298	1879	667	533	659	652	534	577	588
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.48	0.46	0.36	0.28	0.10	0.36	0.03	0.13	0.09	0.03	0.08

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	700	300	95	460	60	170	20	75	40	15	40
Future Volume (veh/h)	55	700	300	95	460	60	170	20	75	40	15	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	843	361	108	523	68	193	23	85	48	18	48
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.88	0.88	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	1864	579	281	1930	599	584	623	528	536	580	491
Arrive On Green	0.04	0.36	0.36	0.06	0.38	0.38	0.06	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	66	843	361	108	523	68	193	23	85	48	18	48
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.3	12.6	18.7	3.7	7.1	2.8	6.0	0.8	3.8	1.8	0.7	2.2
Cycle Q Clear(g_c), s	2.3	12.6	18.7	3.7	7.1	2.8	6.0	0.8	3.8	1.8	0.7	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	1864	579	281	1930	599	584	623	528	536	580	491
V/C Ratio(X)	0.16	0.45	0.62	0.38	0.27	0.11	0.33	0.04	0.16	0.09	0.03	0.10
Avail Cap(c_a), veh/h	468	1864	579	326	1930	599	584	623	528	577	580	491
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	24.1	26.1	18.9	21.6	20.2	22.4	22.5	23.5	21.9	24.0	24.5
Incr Delay (d2), s/veh	0.2	0.8	5.0	0.9	0.3	0.4	0.3	0.1	0.7	0.1	0.1	0.4
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	0.9	5.0	7.7	1.5	2.8	1.1	3.3	0.4	1.5	0.8	0.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	24.9	31.1	19.8	21.9	20.6	22.7	22.6	24.1	22.0	24.1	24.9
LnGrp LOS	B	C	C	B	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1270			699			301			114	
Approach Delay, s/veh		26.4			21.4			23.1			23.6	
Approach LOS		C			C			C			C	

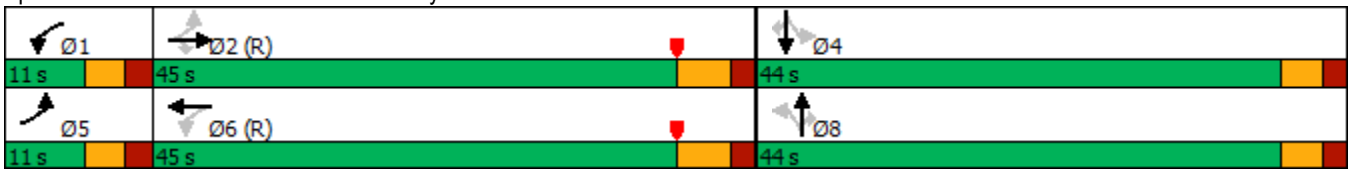
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	42.5	11.0	36.0	9.2	43.8	8.7	38.3
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	34.0	6.0	31.0	8.0	34.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	5.7	20.7	8.0	4.2	4.3	9.1	3.8	5.8
Green Ext Time (p_c), s	0.0	5.7	0.0	0.2	0.0	3.6	0.0	0.3

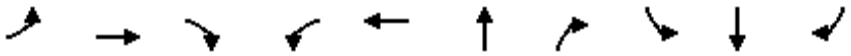
Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	25	765	20	80	490	30	5	40	35	5	85
Future Volume (vph)	25	765	20	80	490	30	5	40	35	5	85
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	45.0	45.0	11.0	45.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	47.0	41.2	41.2	48.0	43.4		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.47	0.41	0.41	0.48	0.43		0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.07	0.45	0.04	0.33	0.27		0.06	0.07	0.09	0.01	0.17
Control Delay	6.1	8.7	0.1	19.2	24.5		19.6	0.8	20.0	18.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	8.7	0.1	19.2	24.5		19.6	0.8	20.0	18.8	4.5
LOS	A	A	A	B	C		B	A	B	B	A
Approach Delay		8.4			23.7		9.7			9.4	
Approach LOS		A			C		A			A	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 48 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 13.9	Intersection LOS: B
Intersection Capacity Utilization 41.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Alkire St & Ken Caryl Ave

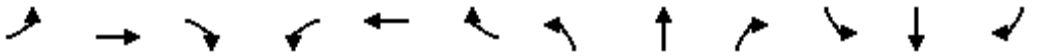




Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	944	25	92	586	39	44	48	7	116
v/c Ratio	0.07	0.45	0.04	0.33	0.27	0.06	0.07	0.09	0.01	0.17
Control Delay	6.1	8.7	0.1	19.2	24.5	19.6	0.8	20.0	18.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	8.7	0.1	19.2	24.5	19.6	0.8	20.0	18.8	4.5
Queue Length 50th (ft)	4	45	0	45	138	15	0	19	3	0
Queue Length 95th (ft)	m7	49	m0	85	174	37	4	35	9	18
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	421	2095	696	281	2197	603	670	531	726	688
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.45	0.04	0.33	0.27	0.06	0.07	0.09	0.01	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	765	20	80	490	20	30	5	40	35	5	85
Future Volume (veh/h)	25	765	20	80	490	20	30	5	40	35	5	85
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	944	25	92	563	23	33	6	44	48	7	116
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	2062	640	310	2120	86	503	86	618	578	729	618
Arrive On Green	0.03	0.40	0.40	0.05	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	5106	1585	1781	5033	205	1118	221	1585	1355	1870	1585
Grp Volume(v), veh/h	31	944	25	92	380	206	39	0	44	48	7	116
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1834	1339	0	1585	1355	1870	1585
Q Serve(g_s), s	1.0	13.5	1.0	3.0	7.3	7.3	1.3	0.0	1.7	2.3	0.2	4.8
Cycle Q Clear(g_c), s	1.0	13.5	1.0	3.0	7.3	7.3	1.7	0.0	1.7	4.0	0.2	4.8
Prop In Lane	1.00		1.00	1.00		0.11	0.85		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	2062	640	310	1434	772	589	0	618	578	729	618
V/C Ratio(X)	0.08	0.46	0.04	0.30	0.27	0.27	0.07	0.00	0.07	0.08	0.01	0.19
Avail Cap(c_a), veh/h	467	2062	640	335	1434	772	589	0	618	578	729	618
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	1.00	1.00
Uniform Delay (d), s/veh	16.5	21.8	18.1	17.0	18.9	18.9	19.1	0.0	19.1	20.4	18.7	20.1
Incr Delay (d2), s/veh	0.1	0.7	0.1	0.5	0.5	0.8	0.2	0.0	0.2	0.3	0.0	0.7
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	0.4	5.3	0.4	1.2	2.8	3.1	0.6	0.0	0.7	0.8	0.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	22.5	18.2	17.6	19.3	19.7	19.3	0.0	19.4	20.7	18.7	20.7
LnGrp LOS	B	C	B	B	B	B	B	A	B	C	B	C
Approach Vol, veh/h		1000			678			83			171	
Approach Delay, s/veh		22.2			19.2			19.3			20.6	
Approach LOS		C			B			B			C	

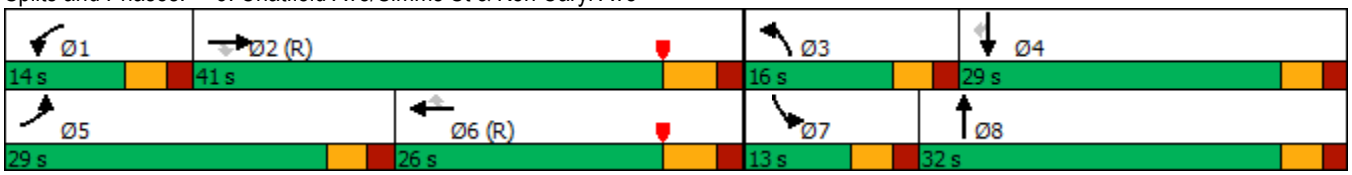
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	46.4		44.0	7.9	48.1		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	6.0	39.0		39.0	6.0	39.0		39.0				
Max Q Clear Time (g_c+I1), s	5.0	15.5		6.8	3.0	9.3		3.7				
Green Ext Time (p_c), s	0.0	6.7		0.6	0.0	3.7		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		20.9	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	250	440	130	50	285	265	80	330	150	280	235
Future Volume (vph)	250	440	130	50	285	265	80	330	150	280	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	23.0
Total Split (s)	29.0	41.0	41.0	14.0	26.0	26.0	16.0	32.0	13.0	29.0	29.0
Total Split (%)	29.0%	41.0%	41.0%	14.0%	26.0%	26.0%	16.0%	32.0%	13.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	Max
Act Effct Green (s)	22.2	38.2	38.2	7.9	21.8	21.8	8.6	27.0	8.0	26.4	26.4
Actuated g/C Ratio	0.22	0.38	0.38	0.08	0.22	0.22	0.09	0.27	0.08	0.26	0.26
v/c Ratio	0.86	0.44	0.25	0.44	0.31	0.57	0.38	0.53	0.71	0.39	0.48
Control Delay	58.1	6.7	0.8	53.4	34.3	10.7	46.5	33.0	60.1	32.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	6.7	0.8	53.4	34.3	10.7	46.5	33.0	60.1	32.2	6.4
LOS	E	A	A	D	C	B	D	C	E	C	A
Approach Delay		21.4			25.5			35.4		29.4	
Approach LOS		C			C			D		C	

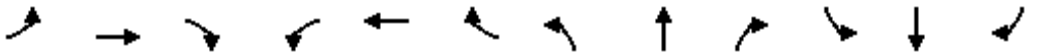
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 27.0	Intersection LOS: C
Intersection Capacity Utilization 53.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	338	595	176	61	348	323	113	507	195	364	305
v/c Ratio	0.86	0.44	0.25	0.44	0.31	0.57	0.38	0.53	0.71	0.39	0.48
Control Delay	58.1	6.7	0.8	53.4	34.3	10.7	46.5	33.0	60.1	32.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	6.7	0.8	53.4	34.3	10.7	46.5	33.0	60.1	32.2	6.4
Queue Length 50th (ft)	109	28	0	37	70	19	35	142	63	100	0
Queue Length 95th (ft)	153	30	0	71	89	69	48	146	85	123	31
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	424	1350	712	159	1110	570	377	950	274	932	641
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.44	0.25	0.38	0.31	0.57	0.30	0.53	0.71	0.39	0.48

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	440	130	50	285	265	80	330	30	150	280	235
Future Volume (veh/h)	250	440	130	50	285	265	80	330	30	150	280	235
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	338	595	176	61	348	0	113	465	42	195	364	305
Peak Hour Factor	0.74	0.74	0.74	0.82	0.82	0.82	0.71	0.71	0.71	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	1423	635	79	1226		176	890	80	260	1045	466
Arrive On Green	0.41	0.80	0.80	0.04	0.24	0.00	0.05	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3297	297	3456	3554	1585
Grp Volume(v), veh/h	338	595	176	61	348	0	113	250	257	195	364	305
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1817	1728	1777	1585
Q Serve(g_s), s	18.1	5.0	2.8	3.4	5.6	0.0	3.2	11.9	12.0	5.5	8.1	16.8
Cycle Q Clear(g_c), s	18.1	5.0	2.8	3.4	5.6	0.0	3.2	11.9	12.0	5.5	8.1	16.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	364	1423	635	79	1226		176	480	491	260	1045	466
V/C Ratio(X)	0.93	0.42	0.28	0.77	0.28		0.64	0.52	0.52	0.75	0.35	0.65
Avail Cap(c_a), veh/h	428	1423	635	160	1226		380	480	491	276	1045	466
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	6.5	6.2	47.3	31.0	0.0	46.5	31.0	31.0	45.3	27.8	30.8
Incr Delay (d2), s/veh	24.0	0.9	1.1	14.8	0.6	0.0	3.8	4.0	4.0	10.2	0.9	7.0
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	7.9	1.6	1.0	1.8	2.3	0.0	1.4	5.4	5.6	2.7	3.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	7.3	7.3	62.1	31.6	0.0	50.4	35.0	35.0	55.5	28.7	37.8
LnGrp LOS	D	A	A	E	C		D	D	D	E	C	D
Approach Vol, veh/h		1109			409	A		620			864	
Approach Delay, s/veh		21.2			36.1			37.8			38.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	46.1	10.1	34.4	25.5	30.0	12.5	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	24.0	24.0	20.0	8.0	27.0
Max Q Clear Time (g_c+I1), s	5.4	7.0	5.2	18.8	20.1	7.6	7.5	14.0
Green Ext Time (p_c), s	0.0	4.6	0.1	1.6	0.4	1.7	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

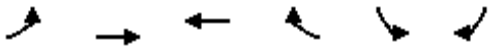
Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	50	790	560	40	30
Future Volume (vph)	50	790	560	40	30
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	13.0	75.0	62.0	62.0	25.0
Total Split (%)	13.0%	75.0%	62.0%	62.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	70.0	69.0	59.6	59.6	20.0
Actuated g/C Ratio	0.70	0.69	0.60	0.60	0.20
v/c Ratio	0.11	0.26	0.22	0.05	0.18
Control Delay	2.9	5.3	4.9	1.1	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	5.3	4.9	1.1	22.1
LOS	A	A	A	A	C
Approach Delay		5.2	4.6		22.1
Approach LOS		A	A		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.26	
Intersection Signal Delay: 5.6	Intersection LOS: A
Intersection Capacity Utilization 32.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave & 12300 Block

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	59	929	659	47	64
v/c Ratio	0.11	0.26	0.22	0.05	0.18
Control Delay	2.9	5.3	4.9	1.1	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	5.3	4.9	1.1	22.1
Queue Length 50th (ft)	8	46	26	0	18
Queue Length 95th (ft)	16	53	47	2	51
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	553	3508	3029	962	363
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	0.11	0.26	0.22	0.05	0.18

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	790	560	40	30	25
Future Volume (veh/h)	50	790	560	40	30	25
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	1870	1870
Adj Flow Rate, veh/h	59	929	659	47	35	29
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	589	3523	3062	951	182	151
Arrive On Green	0.04	0.69	1.00	1.00	0.20	0.20
Sat Flow, veh/h	1781	5274	5274	1585	910	754
Grp Volume(v), veh/h	59	929	659	47	65	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1689	0
Q Serve(g_s), s	1.2	6.9	0.0	0.0	3.2	0.0
Cycle Q Clear(g_c), s	1.2	6.9	0.0	0.0	3.2	0.0
Prop In Lane	1.00			1.00	0.54	0.45
Lane Grp Cap(c), veh/h	589	3523	3062	951	338	0
V/C Ratio(X)	0.10	0.26	0.22	0.05	0.19	0.00
Avail Cap(c_a), veh/h	659	3523	3062	951	338	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	1.00	0.00
Uniform Delay (d), s/veh	6.0	5.9	0.0	0.0	33.3	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.1	1.3	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	0.4	2.0	0.0	0.0	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.1	0.1	0.1	34.5	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		988	706		65	
Approach Delay, s/veh		6.1	0.1		34.5	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.0		25.0	9.0	66.0
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		69.0		20.0	8.0	56.0
Max Q Clear Time (g_c+I1), s		8.9		5.2	3.2	2.0
Green Ext Time (p_c), s		7.6		0.1	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	4.7
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	33	19	2	47	27
Future Volume (Veh/h)	2	33	19	2	47	27
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	39	22	2	55	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	142	0	166	126	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142	0	166	126	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	96	97	100	97	
cM capacity (veh/h)	724	1085	748	739	1623	

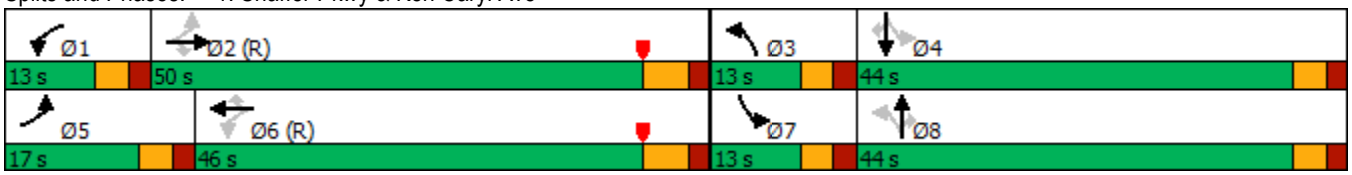
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	41	24	87
Volume Left	0	22	55
Volume Right	39	0	32
cSH	1059	747	1623
Volume to Capacity	0.04	0.03	0.03
Queue Length 95th (ft)	3	2	3
Control Delay (s)	8.5	10.0	4.7
Lane LOS	A	A	A
Approach Delay (s)	8.5	10.0	4.7
Approach LOS	A	A	

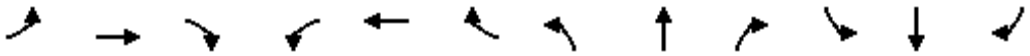
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	730	240	105	555	60	420	30	160	70	15	55
Future Volume (vph)	75	730	240	105	555	60	420	30	160	70	15	55
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	17.0	50.0	50.0	13.0	46.0	46.0	13.0	44.0	44.0	13.0	44.0	44.0
Total Split (%)	14.2%	41.7%	41.7%	10.8%	38.3%	38.3%	10.8%	36.7%	36.7%	10.8%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	53.5	44.2	44.2	53.3	45.9	45.9	47.4	39.4	39.4	46.6	39.0	39.0
Actuated g/C Ratio	0.45	0.37	0.37	0.44	0.38	0.38	0.40	0.33	0.33	0.39	0.32	0.32
v/c Ratio	0.20	0.40	0.33	0.37	0.32	0.10	0.80	0.05	0.27	0.16	0.03	0.12
Control Delay	18.2	28.9	4.5	35.7	45.0	15.4	42.1	28.3	5.4	21.3	28.0	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	28.9	4.5	35.7	45.0	15.4	42.1	28.3	5.4	21.3	28.0	1.3
LOS	B	C	A	D	D	B	D	C	A	C	C	A
Approach Delay		22.6			41.2			31.8			14.1	
Approach LOS		C			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 29.7	Intersection LOS: C
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave

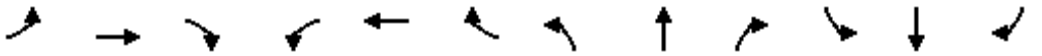




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	77	753	247	117	617	67	452	32	172	89	19	70
v/c Ratio	0.20	0.40	0.33	0.37	0.32	0.10	0.80	0.05	0.27	0.16	0.03	0.12
Control Delay	18.2	28.9	4.5	35.7	45.0	15.4	42.1	28.3	5.4	21.3	28.0	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	28.9	4.5	35.7	45.0	15.4	42.1	28.3	5.4	21.3	28.0	1.3
Queue Length 50th (ft)	31	157	0	83	175	7	262	17	0	40	10	0
Queue Length 95th (ft)	59	194	54	140	218	45	#390	41	49	64	25	0
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	436	1873	739	320	1945	672	568	611	634	563	605	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.40	0.33	0.37	0.32	0.10	0.80	0.05	0.27	0.16	0.03	0.12

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	730	240	105	555	60	420	30	160	70	15	55
Future Volume (veh/h)	75	730	240	105	555	60	420	30	160	70	15	55
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	753	247	117	617	67	452	32	172	89	19	70
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.93	0.93	0.93	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	1929	599	311	2007	623	595	644	546	527	608	515
Arrive On Green	0.04	0.38	0.38	0.06	0.39	0.39	0.07	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	77	753	247	117	617	67	452	32	172	89	19	70
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.2	12.9	13.8	4.8	10.0	3.2	8.0	1.4	9.6	4.0	0.8	3.7
Cycle Q Clear(g_c), s	3.2	12.9	13.8	4.8	10.0	3.2	8.0	1.4	9.6	4.0	0.8	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	366	1929	599	311	2007	623	595	644	546	527	608	515
V/C Ratio(X)	0.21	0.39	0.41	0.38	0.31	0.11	0.76	0.05	0.32	0.17	0.03	0.14
Avail Cap(c_a), veh/h	473	1929	599	331	2007	623	595	644	546	562	608	515
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	27.3	27.5	21.5	25.1	23.1	32.2	26.2	28.9	24.9	27.6	28.6
Incr Delay (d2), s/veh	0.3	0.6	2.1	0.8	0.4	0.3	5.7	0.1	1.5	0.1	0.1	0.5
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	1.3	5.2	5.6	2.0	4.0	1.3	8.6	0.6	3.9	1.7	0.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	27.8	29.6	22.2	25.5	23.4	37.9	26.4	30.4	25.0	27.7	29.1
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		1077			801			656			178	
Approach Delay, s/veh		27.8			24.9			35.4			26.9	
Approach LOS		C			C			D			C	

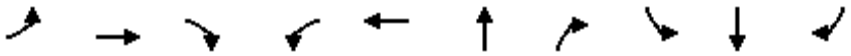
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	51.3	13.0	44.0	9.8	53.2	10.7	46.3
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	44.0	8.0	39.0	12.0	40.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	6.8	15.8	10.0	5.7	5.2	12.0	6.0	11.6
Green Ext Time (p_c), s	0.0	6.3	0.0	0.3	0.1	4.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	90	945	25	105	615	35	10	80	25	5	35
Future Volume (vph)	90	945	25	105	615	35	10	80	25	5	35
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	63.0	63.0	13.0	63.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	10.8%	52.5%	52.5%	10.8%	52.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	65.9	57.4	57.4	66.1	57.5		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.55	0.48	0.48	0.55	0.48		0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.22	0.42	0.03	0.34	0.28		0.11	0.16	0.06	0.01	0.07
Control Delay	5.7	17.7	3.5	12.3	8.5		29.2	6.5	28.6	27.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	17.7	3.5	12.3	8.5		29.2	6.5	28.6	27.6	1.4
LOS	A	B	A	B	A		C	A	C	C	A
Approach Delay		16.3			9.0		14.7			13.7	
Approach LOS		B			A		B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 46.5%	ICU Level of Service A
Analysis Period (min) 15	

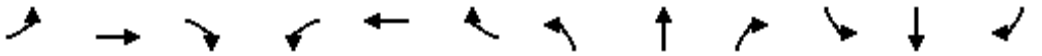
Splits and Phases: 2: Alkire St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	1016	27	107	679	53	93	27	5	38
v/c Ratio	0.22	0.42	0.03	0.34	0.28	0.11	0.16	0.06	0.01	0.07
Control Delay	5.7	17.7	3.5	12.3	8.5	29.2	6.5	28.6	27.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	17.7	3.5	12.3	8.5	29.2	6.5	28.6	27.6	1.4
Queue Length 50th (ft)	9	238	3	14	31	29	0	14	3	0
Queue Length 95th (ft)	15	275	16	m46	46	57	34	37	12	6
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	440	2431	790	319	2416	498	577	437	605	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.42	0.03	0.34	0.28	0.11	0.16	0.06	0.01	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	945	25	105	615	50	35	10	80	25	5	35
Future Volume (veh/h)	90	945	25	105	615	50	35	10	80	25	5	35
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1016	27	107	628	51	41	12	93	27	5	38
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	2536	787	341	2407	194	413	114	515	448	608	515
Arrive On Green	0.04	0.50	0.50	0.05	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	4816	388	1107	352	1585	1289	1870	1585
Grp Volume(v), veh/h	97	1016	27	107	442	237	53	0	93	27	5	38
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1800	1459	0	1585	1289	1870	1585
Q Serve(g_s), s	3.2	15.0	1.0	3.5	9.0	9.1	2.3	0.0	5.0	1.8	0.2	2.0
Cycle Q Clear(g_c), s	3.2	15.0	1.0	3.5	9.0	9.1	2.9	0.0	5.0	4.7	0.2	2.0
Prop In Lane	1.00		1.00	1.00		0.22	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	2536	787	341	1701	900	527	0	515	448	608	515
V/C Ratio(X)	0.21	0.40	0.03	0.31	0.26	0.26	0.10	0.00	0.18	0.06	0.01	0.07
Avail Cap(c_a), veh/h	501	2536	787	380	1701	900	527	0	515	448	608	515
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	1.00	1.00
Uniform Delay (d), s/veh	13.9	19.0	15.5	14.6	17.3	17.3	28.3	0.0	29.0	30.0	27.4	28.0
Incr Delay (d2), s/veh	0.2	0.5	0.1	0.5	0.4	0.7	0.4	0.0	0.8	0.3	0.0	0.3
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	1.3	5.8	0.4	1.4	3.5	3.8	1.1	0.0	2.1	0.6	0.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	19.5	15.5	15.1	17.6	18.0	28.7	0.0	29.8	30.2	27.4	28.3
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	C	C
Approach Vol, veh/h		1140			786			146			70	
Approach Delay, s/veh		18.9			17.4			29.4			29.0	
Approach LOS		B			B			C			C	

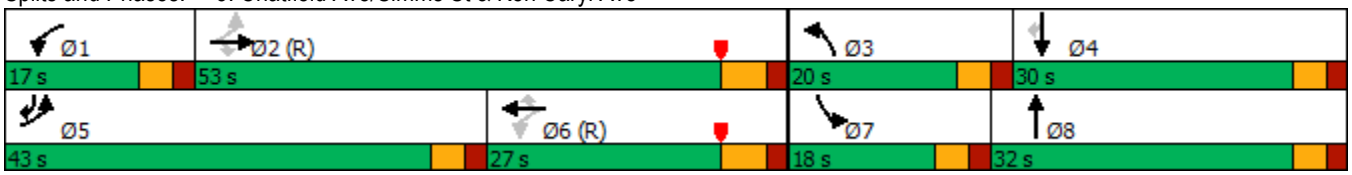
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	65.6		44.0	10.0	66.0		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	8.0	57.0		39.0	8.0	57.0		39.0				
Max Q Clear Time (g_c+I1), s	5.5	17.0		6.7	5.2	11.1		7.0				
Green Ext Time (p_c), s	0.0	8.4		0.2	0.0	4.6		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		19.4	
HCM 6th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	315	435	185	50	400	100	155	245	180	240	270
Future Volume (vph)	315	435	185	50	400	100	155	245	180	240	270
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases	2		2	6		6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	10.0
Total Split (s)	43.0	53.0	53.0	17.0	27.0	27.0	20.0	32.0	18.0	30.0	43.0
Total Split (%)	35.8%	44.2%	44.2%	14.2%	22.5%	22.5%	16.7%	26.7%	15.0%	25.0%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	None
Act Effct Green (s)	65.0	53.9	53.9	48.5	40.2	40.2	11.2	28.5	11.5	28.8	52.6
Actuated g/C Ratio	0.54	0.45	0.45	0.40	0.34	0.34	0.09	0.24	0.10	0.24	0.44
v/c Ratio	0.58	0.29	0.24	0.13	0.26	0.17	0.53	0.38	0.60	0.31	0.39
Control Delay	23.3	10.3	1.2	15.5	30.4	2.2	57.6	38.3	59.5	39.2	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	10.3	1.2	15.5	30.4	2.2	57.6	38.3	59.5	39.2	16.3
LOS	C	B	A	B	C	A	E	D	E	D	B
Approach Delay		12.9			23.9			45.0		35.6	
Approach LOS		B			C			D		D	

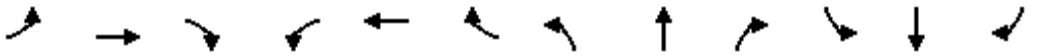
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 56.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	335	463	197	54	435	109	168	315	196	261	293
v/c Ratio	0.58	0.29	0.24	0.13	0.26	0.17	0.53	0.38	0.60	0.31	0.39
Control Delay	23.3	10.3	1.2	15.5	30.4	2.2	57.6	38.3	59.5	39.2	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	10.3	1.2	15.5	30.4	2.2	57.6	38.3	59.5	39.2	16.3
Queue Length 50th (ft)	83	48	0	19	88	0	64	103	75	87	100
Queue Length 95th (ft)	180	74	0	39	130	16	98	149	114	131	159
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	735	1589	819	487	1705	633	429	832	371	849	985
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.29	0.24	0.11	0.26	0.17	0.39	0.38	0.53	0.31	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	435	185	50	400	100	155	245	45	180	240	270
Future Volume (veh/h)	315	435	185	50	400	100	155	245	45	180	240	270
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	335	463	197	54	435	0	168	266	49	196	261	293
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	612	1745	778	414	2046		230	676	123	256	827	567
Arrive On Green	0.04	0.16	0.16	0.03	0.40	0.00	0.07	0.22	0.22	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3004	545	3456	3554	1585
Grp Volume(v), veh/h	335	463	197	54	435	0	168	156	159	196	261	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1772	1728	1777	1585
Q Serve(g_s), s	12.1	13.7	13.0	2.1	6.7	0.0	5.7	8.9	9.2	6.7	7.3	17.5
Cycle Q Clear(g_c), s	12.1	13.7	13.0	2.1	6.7	0.0	5.7	8.9	9.2	6.7	7.3	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	612	1745	778	414	2046		230	400	399	256	827	567
V/C Ratio(X)	0.55	0.27	0.25	0.13	0.21		0.73	0.39	0.40	0.77	0.32	0.52
Avail Cap(c_a), veh/h	953	1745	778	530	2046		432	400	399	374	827	567
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	31.3	31.0	19.8	23.6	0.0	55.0	39.5	39.6	54.5	38.1	30.3
Incr Delay (d2), s/veh	0.7	0.4	0.8	0.1	0.2	0.0	4.5	2.8	3.0	5.5	1.0	3.3
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	5.6	6.6	5.7	0.9	2.7	0.0	2.6	4.2	4.3	3.1	3.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	31.7	31.8	19.9	23.8	0.0	59.4	42.3	42.6	60.0	39.1	33.7
LnGrp LOS	B	C	C	B	C		E	D	D	E	D	C
Approach Vol, veh/h		995			489	A		483			750	
Approach Delay, s/veh		27.1			23.4			48.4			42.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	64.9	13.0	32.9	20.0	54.1	13.9	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	47.0	15.0	25.0	38.0	21.0	13.0	27.0
Max Q Clear Time (g_c+I1), s	4.1	15.7	7.7	19.5	14.1	8.7	8.7	11.2
Green Ext Time (p_c), s	0.0	3.8	0.3	1.3	1.0	2.1	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

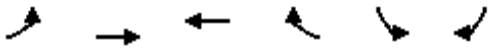
Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	105	820	740	85	115
Future Volume (vph)	105	820	740	85	115
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	15.0	90.0	75.0	75.0	30.0
Total Split (%)	12.5%	75.0%	62.5%	62.5%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	85.0	84.0	71.1	71.1	25.0
Actuated g/C Ratio	0.71	0.70	0.59	0.59	0.21
v/c Ratio	0.24	0.25	0.27	0.09	0.60
Control Delay	4.5	2.5	12.1	3.8	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	2.5	12.1	3.8	44.5
LOS	A	A	B	A	D
Approach Delay		2.7	11.2		44.5
Approach LOS		A	B		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave & 12300 Block

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	114	891	804	92	228
v/c Ratio	0.24	0.25	0.27	0.09	0.60
Control Delay	4.5	2.5	12.1	3.8	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	2.5	12.1	3.8	44.5
Queue Length 50th (ft)	7	20	106	5	139
Queue Length 95th (ft)	20	39	127	19	226
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	494	3559	3012	975	379
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	0.23	0.25	0.27	0.09	0.60

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	820	740	85	115	95
Future Volume (veh/h)	105	820	740	85	115	95
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	1870	1870
Adj Flow Rate, veh/h	114	891	804	92	125	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	516	3574	3154	979	192	158
Arrive On Green	0.04	0.70	1.00	1.00	0.21	0.21
Sat Flow, veh/h	1781	5274	5274	1585	921	759
Grp Volume(v), veh/h	114	891	804	92	229	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1688	0
Q Serve(g_s), s	2.7	7.6	0.0	0.0	14.9	0.0
Cycle Q Clear(g_c), s	2.7	7.6	0.0	0.0	14.9	0.0
Prop In Lane	1.00			1.00	0.55	0.45
Lane Grp Cap(c), veh/h	516	3574	3154	979	352	0
V/C Ratio(X)	0.22	0.25	0.25	0.09	0.65	0.00
Avail Cap(c_a), veh/h	592	3574	3154	979	352	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	0.00
Uniform Delay (d), s/veh	6.8	6.5	0.0	0.0	43.5	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.2	9.0	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	0.9	2.4	0.1	0.0	7.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.0	6.7	0.2	0.2	52.5	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h		1005	896		229	
Approach Delay, s/veh		6.7	0.2		52.5	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.0		30.0	9.9	80.1
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		84.0		25.0	10.0	69.0
Max Q Clear Time (g_c+I1), s		9.6		16.9	4.7	2.0
Green Ext Time (p_c), s		7.2		0.4	0.1	6.6

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	3	49	28	3	58	33
Future Volume (Veh/h)	3	49	28	3	58	33
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	58	33	4	68	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	175	0	216	156	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	175	0	216	156	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	95	95	99	96	
cM capacity (veh/h)	688	1085	676	706	1623	

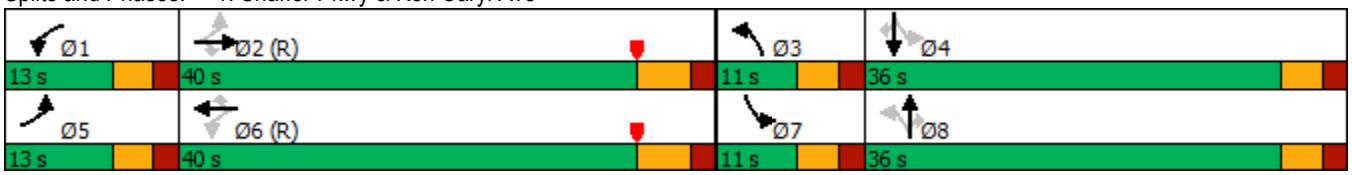
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	62	37	107
Volume Left	0	33	68
Volume Right	58	0	39
cSH	1046	679	1623
Volume to Capacity	0.06	0.05	0.04
Queue Length 95th (ft)	5	4	3
Control Delay (s)	8.7	10.6	4.8
Lane LOS	A	B	A
Approach Delay (s)	8.7	10.6	4.8
Approach LOS	A	B	

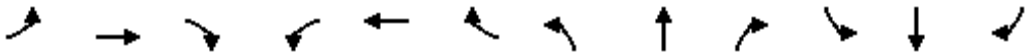
Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	20.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	815	375	115	535	65	195	20	90	50	15	45
Future Volume (vph)	65	815	375	115	535	65	195	20	90	50	15	45
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	13.0	40.0	40.0	13.0	40.0	40.0	11.0	36.0	36.0	11.0	36.0	36.0
Total Split (%)	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%	11.0%	36.0%	36.0%	11.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	42.5	34.3	34.3	44.3	36.9	36.9	38.0	33.2	33.2	36.9	31.0	31.0
Actuated g/C Ratio	0.42	0.34	0.34	0.44	0.37	0.37	0.38	0.33	0.33	0.37	0.31	0.31
v/c Ratio	0.19	0.54	0.53	0.47	0.31	0.11	0.40	0.04	0.16	0.11	0.03	0.09
Control Delay	15.6	28.1	5.0	35.0	11.8	1.4	23.3	24.4	2.2	18.2	24.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	28.1	5.0	35.0	11.8	1.4	23.3	24.4	2.2	18.2	24.3	0.3
LOS	B	C	A	D	B	A	C	C	A	B	C	A
Approach Delay		20.5			14.6			17.1			11.6	
Approach LOS		C			B			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 39 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

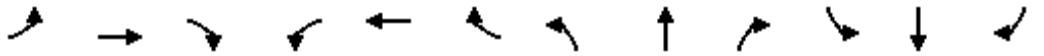
Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	76	948	436	126	588	71	214	22	99	57	17	52
v/c Ratio	0.19	0.54	0.53	0.47	0.31	0.11	0.40	0.04	0.16	0.11	0.03	0.09
Control Delay	15.6	28.1	5.0	35.0	11.8	1.4	23.3	24.4	2.2	18.2	24.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	28.1	5.0	35.0	11.8	1.4	23.3	24.4	2.2	18.2	24.3	0.3
Queue Length 50th (ft)	25	178	0	49	28	1	88	10	0	21	8	0
Queue Length 95th (ft)	48	208	52	107	73	0	142	28	16	44	23	0
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	407	1741	828	272	1874	666	534	618	620	535	577	588
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.54	0.53	0.46	0.31	0.11	0.40	0.04	0.16	0.11	0.03	0.09

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	815	375	115	535	65	195	20	90	50	15	45
Future Volume (veh/h)	65	815	375	115	535	65	195	20	90	50	15	45
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	948	436	126	588	71	214	22	99	57	17	52
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	1825	566	266	1920	596	583	618	523	537	580	491
Arrive On Green	0.04	0.36	0.36	0.06	0.38	0.38	0.06	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	76	948	436	126	588	71	214	22	99	57	17	52
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.7	14.7	24.4	4.4	8.1	2.9	6.0	0.8	4.5	2.1	0.6	2.3
Cycle Q Clear(g_c), s	2.7	14.7	24.4	4.4	8.1	2.9	6.0	0.8	4.5	2.1	0.6	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	1825	566	266	1920	596	583	618	523	537	580	491
V/C Ratio(X)	0.20	0.52	0.77	0.47	0.31	0.12	0.37	0.04	0.19	0.11	0.03	0.11
Avail Cap(c_a), veh/h	443	1825	566	297	1920	596	583	618	523	573	580	491
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	25.4	28.5	19.7	22.0	20.4	22.8	22.7	23.9	21.8	24.0	24.6
Incr Delay (d2), s/veh	0.3	1.1	9.7	1.3	0.4	0.4	0.4	0.1	0.8	0.1	0.1	0.4
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	1.1	5.8	10.5	1.8	3.2	1.1	3.7	0.4	1.8	0.9	0.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	26.4	38.2	21.0	22.4	20.8	23.2	22.8	24.7	21.9	24.1	25.0
LnGrp LOS	B	C	D	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1460			785			335			126	
Approach Delay, s/veh		29.6			22.0			23.6			23.5	
Approach LOS		C			C			C			C	

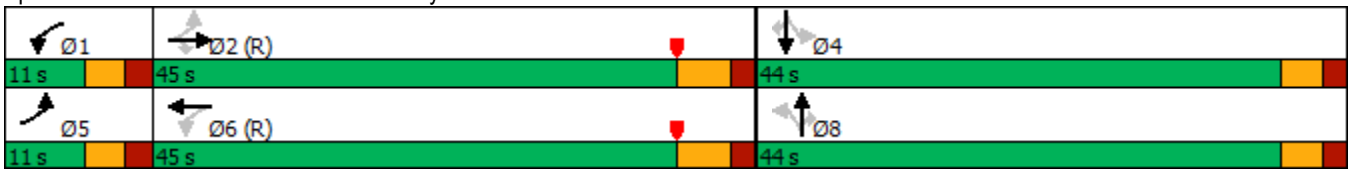
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	41.7	11.0	36.0	9.4	43.6	9.0	38.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	34.0	6.0	31.0	8.0	34.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	6.4	26.4	8.0	4.3	4.7	10.1	4.1	6.5
Green Ext Time (p_c), s	0.0	4.4	0.0	0.2	0.0	4.1	0.0	0.4

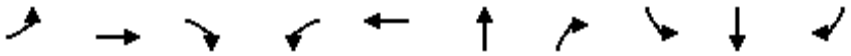
Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	25	885	20	80	565	30	5	40	35	5	85
Future Volume (vph)	25	885	20	80	565	30	5	40	35	5	85
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	45.0	45.0	11.0	45.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	47.0	41.2	41.2	48.0	43.4		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.47	0.41	0.41	0.48	0.43		0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.08	0.50	0.03	0.35	0.30		0.06	0.07	0.09	0.01	0.17
Control Delay	6.0	8.8	0.1	19.6	24.7		19.6	0.8	20.0	18.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	8.8	0.1	19.6	24.7		19.6	0.8	20.0	18.8	4.5
LOS	A	A	A	B	C		B	A	B	B	A
Approach Delay		8.5			24.1		9.7			9.4	
Approach LOS		A			C		A			A	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 48 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 43.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Alkire St & Ken Caryl Ave

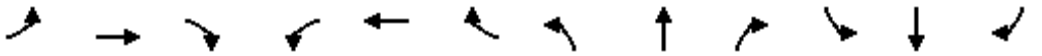




Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	1054	24	89	650	39	44	48	7	116
v/c Ratio	0.08	0.50	0.03	0.35	0.30	0.06	0.07	0.09	0.01	0.17
Control Delay	6.0	8.8	0.1	19.6	24.7	19.6	0.8	20.0	18.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	8.8	0.1	19.6	24.7	19.6	0.8	20.0	18.8	4.5
Queue Length 50th (ft)	3	49	0	44	156	15	0	19	3	0
Queue Length 95th (ft)	m6	56	m0	86	197	37	4	35	9	18
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	394	2095	696	252	2199	603	670	531	726	688
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.50	0.03	0.35	0.30	0.06	0.07	0.09	0.01	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	885	20	80	565	20	30	5	40	35	5	85
Future Volume (veh/h)	25	885	20	80	565	20	30	5	40	35	5	85
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	1054	24	89	628	22	33	6	44	48	7	116
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	2064	641	284	2136	75	503	86	618	578	729	618
Arrive On Green	0.03	0.40	0.40	0.05	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	5106	1585	1781	5066	177	1118	221	1585	1355	1870	1585
Grp Volume(v), veh/h	30	1054	24	89	421	229	39	0	44	48	7	116
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1839	1339	0	1585	1355	1870	1585
Q Serve(g_s), s	1.0	15.5	0.9	2.9	8.2	8.2	1.3	0.0	1.7	2.3	0.2	4.8
Cycle Q Clear(g_c), s	1.0	15.5	0.9	2.9	8.2	8.2	1.7	0.0	1.7	4.0	0.2	4.8
Prop In Lane	1.00		1.00	1.00		0.10	0.85		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	2064	641	284	1436	775	589	0	618	578	729	618
V/C Ratio(X)	0.08	0.51	0.04	0.31	0.29	0.29	0.07	0.00	0.07	0.08	0.01	0.19
Avail Cap(c_a), veh/h	444	2064	641	309	1436	775	589	0	618	578	729	618
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	1.00	1.00
Uniform Delay (d), s/veh	16.6	22.4	18.0	17.4	19.1	19.1	19.1	0.0	19.1	20.4	18.7	20.1
Incr Delay (d2), s/veh	0.1	0.9	0.1	0.6	0.5	1.0	0.2	0.0	0.2	0.3	0.0	0.7
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	0.4	6.0	0.3	1.2	3.2	3.5	0.6	0.0	0.7	0.8	0.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	23.3	18.1	18.0	19.6	20.1	19.3	0.0	19.4	20.7	18.7	20.7
LnGrp LOS	B	C	B	B	B	C	B	A	B	C	B	C
Approach Vol, veh/h		1108			739			83			171	
Approach Delay, s/veh		23.0			19.6			19.3			20.6	
Approach LOS		C			B			B			C	

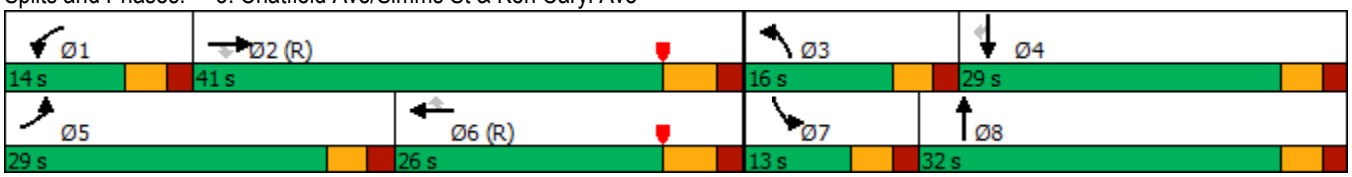
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	46.4		44.0	7.8	48.2		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	6.0	39.0		39.0	6.0	39.0		39.0				
Max Q Clear Time (g_c+I1), s	4.9	17.5		6.8	3.0	10.2		3.7				
Green Ext Time (p_c), s	0.0	7.4		0.6	0.0	4.1		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		21.4	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	270	510	140	55	330	285	85	355	160	305	255
Future Volume (vph)	270	510	140	55	330	285	85	355	160	305	255
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	23.0
Total Split (s)	29.0	41.0	41.0	14.0	26.0	26.0	16.0	32.0	13.0	29.0	29.0
Total Split (%)	29.0%	41.0%	41.0%	14.0%	26.0%	26.0%	16.0%	32.0%	13.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	Max
Act Effct Green (s)	22.5	38.1	38.1	8.0	21.5	21.5	8.7	27.0	8.0	26.3	26.3
Actuated g/C Ratio	0.22	0.38	0.38	0.08	0.22	0.22	0.09	0.27	0.08	0.26	0.26
v/c Ratio	0.88	0.49	0.25	0.46	0.36	0.60	0.39	0.55	0.73	0.41	0.49
Control Delay	61.5	7.0	0.9	54.1	35.0	12.6	46.5	33.3	61.4	32.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	7.0	0.9	54.1	35.0	12.6	46.5	33.3	61.4	32.5	6.4
LOS	E	A	A	D	C	B	D	C	E	C	A
Approach Delay		22.1			27.1			35.7		29.7	
Approach LOS		C			C			D		C	

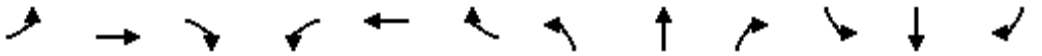
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	351	662	182	65	388	335	115	521	200	381	319
v/c Ratio	0.88	0.49	0.25	0.46	0.36	0.60	0.39	0.55	0.73	0.41	0.49
Control Delay	61.5	7.0	0.9	54.1	35.0	12.6	46.5	33.3	61.4	32.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	7.0	0.9	54.1	35.0	12.6	46.5	33.3	61.4	32.5	6.4
Queue Length 50th (ft)	123	31	0	40	79	30	36	147	65	105	0
Queue Length 95th (ft)	172	33	0	78	103	98	51	157	91	134	39
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	424	1347	715	159	1092	559	377	950	274	930	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.49	0.25	0.41	0.36	0.60	0.31	0.55	0.73	0.41	0.49

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	510	140	55	330	285	85	355	30	160	305	255
Future Volume (veh/h)	270	510	140	55	330	285	85	355	30	160	305	255
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	351	662	182	65	388	0	115	480	41	200	381	319
Peak Hour Factor	0.77	0.77	0.77	0.85	0.85	0.85	0.74	0.74	0.74	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1408	628	84	1185		179	895	76	265	1048	467
Arrive On Green	0.42	0.79	0.79	0.05	0.23	0.00	0.05	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3314	282	3456	3554	1585
Grp Volume(v), veh/h	351	662	182	65	388	0	115	257	264	200	381	319
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1820	1728	1777	1585
Q Serve(g_s), s	18.8	6.2	3.1	3.6	6.3	0.0	3.3	12.3	12.4	5.7	8.5	17.8
Cycle Q Clear(g_c), s	18.8	6.2	3.1	3.6	6.3	0.0	3.3	12.3	12.4	5.7	8.5	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	376	1408	628	84	1185		179	480	491	265	1048	467
V/C Ratio(X)	0.93	0.47	0.29	0.77	0.33		0.64	0.53	0.54	0.76	0.36	0.68
Avail Cap(c_a), veh/h	428	1408	628	160	1185		380	480	491	276	1048	467
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	6.9	6.6	47.1	31.9	0.0	46.5	31.1	31.2	45.2	27.8	31.1
Incr Delay (d2), s/veh	25.2	1.1	1.1	14.0	0.7	0.0	3.8	4.2	4.2	10.8	1.0	7.8
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	8.2	1.8	1.1	1.9	2.6	0.0	1.5	5.6	5.8	2.8	3.6	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	8.0	7.7	61.1	32.7	0.0	50.3	35.4	35.4	56.1	28.8	39.0
LnGrp LOS	D	A	A	E	C		D	D	D	E	C	D
Approach Vol, veh/h		1195			453	A		636			900	
Approach Delay, s/veh		21.3			36.7			38.1			38.5	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	45.6	10.2	34.5	26.1	29.2	12.7	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	24.0	24.0	20.0	8.0	27.0
Max Q Clear Time (g_c+I1), s	5.6	8.2	5.3	19.8	20.8	8.3	7.7	14.4
Green Ext Time (p_c), s	0.0	5.2	0.1	1.4	0.4	1.8	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	55	885	625	45	35
Future Volume (vph)	55	885	625	45	35
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	13.0	75.0	62.0	62.0	25.0
Total Split (%)	13.0%	75.0%	62.0%	62.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	70.0	69.0	59.5	59.5	20.0
Actuated g/C Ratio	0.70	0.69	0.60	0.60	0.20
v/c Ratio	0.12	0.29	0.23	0.05	0.21
Control Delay	2.9	5.2	4.8	1.0	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	5.2	4.8	1.0	21.7
LOS	A	A	A	A	C
Approach Delay		5.1	4.5		21.7
Approach LOS		A	A		C

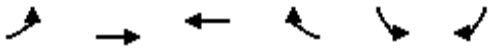
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.29	
Intersection Signal Delay: 5.5	Intersection LOS: A
Intersection Capacity Utilization 33.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	63	1006	710	51	76
v/c Ratio	0.12	0.29	0.23	0.05	0.21
Control Delay	2.9	5.2	4.8	1.0	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	5.2	4.8	1.0	21.7
Queue Length 50th (ft)	8	49	27	0	22
Queue Length 95th (ft)	16	57	51	m2	56
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	528	3508	3026	963	368
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	0.12	0.29	0.23	0.05	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	885	625	45	35	30
Future Volume (veh/h)	55	885	625	45	35	30
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	1870	1870
Adj Flow Rate, veh/h	62	1006	710	51	41	35
Peak Hour Factor	0.88	0.88	0.88	0.88	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	567	3523	3058	949	180	153
Arrive On Green	0.04	0.69	1.00	1.00	0.20	0.20
Sat Flow, veh/h	1781	5274	5274	1585	898	767
Grp Volume(v), veh/h	62	1006	710	51	77	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1687	0
Q Serve(g_s), s	1.2	7.6	0.0	0.0	3.8	0.0
Cycle Q Clear(g_c), s	1.2	7.6	0.0	0.0	3.8	0.0
Prop In Lane	1.00			1.00	0.53	0.45
Lane Grp Cap(c), veh/h	567	3523	3058	949	337	0
V/C Ratio(X)	0.11	0.29	0.23	0.05	0.23	0.00
Avail Cap(c_a), veh/h	637	3523	3058	949	337	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.92	0.92	1.00	0.00
Uniform Delay (d), s/veh	6.0	6.0	0.0	0.0	33.5	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.1	1.6	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	0.4	2.3	0.0	0.0	1.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.2	0.2	0.1	35.1	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h		1068	761		77	
Approach Delay, s/veh		6.2	0.2		35.1	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.0		25.0	9.1	65.9
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		69.0		20.0	8.0	56.0
Max Q Clear Time (g_c+I1), s		9.6		5.8	3.2	2.0
Green Ext Time (p_c), s		8.4		0.1	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	39	22	2	53	30
Future Volume (Veh/h)	2	39	22	2	53	30
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	46	26	2	62	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	159	0	188	142	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159	0	188	142	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	96	96	100	96	
cM capacity (veh/h)	705	1085	716	721	1623	

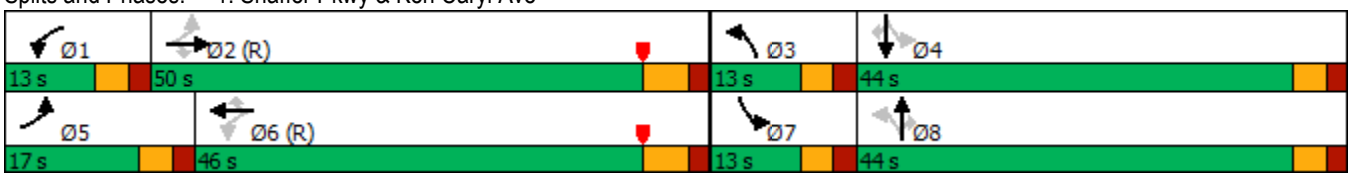
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	48	28	97
Volume Left	0	26	62
Volume Right	46	0	35
cSH	1061	716	1623
Volume to Capacity	0.05	0.04	0.04
Queue Length 95th (ft)	4	3	3
Control Delay (s)	8.6	10.2	4.8
Lane LOS	A	B	A
Approach Delay (s)	8.6	10.2	4.8
Approach LOS	A	B	

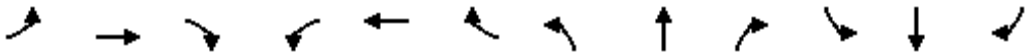
Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	850	300	130	645	70	490	40	200	80	20	65
Future Volume (vph)	90	850	300	130	645	70	490	40	200	80	20	65
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	17.0	50.0	50.0	13.0	46.0	46.0	13.0	44.0	44.0	13.0	44.0	44.0
Total Split (%)	14.2%	41.7%	41.7%	10.8%	38.3%	38.3%	10.8%	36.7%	36.7%	10.8%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	54.0	44.1	44.1	52.0	43.1	43.1	47.3	39.3	39.3	46.7	39.0	39.0
Actuated g/C Ratio	0.45	0.37	0.37	0.43	0.36	0.36	0.39	0.33	0.33	0.39	0.32	0.32
v/c Ratio	0.27	0.47	0.40	0.50	0.38	0.12	0.90	0.07	0.32	0.18	0.04	0.13
Control Delay	19.1	30.1	4.5	41.5	48.8	18.1	53.1	28.5	5.2	21.5	28.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	30.1	4.5	41.5	48.8	18.1	53.1	28.5	5.2	21.5	28.1	2.1
LOS	B	C	A	D	D	B	D	C	A	C	C	A
Approach Delay		23.1			45.1			38.7			14.7	
Approach LOS		C			D			D			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave

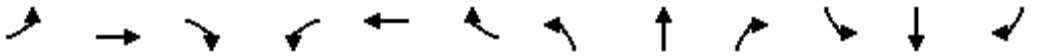




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	93	876	309	140	694	75	510	42	208	98	24	79
v/c Ratio	0.27	0.47	0.40	0.50	0.38	0.12	0.90	0.07	0.32	0.18	0.04	0.13
Control Delay	19.1	30.1	4.5	41.5	48.8	18.1	53.1	28.5	5.2	21.5	28.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	30.1	4.5	41.5	48.8	18.1	53.1	28.5	5.2	21.5	28.1	2.1
Queue Length 50th (ft)	38	188	0	102	200	11	309	22	0	45	13	0
Queue Length 95th (ft)	69	229	58	163	244	54	#528	49	53	72	30	6
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	394	1868	777	284	1824	637	566	610	658	560	605	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.47	0.40	0.49	0.38	0.12	0.90	0.07	0.32	0.17	0.04	0.13

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	850	300	130	645	70	490	40	200	80	20	65
Future Volume (veh/h)	90	850	300	130	645	70	490	40	200	80	20	65
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	876	309	140	694	75	510	42	208	98	24	79
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	1884	585	287	1971	612	587	637	540	518	608	515
Arrive On Green	0.05	0.37	0.37	0.06	0.39	0.39	0.07	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	93	876	309	140	694	75	510	42	208	98	24	79
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.9	15.7	18.3	5.8	11.6	3.7	8.0	1.8	12.0	4.4	1.1	4.2
Cycle Q Clear(g_c), s	3.9	15.7	18.3	5.8	11.6	3.7	8.0	1.8	12.0	4.4	1.1	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	1884	585	287	1971	612	587	637	540	518	608	515
V/C Ratio(X)	0.27	0.47	0.53	0.49	0.35	0.12	0.87	0.07	0.39	0.19	0.04	0.15
Avail Cap(c_a), veh/h	441	1884	585	291	1971	612	587	637	540	546	608	515
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	28.8	29.7	22.4	26.2	23.7	34.8	26.7	30.0	24.7	27.7	28.8
Incr Delay (d2), s/veh	0.4	0.8	3.4	1.3	0.5	0.4	13.2	0.2	2.1	0.2	0.1	0.6
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	1.6	6.4	7.5	2.5	4.7	1.5	12.4	0.9	4.9	1.9	0.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	29.7	33.1	23.6	26.7	24.2	48.0	26.9	32.1	24.9	27.8	29.4
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		1278			909			760			201	
Approach Delay, s/veh		30.0			26.0			42.5			27.0	
Approach LOS		C			C			D			C	

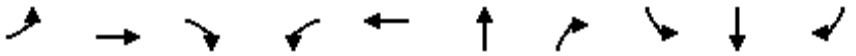
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	50.3	13.0	44.0	10.7	52.3	11.1	45.9
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	44.0	8.0	39.0	12.0	40.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	7.8	20.3	10.0	6.2	5.9	13.6	6.4	14.0
Green Ext Time (p_c), s	0.0	7.3	0.0	0.4	0.1	5.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	90	1100	25	105	715	35	10	80	25	5	35
Future Volume (vph)	90	1100	25	105	715	35	10	80	25	5	35
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	63.0	63.0	13.0	63.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	10.8%	52.5%	52.5%	10.8%	52.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	65.9	57.4	57.4	66.1	57.5		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.55	0.48	0.48	0.55	0.48		0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.24	0.47	0.03	0.39	0.32		0.11	0.16	0.06	0.01	0.07
Control Delay	5.8	18.1	3.0	15.5	9.7		29.2	6.5	28.6	27.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	18.1	3.0	15.5	9.7		29.2	6.5	28.6	27.6	1.4
LOS	A	B	A	B	A		C	A	C	C	A
Approach Delay		16.9			10.4		14.7			13.7	
Approach LOS		B			B		B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 49.5%	ICU Level of Service A
Analysis Period (min) 15	

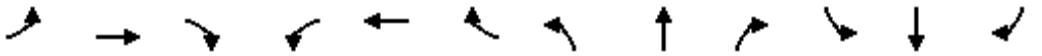
Splits and Phases: 2: Alkire St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	94	1146	26	107	781	53	93	27	5	38
v/c Ratio	0.24	0.47	0.03	0.39	0.32	0.11	0.16	0.06	0.01	0.07
Control Delay	5.8	18.1	3.0	15.5	9.7	29.2	6.5	28.6	27.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	18.1	3.0	15.5	9.7	29.2	6.5	28.6	27.6	1.4
Queue Length 50th (ft)	8	280	3	14	36	29	0	14	3	0
Queue Length 95th (ft)	13	319	m12	m53	70	57	34	37	12	6
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	398	2431	790	282	2418	498	577	437	605	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.47	0.03	0.38	0.32	0.11	0.16	0.06	0.01	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1100	25	105	715	50	35	10	80	25	5	35
Future Volume (veh/h)	90	1100	25	105	715	50	35	10	80	25	5	35
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	1146	26	107	730	51	41	12	93	27	5	38
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	2536	787	308	2441	170	413	114	515	448	608	515
Arrive On Green	0.04	0.50	0.50	0.05	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	4875	339	1107	352	1585	1289	1870	1585
Grp Volume(v), veh/h	94	1146	26	107	509	272	53	0	93	27	5	38
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1809	1459	0	1585	1289	1870	1585
Q Serve(g_s), s	3.1	17.5	1.0	3.5	10.5	10.6	2.3	0.0	5.0	1.8	0.2	2.0
Cycle Q Clear(g_c), s	3.1	17.5	1.0	3.5	10.5	10.6	2.9	0.0	5.0	4.7	0.2	2.0
Prop In Lane	1.00		1.00	1.00		0.19	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	418	2536	787	308	1704	906	527	0	515	448	608	515
V/C Ratio(X)	0.22	0.45	0.03	0.35	0.30	0.30	0.10	0.00	0.18	0.06	0.01	0.07
Avail Cap(c_a), veh/h	464	2536	787	347	1704	906	527	0	515	448	608	515
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	1.00	1.00
Uniform Delay (d), s/veh	14.0	19.6	15.5	15.0	17.6	17.6	28.3	0.0	29.0	30.0	27.4	28.0
Incr Delay (d2), s/veh	0.3	0.6	0.1	0.7	0.4	0.9	0.4	0.0	0.8	0.3	0.0	0.3
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	1.2	6.8	0.4	1.4	4.1	4.5	1.1	0.0	2.1	0.6	0.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	20.2	15.5	15.7	18.0	18.5	28.7	0.0	29.8	30.2	27.4	28.3
LnGrp LOS	B	C	B	B	B	B	C	A	C	C	C	C
Approach Vol, veh/h		1266			888			146			70	
Approach Delay, s/veh		19.7			17.9			29.4			29.0	
Approach LOS		B			B			C			C	

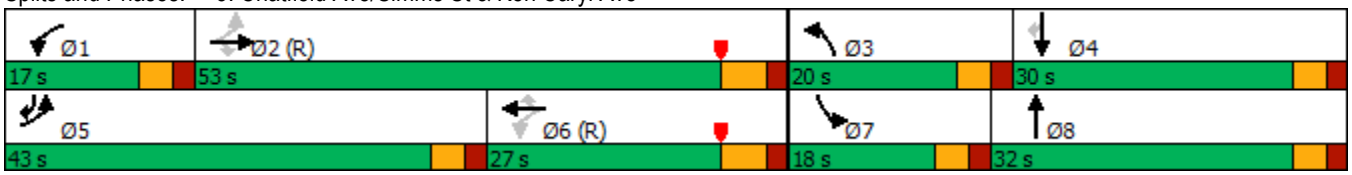
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	65.6		44.0	9.9	66.1		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	8.0	57.0		39.0	8.0	57.0		39.0				
Max Q Clear Time (g_c+I1), s	5.5	19.5		6.7	5.1	12.6		7.0				
Green Ext Time (p_c), s	0.0	9.7		0.2	0.0	5.5		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		19.9	
HCM 6th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	340	505	200	55	465	110	170	265	195	260	295
Future Volume (vph)	340	505	200	55	465	110	170	265	195	260	295
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases	2		2	6		6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	10.0
Total Split (s)	43.0	53.0	53.0	17.0	27.0	27.0	20.0	32.0	18.0	30.0	43.0
Total Split (%)	35.8%	44.2%	44.2%	14.2%	22.5%	22.5%	16.7%	26.7%	15.0%	25.0%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	None
Act Effct Green (s)	65.0	53.8	53.8	47.6	39.3	39.3	11.6	28.3	11.7	28.4	53.1
Actuated g/C Ratio	0.54	0.45	0.45	0.40	0.33	0.33	0.10	0.24	0.10	0.24	0.44
v/c Ratio	0.63	0.33	0.25	0.15	0.29	0.19	0.54	0.39	0.62	0.33	0.42
Control Delay	29.3	10.2	1.1	15.8	31.6	2.8	57.4	38.8	60.1	39.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	10.2	1.1	15.8	31.6	2.8	57.4	38.8	60.1	39.8	18.1
LOS	C	B	A	B	C	A	E	D	E	D	B
Approach Delay		14.7			25.2			45.4		36.5	
Approach LOS		B			C			D		D	

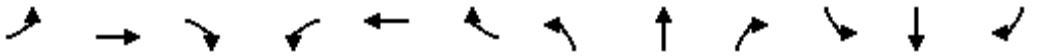
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 27.8	Intersection LOS: C
Intersection Capacity Utilization 59.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	351	521	206	58	489	116	179	326	205	274	311
v/c Ratio	0.63	0.33	0.25	0.15	0.29	0.19	0.54	0.39	0.62	0.33	0.42
Control Delay	29.3	10.2	1.1	15.8	31.6	2.8	57.4	38.8	60.1	39.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	10.2	1.1	15.8	31.6	2.8	57.4	38.8	60.1	39.8	18.1
Queue Length 50th (ft)	114	53	0	20	102	0	69	107	79	93	119
Queue Length 95th (ft)	212	80	0	41	147	22	104	154	119	138	181
Internal Link Dist (ft)		504			417			1207		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	720	1586	823	463	1663	622	429	828	371	837	973
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.33	0.25	0.13	0.29	0.19	0.42	0.39	0.55	0.33	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	505	200	55	465	110	170	265	45	195	260	295
Future Volume (veh/h)	340	505	200	55	465	110	170	265	45	195	260	295
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	351	521	206	58	489	0	179	279	47	205	274	311
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	592	1733	773	384	1998		241	686	114	265	824	577
Arrive On Green	0.04	0.16	0.16	0.04	0.39	0.00	0.07	0.22	0.22	0.08	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3049	507	3456	3554	1585
Grp Volume(v), veh/h	351	521	206	58	489	0	179	161	165	205	274	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1779	1728	1777	1585
Q Serve(g_s), s	12.8	15.5	13.7	2.3	7.7	0.0	6.1	9.3	9.5	7.0	7.7	18.6
Cycle Q Clear(g_c), s	12.8	15.5	13.7	2.3	7.7	0.0	6.1	9.3	9.5	7.0	7.7	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	592	1733	773	384	1998		241	400	400	265	824	577
V/C Ratio(X)	0.59	0.30	0.27	0.15	0.24		0.74	0.40	0.41	0.77	0.33	0.54
Avail Cap(c_a), veh/h	921	1733	773	499	1998		432	400	400	374	824	577
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	32.3	31.5	20.4	24.6	0.0	54.8	39.6	39.7	54.4	38.3	30.2
Incr Delay (d2), s/veh	0.9	0.4	0.8	0.2	0.3	0.0	4.5	3.0	3.1	6.3	1.1	3.6
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	6.1	7.5	6.0	1.0	3.1	0.0	2.8	4.3	4.4	3.2	3.4	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	32.7	32.3	20.6	24.9	0.0	59.3	42.6	42.8	60.7	39.4	33.8
LnGrp LOS	B	C	C	C	C		E	D	D	E	D	C
Approach Vol, veh/h		1078			547	A		505			790	
Approach Delay, s/veh		28.1			24.4			48.6			42.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	64.5	13.4	32.8	20.8	53.0	14.2	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	47.0	15.0	25.0	38.0	21.0	13.0	27.0
Max Q Clear Time (g_c+I1), s	4.3	17.5	8.1	20.6	14.8	9.7	9.0	11.5
Green Ext Time (p_c), s	0.0	4.2	0.3	1.2	1.0	2.3	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

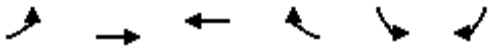
Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	120	915	835	95	130
Future Volume (vph)	120	915	835	95	130
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	23.0
Total Split (s)	15.0	90.0	75.0	75.0	30.0
Total Split (%)	12.5%	75.0%	62.5%	62.5%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	85.0	84.0	70.8	70.8	25.0
Actuated g/C Ratio	0.71	0.70	0.59	0.59	0.21
v/c Ratio	0.30	0.28	0.30	0.11	0.67
Control Delay	6.4	2.3	12.0	3.3	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	2.3	12.0	3.3	48.1
LOS	A	A	B	A	D
Approach Delay		2.8	11.2		48.1
Approach LOS		A	B		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 49.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Ken Caryl Ave

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	130	995	908	103	255
v/c Ratio	0.30	0.28	0.30	0.11	0.67
Control Delay	6.4	2.3	12.0	3.3	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	2.3	12.0	3.3	48.1
Queue Length 50th (ft)	7	20	120	6	161
Queue Length 95th (ft)	38	41	139	18	255
Internal Link Dist (ft)		120	504		188
Turn Bay Length (ft)	100				
Base Capacity (vph)	451	3559	2998	975	379
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	0.29	0.28	0.30	0.11	0.67

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	915	835	95	130	105
Future Volume (veh/h)	120	915	835	95	130	105
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	1870	1870
Adj Flow Rate, veh/h	130	995	908	103	141	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	479	3574	3144	976	194	157
Arrive On Green	0.04	0.70	1.00	1.00	0.21	0.21
Sat Flow, veh/h	1781	5274	5274	1585	930	752
Grp Volume(v), veh/h	130	995	908	103	256	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1585	1689	0
Q Serve(g_s), s	3.1	8.7	0.0	0.0	17.0	0.0
Cycle Q Clear(g_c), s	3.1	8.7	0.0	0.0	17.0	0.0
Prop In Lane	1.00			1.00	0.55	0.45
Lane Grp Cap(c), veh/h	479	3574	3144	976	352	0
V/C Ratio(X)	0.27	0.28	0.29	0.11	0.73	0.00
Avail Cap(c_a), veh/h	552	3574	3144	976	352	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	1.00	0.00
Uniform Delay (d), s/veh	6.9	6.7	0.0	0.0	44.3	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.2	0.2	12.4	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	1.1	2.8	0.1	0.1	8.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	6.9	0.2	0.2	56.7	0.0
LnGrp LOS	A	A	A	A	E	A
Approach Vol, veh/h		1125	1011		256	
Approach Delay, s/veh		6.9	0.2		56.7	
Approach LOS		A	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.0		30.0	10.1	79.9
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		84.0		25.0	10.0	69.0
Max Q Clear Time (g_c+I1), s		10.7		19.0	5.1	2.0
Green Ext Time (p_c), s		8.4		0.4	0.1	7.8

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	3	58	33	3	70	40
Future Volume (Veh/h)	3	58	33	3	70	40
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	68	39	4	82	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	211	0	258	188	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211	0	258	188	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	94	94	99	95	
cM capacity (veh/h)	652	1085	624	671	1623	

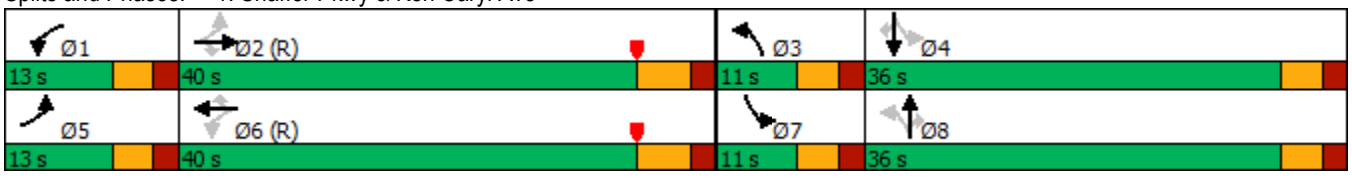
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	72	43	129
Volume Left	0	39	82
Volume Right	68	0	47
cSH	1046	628	1623
Volume to Capacity	0.07	0.07	0.05
Queue Length 95th (ft)	6	5	4
Control Delay (s)	8.7	11.2	4.8
Lane LOS	A	B	A
Approach Delay (s)	8.7	11.2	4.8
Approach LOS	A	B	

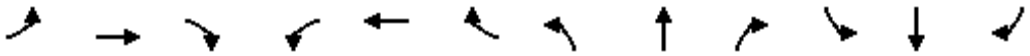
Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	726	300	95	536	63	170	21	75	48	19	140
Future Volume (vph)	89	726	300	95	536	63	170	21	75	48	19	140
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	13.0	40.0	40.0	13.0	40.0	40.0	11.0	36.0	36.0	11.0	36.0	36.0
Total Split (%)	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%	11.0%	36.0%	36.0%	11.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	43.0	34.4	34.4	43.0	34.4	34.4	38.0	33.2	33.2	36.9	31.0	31.0
Actuated g/C Ratio	0.43	0.34	0.34	0.43	0.34	0.34	0.38	0.33	0.33	0.37	0.31	0.31
v/c Ratio	0.28	0.50	0.46	0.38	0.35	0.11	0.36	0.04	0.14	0.11	0.04	0.28
Control Delay	16.7	27.3	4.7	25.6	13.5	1.3	22.4	24.5	1.3	18.2	24.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	27.3	4.7	25.6	13.5	1.3	22.4	24.5	1.3	18.2	24.5	5.4
LOS	B	C	A	C	B	A	C	C	A	B	C	A
Approach Delay		20.4			14.1			16.6			10.1	
Approach LOS		C			B			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 39 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 48.7%	ICU Level of Service A
Analysis Period (min) 15	

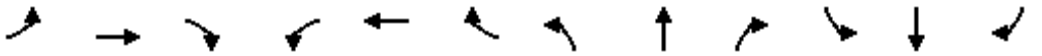
Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	875	361	108	609	72	193	24	85	57	23	167
v/c Ratio	0.28	0.50	0.46	0.38	0.35	0.11	0.36	0.04	0.14	0.11	0.04	0.28
Control Delay	16.7	27.3	4.7	25.6	13.5	1.3	22.4	24.5	1.3	18.2	24.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	27.3	4.7	25.6	13.5	1.3	22.4	24.5	1.3	18.2	24.5	5.4
Queue Length 50th (ft)	36	161	0	29	35	0	78	11	0	21	10	0
Queue Length 95th (ft)	61	182	42	81	80	0	125	29	6	43	27	37
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	383	1748	781	295	1749	630	532	618	620	534	577	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.50	0.46	0.37	0.35	0.11	0.36	0.04	0.14	0.11	0.04	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	726	300	95	536	63	170	21	75	48	19	140
Future Volume (veh/h)	89	726	300	95	536	63	170	21	75	48	19	140
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	875	361	108	609	72	193	24	85	57	23	167
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.88	0.88	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	1864	579	275	1866	579	539	618	523	541	580	491
Arrive On Green	0.05	0.36	0.36	0.06	0.37	0.37	0.06	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	107	875	361	108	609	72	193	24	85	57	23	167
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.7	13.1	18.7	3.7	8.6	3.0	6.0	0.9	3.8	2.1	0.9	8.1
Cycle Q Clear(g_c), s	3.7	13.1	18.7	3.7	8.6	3.0	6.0	0.9	3.8	2.1	0.9	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	1864	579	275	1866	579	539	618	523	541	580	491
V/C Ratio(X)	0.28	0.47	0.62	0.39	0.33	0.12	0.36	0.04	0.16	0.11	0.04	0.34
Avail Cap(c_a), veh/h	427	1864	579	320	1866	579	539	618	523	577	580	491
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	24.3	26.1	19.0	22.9	21.1	22.5	22.7	23.7	21.8	24.1	26.6
Incr Delay (d2), s/veh	0.4	0.9	5.0	0.9	0.5	0.4	0.4	0.1	0.7	0.1	0.1	1.9
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	1.5	5.2	7.7	1.5	3.4	1.2	3.3	0.4	1.5	0.9	0.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	25.2	31.1	19.9	23.3	21.5	22.9	22.8	24.4	21.9	24.2	28.5
LnGrp LOS	B	C	C	B	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1343			789			302			247	
Approach Delay, s/veh		26.3			22.7			23.3			26.6	
Approach LOS		C			C			C			C	

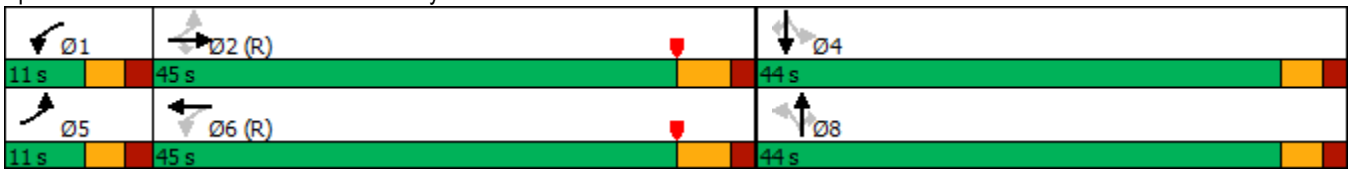
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	42.5	11.0	36.0	10.5	42.5	9.0	38.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	34.0	6.0	31.0	8.0	34.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	5.7	20.7	8.0	10.1	5.7	10.6	4.1	5.8
Green Ext Time (p_c), s	0.0	5.8	0.0	0.6	0.0	4.2	0.0	0.3

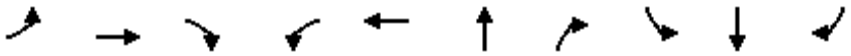
Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	39	785	20	82	527	30	7	41	93	12	127
Future Volume (vph)	39	785	20	82	527	30	7	41	93	12	127
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	45.0	45.0	11.0	45.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	47.0	41.2	41.2	48.0	43.4		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.47	0.41	0.41	0.48	0.43		0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.12	0.46	0.04	0.34	0.30		0.07	0.07	0.24	0.02	0.24
Control Delay	6.5	8.9	0.1	18.5	23.2		19.6	1.1	22.1	19.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	8.9	0.1	18.5	23.2		19.6	1.1	22.1	19.0	4.0
LOS	A	A	A	B	C		B	A	C	B	A
Approach Delay		8.6			22.6		9.8			12.0	
Approach LOS		A			C		A			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 48 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 13.9	Intersection LOS: B
Intersection Capacity Utilization 44.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Alkire St & Ken Caryl Ave

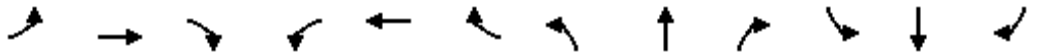




Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	48	969	25	94	652	41	46	127	16	174
v/c Ratio	0.12	0.46	0.04	0.34	0.30	0.07	0.07	0.24	0.02	0.24
Control Delay	6.5	8.9	0.1	18.5	23.2	19.6	1.1	22.1	19.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	8.9	0.1	18.5	23.2	19.6	1.1	22.1	19.0	4.0
Queue Length 50th (ft)	5	47	0	44	149	16	0	54	6	0
Queue Length 95th (ft)	11	52	m0	81	182	38	6	76	16	19
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	393	2095	696	275	2190	605	670	530	726	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.46	0.04	0.34	0.30	0.07	0.07	0.24	0.02	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	785	20	82	527	40	30	7	41	93	12	127
Future Volume (veh/h)	39	785	20	82	527	40	30	7	41	93	12	127
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	969	25	94	606	46	33	8	46	127	16	174
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	394	2057	639	305	2001	151	463	105	618	574	729	618
Arrive On Green	0.04	0.40	0.40	0.05	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	5106	1585	1781	4844	365	1019	270	1585	1350	1870	1585
Grp Volume(v), veh/h	48	969	25	94	425	227	41	0	46	127	16	174
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1805	1290	0	1585	1350	1870	1585
Q Serve(g_s), s	1.6	14.0	1.0	3.1	8.4	8.5	1.3	0.0	1.8	6.5	0.5	7.5
Cycle Q Clear(g_c), s	1.6	14.0	1.0	3.1	8.4	8.5	1.8	0.0	1.8	8.4	0.5	7.5
Prop In Lane	1.00		1.00	1.00		0.20	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	394	2057	639	305	1406	746	568	0	618	574	729	618
V/C Ratio(X)	0.12	0.47	0.04	0.31	0.30	0.31	0.07	0.00	0.07	0.22	0.02	0.28
Avail Cap(c_a), veh/h	435	2057	639	328	1406	746	568	0	618	574	729	618
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	1.00	1.00
Uniform Delay (d), s/veh	16.4	22.0	18.1	17.1	19.7	19.7	19.1	0.0	19.2	21.8	18.8	20.9
Incr Delay (d2), s/veh	0.1	0.8	0.1	0.6	0.6	1.1	0.2	0.0	0.2	0.9	0.1	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	0.6	5.4	0.4	1.2	3.3	3.6	0.6	0.0	0.7	2.2	0.2	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	22.8	18.2	17.7	20.2	20.8	19.4	0.0	19.4	22.7	18.8	22.0
LnGrp LOS	B	C	B	B	C	C	B	A	B	C	B	C
Approach Vol, veh/h		1042			746			87			317	
Approach Delay, s/veh		22.4			20.1			19.4			22.1	
Approach LOS		C			C			B			C	

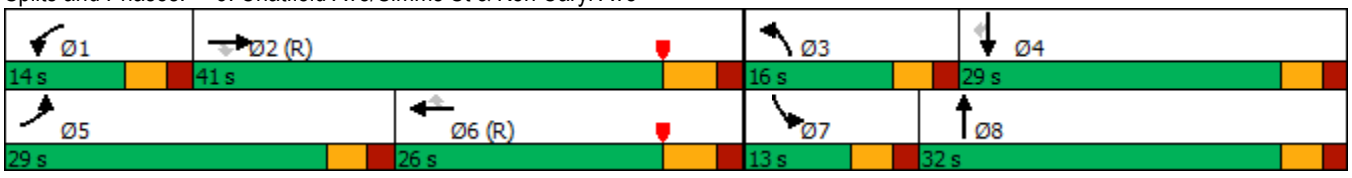
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	46.3		44.0	8.7	47.3		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	6.0	39.0		39.0	6.0	39.0		39.0				
Max Q Clear Time (g_c+I1), s	5.1	16.0		10.4	3.6	10.5		3.8				
Green Ext Time (p_c), s	0.0	6.9		1.1	0.0	4.2		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	264	481	152	51	298	265	89	330	150	281	239
Future Volume (vph)	264	481	152	51	298	265	89	330	150	281	239
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	23.0
Total Split (s)	29.0	41.0	41.0	14.0	26.0	26.0	16.0	32.0	13.0	29.0	29.0
Total Split (%)	29.0%	41.0%	41.0%	14.0%	26.0%	26.0%	16.0%	32.0%	13.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	Max
Act Effct Green (s)	22.7	38.1	38.1	8.0	21.3	21.3	8.9	27.0	8.0	26.1	26.1
Actuated g/C Ratio	0.23	0.38	0.38	0.08	0.21	0.21	0.09	0.27	0.08	0.26	0.26
v/c Ratio	0.89	0.48	0.28	0.44	0.34	0.58	0.41	0.53	0.71	0.40	0.48
Control Delay	61.1	9.3	1.0	53.5	34.8	11.5	46.7	33.0	60.1	32.4	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	9.3	1.0	53.5	34.8	11.5	46.7	33.0	60.1	32.4	6.5
LOS	E	A	A	D	C	B	D	C	E	C	A
Approach Delay		23.2			26.3			35.7		29.4	
Approach LOS		C			C			D		C	

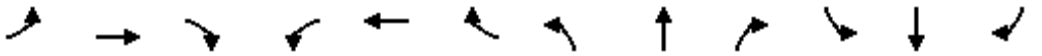
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	357	650	205	62	363	323	125	507	195	365	310
v/c Ratio	0.89	0.48	0.28	0.44	0.34	0.58	0.41	0.53	0.71	0.40	0.48
Control Delay	61.1	9.3	1.0	53.5	34.8	11.5	46.7	33.0	60.1	32.4	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	9.3	1.0	53.5	34.8	11.5	46.7	33.0	60.1	32.4	6.5
Queue Length 50th (ft)	127	37	0	38	73	22	39	142	63	101	0
Queue Length 95th (ft)	170	45	0	73	93	74	52	146	85	124	32
Internal Link Dist (ft)		504			417			635		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	424	1349	730	159	1082	558	377	950	274	923	641
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.48	0.28	0.39	0.34	0.58	0.33	0.53	0.71	0.40	0.48

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	481	152	51	298	265	89	330	30	150	281	239
Future Volume (veh/h)	264	481	152	51	298	265	89	330	30	150	281	239
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	650	205	62	363	0	125	465	42	195	365	310
Peak Hour Factor	0.74	0.74	0.74	0.82	0.82	0.82	0.71	0.71	0.71	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	1421	634	80	1176		191	890	80	260	1031	460
Arrive On Green	0.43	0.80	0.80	0.04	0.23	0.00	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3297	297	3456	3554	1585
Grp Volume(v), veh/h	357	650	205	62	363	0	125	250	257	195	365	310
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1817	1728	1777	1585
Q Serve(g_s), s	19.1	5.8	3.5	3.4	5.9	0.0	3.5	11.9	12.0	5.5	8.1	17.3
Cycle Q Clear(g_c), s	19.1	5.8	3.5	3.4	5.9	0.0	3.5	11.9	12.0	5.5	8.1	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	382	1421	634	80	1176		191	480	491	260	1031	460
V/C Ratio(X)	0.93	0.46	0.32	0.77	0.31		0.66	0.52	0.52	0.75	0.35	0.67
Avail Cap(c_a), veh/h	428	1421	634	160	1176		380	480	491	276	1031	460
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	6.6	6.4	47.3	31.9	0.0	46.3	31.0	31.0	45.3	28.1	31.3
Incr Delay (d2), s/veh	25.8	1.0	1.3	14.6	0.7	0.0	3.8	4.0	4.0	10.2	1.0	7.7
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	8.4	1.7	1.2	1.8	2.4	0.0	1.6	5.4	5.6	2.7	3.5	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	7.6	7.7	61.8	32.6	0.0	50.1	35.0	35.0	55.5	29.0	39.0
LnGrp LOS	D	A	A	E	C		D	D	D	E	C	D
Approach Vol, veh/h		1212			425	A		632			870	
Approach Delay, s/veh		21.2			36.8			38.0			38.5	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	46.0	10.5	34.0	26.4	29.0	12.5	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	24.0	24.0	20.0	8.0	27.0
Max Q Clear Time (g_c+I1), s	5.4	7.8	5.5	19.3	21.1	7.9	7.5	14.0
Green Ext Time (p_c), s	0.0	5.2	0.1	1.5	0.3	1.7	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

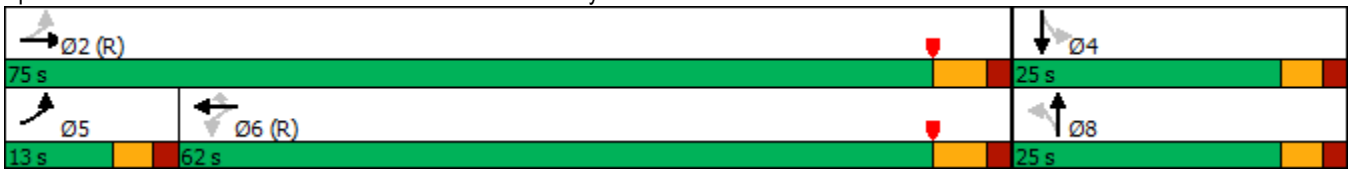
Notes

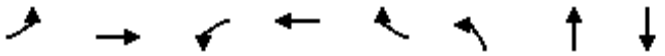
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	50	855	4	582	40	36	1	30	0
Future Volume (vph)	50	855	4	582	40	36	1	30	0
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	6	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	75.0	62.0	62.0	62.0	25.0	25.0	25.0	25.0
Total Split (%)	13.0%	75.0%	62.0%	62.0%	62.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
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		0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	5.0	5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	Max	Max
Act Effct Green (s)	70.0	69.0	59.6	59.6	59.6	20.0	20.0		20.0
Actuated g/C Ratio	0.70	0.69	0.60	0.60	0.60	0.20	0.20		0.20
v/c Ratio	0.11	0.29	0.02	0.23	0.05	0.15	0.04		0.17
Control Delay	2.8	5.0	5.8	4.8	0.4	34.7	17.1		5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	2.8	5.0	5.8	4.8	0.4	34.7	17.1		5.2
LOS	A	A	A	A	A	C	B		A
Approach Delay		4.9		4.5			30.3		5.2
Approach LOS		A		A			C		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.29	
Intersection Signal Delay: 5.5	Intersection LOS: A
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Site Access/12300 Block & Ken Caryl Ave

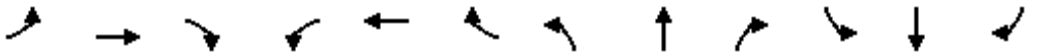




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	59	1021	5	685	47	42	14	64
v/c Ratio	0.11	0.29	0.02	0.23	0.05	0.15	0.04	0.17
Control Delay	2.8	5.0	5.8	4.8	0.4	34.7	17.1	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	5.0	5.8	4.8	0.4	34.7	17.1	5.2
Queue Length 50th (ft)	7	48	1	26	0	22	1	0
Queue Length 95th (ft)	15	54	m2	48	m1	49	16	18
Internal Link Dist (ft)		120		504			217	188
Turn Bay Length (ft)	100		100			60		
Base Capacity (vph)	541	3503	297	3029	973	283	331	368
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	0.11	0.29	0.02	0.23	0.05	0.15	0.04	0.17

Intersection Summary

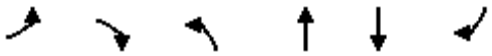
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	855	13	4	582	40	36	1	11	30	0	25
Future Volume (veh/h)	50	855	13	4	582	40	36	1	11	30	0	25
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1006	15	5	685	47	42	1	13	35	0	29
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	3576	53	403	3062	951	361	23	298	204	16	136
Arrive On Green	0.04	0.69	0.69	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1781	5183	77	552	5106	1585	1381	114	1488	741	78	679
Grp Volume(v), veh/h	59	661	360	5	685	47	42	0	14	64	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1856	552	1702	1585	1381	0	1603	1499	0	0
Q Serve(g_s), s	1.2	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.7	1.7	0.0	0.0
Cycle Q Clear(g_c), s	1.2	7.5	7.5	0.0	0.0	0.0	1.9	0.0	0.7	3.3	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.93	0.55		0.45
Lane Grp Cap(c), veh/h	578	2349	1281	403	3062	951	361	0	321	355	0	0
V/C Ratio(X)	0.10	0.28	0.28	0.01	0.22	0.05	0.12	0.00	0.04	0.18	0.00	0.00
Avail Cap(c_a), veh/h	649	2349	1281	403	3062	951	361	0	321	355	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	6.0	6.0	0.0	0.0	0.0	32.8	0.0	32.3	33.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.5	0.1	0.2	0.1	0.1	0.0	0.1	1.1	0.0	0.0
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	2.3	2.5	0.0	0.0	0.0	0.8	0.0	0.3	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	6.3	6.5	0.1	0.2	0.1	32.9	0.0	32.3	34.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		1080			737			56			64	
Approach Delay, s/veh		6.3			0.2			32.8			34.4	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.0		25.0	9.0	66.0		25.0				
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s		69.0		20.0	8.0	56.0		20.0				
Max Q Clear Time (g_c+I1), s		9.5		5.3	3.2	2.0		3.9				
Green Ext Time (p_c), s		7.8		0.2	0.0	5.4		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			5.7									
HCM 6th LOS			A									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	0	479	522	2
Future Volume (Veh/h)	0	5	0	479	522	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	0	521	567	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					715	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	828	284	569			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	679	98	402			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	360	879	1079			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	5	260	260	378	191
Volume Left	0	0	0	0	0
Volume Right	5	0	0	0	2
cSH	879	1700	1700	1700	1700
Volume to Capacity	0.01	0.15	0.15	0.22	0.11
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.1	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	5	33	131	5	47	65
Future Volume (Veh/h)	5	33	131	5	47	65
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	39	154	6	55	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	186	0	190	148	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	186	0	190	148	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	96	79	99	97	
cM capacity (veh/h)	684	1085	718	718	1623	

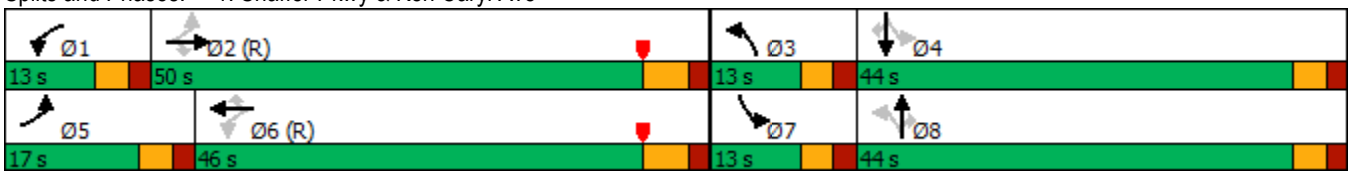
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	45	160	131
Volume Left	0	154	55
Volume Right	39	0	76
cSH	1006	718	1623
Volume to Capacity	0.04	0.22	0.03
Queue Length 95th (ft)	4	21	3
Control Delay (s)	8.7	11.4	3.2
Lane LOS	A	B	A
Approach Delay (s)	8.7	11.4	3.2
Approach LOS	A	B	

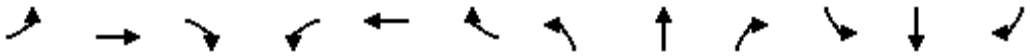
Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	812	240	105	605	68	420	35	160	75	18	120
Future Volume (vph)	181	812	240	105	605	68	420	35	160	75	18	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	17.0	50.0	50.0	13.0	46.0	46.0	13.0	44.0	44.0	13.0	44.0	44.0
Total Split (%)	14.2%	41.7%	41.7%	10.8%	38.3%	38.3%	10.8%	36.7%	36.7%	10.8%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	56.4	44.2	44.2	49.6	40.8	40.8	47.3	39.3	39.3	46.7	39.0	39.0
Actuated g/C Ratio	0.47	0.37	0.37	0.41	0.34	0.34	0.39	0.33	0.33	0.39	0.32	0.32
v/c Ratio	0.50	0.45	0.33	0.40	0.39	0.12	0.80	0.06	0.27	0.17	0.04	0.25
Control Delay	22.9	29.6	4.5	36.0	49.1	17.0	42.2	28.4	5.4	21.4	28.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	29.6	4.5	36.0	49.1	17.0	42.2	28.4	5.4	21.4	28.1	5.6
LOS	C	C	A	D	D	B	D	C	A	C	C	A
Approach Delay		23.8			44.5			31.8			13.1	
Approach LOS		C			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 30.4	Intersection LOS: C
Intersection Capacity Utilization 65.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave

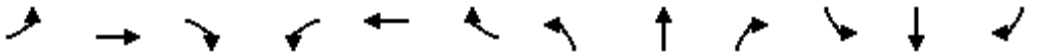




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	837	247	117	672	76	452	38	172	95	23	152
v/c Ratio	0.50	0.45	0.33	0.40	0.39	0.12	0.80	0.06	0.27	0.17	0.04	0.25
Control Delay	22.9	29.6	4.5	36.0	49.1	17.0	42.2	28.4	5.4	21.4	28.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	29.6	4.5	36.0	49.1	17.0	42.2	28.4	5.4	21.4	28.1	5.6
Queue Length 50th (ft)	81	178	0	81	191	11	262	20	0	43	12	0
Queue Length 95th (ft)	129	218	54	135	234	52	#390	46	49	68	28	30
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	386	1873	739	297	1730	610	567	610	634	561	605	617
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.45	0.33	0.39	0.39	0.12	0.80	0.06	0.27	0.17	0.04	0.25

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	812	240	105	605	68	420	35	160	75	18	120
Future Volume (veh/h)	181	812	240	105	605	68	420	35	160	75	18	120
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	837	247	117	672	76	452	38	172	95	23	152
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.93	0.93	0.93	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	1920	596	294	1786	554	562	639	542	530	608	515
Arrive On Green	0.08	0.38	0.38	0.06	0.35	0.35	0.07	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	187	837	247	117	672	76	452	38	172	95	23	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.0	14.7	13.8	5.0	11.8	3.9	8.0	1.6	9.6	4.2	1.0	8.6
Cycle Q Clear(g_c), s	8.0	14.7	13.8	5.0	11.8	3.9	8.0	1.6	9.6	4.2	1.0	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	1920	596	294	1786	554	562	639	542	530	608	515
V/C Ratio(X)	0.48	0.44	0.41	0.40	0.38	0.14	0.80	0.06	0.32	0.18	0.04	0.30
Avail Cap(c_a), veh/h	417	1920	596	311	1786	554	562	639	542	560	608	515
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	27.9	27.7	23.3	29.2	26.7	33.0	26.5	29.2	24.8	27.7	30.2
Incr Delay (d2), s/veh	0.9	0.7	2.1	0.9	0.6	0.5	8.4	0.2	1.5	0.2	0.1	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	3.3	5.9	5.6	2.1	4.8	1.6	9.3	0.8	3.9	1.8	0.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	28.7	29.8	24.2	29.8	27.2	41.4	26.7	30.7	24.9	27.8	31.7
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		1271			865			662			270	
Approach Delay, s/veh		28.1			28.8			37.8			29.0	
Approach LOS		C			C			D			C	

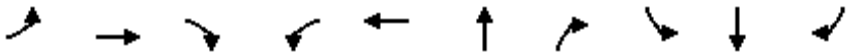
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	51.1	13.0	44.0	15.0	48.0	11.0	46.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	44.0	8.0	39.0	12.0	40.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	7.0	16.7	10.0	10.6	10.0	13.8	6.2	11.6
Green Ext Time (p_c), s	0.0	7.0	0.0	0.6	0.1	4.9	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	137	985	25	106	645	35	17	82	63	9	63
Future Volume (vph)	137	985	25	106	645	35	17	82	63	9	63
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	63.0	63.0	13.0	63.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	10.8%	52.5%	52.5%	10.8%	52.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	66.2	57.4	57.4	65.8	57.2		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.55	0.48	0.48	0.55	0.48		0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.37	0.44	0.03	0.36	0.32		0.12	0.16	0.16	0.02	0.12
Control Delay	7.5	17.6	3.2	12.3	8.7		29.4	6.4	30.1	27.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	17.6	3.2	12.3	8.7		29.4	6.4	30.1	27.8	6.5
LOS	A	B	A	B	A		C	A	C	C	A
Approach Delay		16.1			9.1		15.4			19.0	
Approach LOS		B			A		B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

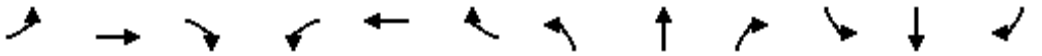
Splits and Phases: 2: Alkire St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	147	1059	27	108	772	61	95	69	10	69
v/c Ratio	0.37	0.44	0.03	0.36	0.32	0.12	0.16	0.16	0.02	0.12
Control Delay	7.5	17.6	3.2	12.3	8.7	29.4	6.4	30.1	27.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	17.6	3.2	12.3	8.7	29.4	6.4	30.1	27.8	6.5
Queue Length 50th (ft)	13	252	4	15	36	33	0	38	5	0
Queue Length 95th (ft)	24	290	m14	m46	61	64	34	75	18	31
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	400	2431	790	305	2389	507	578	434	605	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.44	0.03	0.35	0.32	0.12	0.16	0.16	0.02	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	985	25	106	645	112	35	17	82	63	9	63
Future Volume (veh/h)	137	985	25	106	645	112	35	17	82	63	9	63
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	1059	27	108	658	114	41	20	95	69	10	69
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	2530	785	331	2124	363	361	167	515	441	608	515
Arrive On Green	0.06	0.50	0.50	0.05	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	4388	751	957	514	1585	1277	1870	1585
Grp Volume(v), veh/h	147	1059	27	108	509	263	61	0	95	69	10	69
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1735	1471	0	1585	1277	1870	1585
Q Serve(g_s), s	4.9	15.8	1.0	3.6	10.9	11.1	2.3	0.0	5.2	4.8	0.4	3.7
Cycle Q Clear(g_c), s	4.9	15.8	1.0	3.6	10.9	11.1	3.2	0.0	5.2	8.1	0.4	3.7
Prop In Lane	1.00		1.00	1.00		0.43	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	2530	785	331	1647	840	528	0	515	441	608	515
V/C Ratio(X)	0.34	0.42	0.03	0.33	0.31	0.31	0.12	0.00	0.18	0.16	0.02	0.13
Avail Cap(c_a), veh/h	452	2530	785	368	1647	840	528	0	515	441	608	515
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	1.00	1.00
Uniform Delay (d), s/veh	14.4	19.3	15.5	15.2	18.8	18.8	28.4	0.0	29.1	31.3	27.5	28.6
Incr Delay (d2), s/veh	0.5	0.5	0.1	0.6	0.5	1.0	0.4	0.0	0.8	0.8	0.0	0.5
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	2.0	6.1	0.4	1.5	4.3	4.5	1.3	0.0	2.1	1.6	0.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	19.8	15.6	15.8	19.3	19.8	28.8	0.0	29.9	32.0	27.5	29.1
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	C	C
Approach Vol, veh/h		1233			880			156			148	
Approach Delay, s/veh		19.1			19.0			29.5			30.4	
Approach LOS		B			B			C			C	

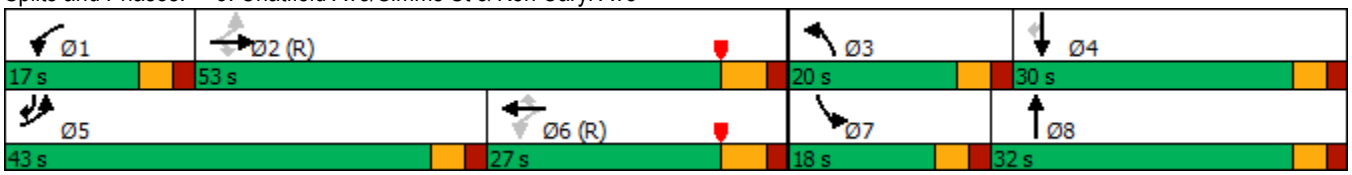
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	65.5		44.0	11.9	64.1		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	8.0	57.0		39.0	8.0	57.0		39.0				
Max Q Clear Time (g_c+I1), s	5.6	17.8		10.1	6.9	13.1		7.2				
Green Ext Time (p_c), s	0.0	8.8		0.5	0.0	5.5		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	324	461	199	54	439	100	184	245	180	242	283
Future Volume (vph)	324	461	199	54	439	100	184	245	180	242	283
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases	2		2	6		6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	10.0
Total Split (s)	43.0	53.0	53.0	17.0	27.0	27.0	20.0	32.0	18.0	30.0	43.0
Total Split (%)	35.8%	44.2%	44.2%	14.2%	22.5%	22.5%	16.7%	26.7%	15.0%	25.0%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	None
Act Effct Green (s)	65.0	53.8	53.8	47.9	39.6	39.6	12.2	28.5	11.5	27.8	52.3
Actuated g/C Ratio	0.54	0.45	0.45	0.40	0.33	0.33	0.10	0.24	0.10	0.23	0.44
v/c Ratio	0.61	0.31	0.26	0.15	0.28	0.17	0.58	0.38	0.60	0.32	0.42
Control Delay	25.8	10.4	1.5	15.7	31.3	2.2	57.9	38.3	59.5	40.1	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	10.4	1.5	15.7	31.3	2.2	57.9	38.3	59.5	40.1	19.0
LOS	C	B	A	B	C	A	E	D	E	D	B
Approach Delay		13.6			24.9			45.9		36.6	
Approach LOS		B			C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

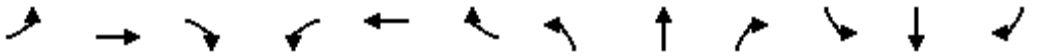
Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	345	490	212	59	477	109	200	315	196	263	308
v/c Ratio	0.61	0.31	0.26	0.15	0.28	0.17	0.58	0.38	0.60	0.32	0.42
Control Delay	25.8	10.4	1.5	15.7	31.3	2.2	57.9	38.3	59.5	40.1	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	10.4	1.5	15.7	31.3	2.2	57.9	38.3	59.5	40.1	19.0
Queue Length 50th (ft)	103	55	1	21	98	0	77	103	75	89	123
Queue Length 95th (ft)	204	83	m0	42	143	16	113	149	114	133	184
Internal Link Dist (ft)		504			417			635		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	723	1585	826	474	1676	625	429	832	371	821	964
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.31	0.26	0.12	0.28	0.17	0.47	0.38	0.53	0.32	0.32

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	461	199	54	439	100	184	245	45	180	242	283
Future Volume (veh/h)	324	461	199	54	439	100	184	245	45	180	242	283
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	345	490	212	59	477	0	200	266	49	196	263	308
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	1741	777	399	2027		262	676	123	256	793	558
Arrive On Green	0.04	0.16	0.16	0.04	0.40	0.00	0.08	0.22	0.22	0.07	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3004	545	3456	3554	1585
Grp Volume(v), veh/h	345	490	212	59	477	0	200	156	159	196	263	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1772	1728	1777	1585
Q Serve(g_s), s	12.5	14.5	14.1	2.3	7.5	0.0	6.8	8.9	9.2	6.7	7.4	18.7
Cycle Q Clear(g_c), s	12.5	14.5	14.1	2.3	7.5	0.0	6.8	8.9	9.2	6.7	7.4	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	597	1741	777	399	2027		262	400	399	256	793	558
V/C Ratio(X)	0.58	0.28	0.27	0.15	0.24		0.76	0.39	0.40	0.77	0.33	0.55
Avail Cap(c_a), veh/h	931	1741	777	513	2027		432	400	399	374	793	558
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	31.7	31.6	20.0	24.1	0.0	54.4	39.5	39.6	54.5	39.1	31.3
Incr Delay (d2), s/veh	0.9	0.4	0.8	0.2	0.3	0.0	4.6	2.8	3.0	5.5	1.1	3.9
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	5.9	7.0	6.1	1.0	3.0	0.0	3.1	4.2	4.3	3.1	3.3	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	32.1	32.4	20.2	24.3	0.0	58.9	42.3	42.6	60.0	40.2	35.1
LnGrp LOS	B	C	C	C	C		E	D	D	E	D	D
Approach Vol, veh/h		1047			536	A		515			767	
Approach Delay, s/veh		27.7			23.9			48.9			43.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	64.8	14.1	31.8	20.5	53.6	13.9	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	47.0	15.0	25.0	38.0	21.0	13.0	27.0
Max Q Clear Time (g_c+I1), s	4.3	16.5	8.8	20.7	14.5	9.5	8.7	11.2
Green Ext Time (p_c), s	0.1	4.0	0.3	1.1	1.0	2.3	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

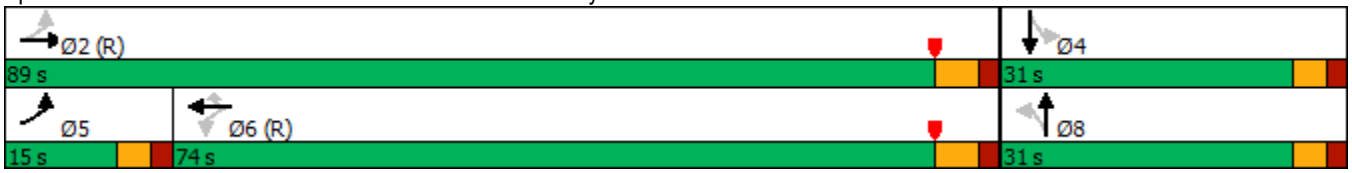
Notes

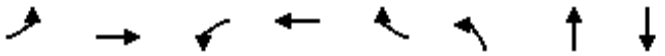
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	105	863	11	810	85	23	1	115	1
Future Volume (vph)	105	863	11	810	85	23	1	115	1
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	6	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	15.0	89.0	74.0	74.0	74.0	31.0	31.0	31.0	31.0
Total Split (%)	12.5%	74.2%	61.7%	61.7%	61.7%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
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		0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	5.0	5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	Max	Max
Act Effct Green (s)	84.0	83.0	69.8	69.8	69.8	26.0	26.0		26.0
Actuated g/C Ratio	0.70	0.69	0.58	0.58	0.58	0.22	0.22		0.22
v/c Ratio	0.30	0.30	0.05	0.32	0.10	0.12	0.03		0.74
Control Delay	7.3	2.8	11.2	13.1	3.7	39.5	21.6		52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	7.3	2.8	11.2	13.1	3.7	39.5	21.6		52.2
LOS	A	A	B	B	A	D	C		D
Approach Delay		3.3		12.2			35.0		52.2
Approach LOS		A		B			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 54.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Site Access/12300 Block & Ken Caryl Ave

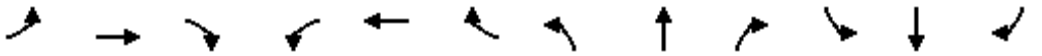




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	124	1059	13	953	100	27	9	248
v/c Ratio	0.30	0.30	0.05	0.32	0.10	0.12	0.03	0.74
Control Delay	7.3	2.8	11.2	13.1	3.7	39.5	21.6	52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	2.8	11.2	13.1	3.7	39.5	21.6	52.2
Queue Length 50th (ft)	10	30	5	132	6	17	1	158
Queue Length 95th (ft)	32	49	m12	145	17	41	14	236
Internal Link Dist (ft)		120		504			217	188
Turn Bay Length (ft)	100		100			60		
Base Capacity (vph)	428	3500	279	2958	962	231	356	337
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	0.29	0.30	0.05	0.32	0.10	0.12	0.03	0.74

Intersection Summary

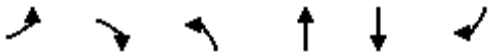
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	863	37	11	810	85	23	1	7	115	1	95
Future Volume (veh/h)	105	863	37	11	810	85	23	1	7	115	1	95
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1015	44	13	953	100	27	1	8	135	1	112
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	460	3471	150	384	3105	964	299	39	311	216	8	146
Arrive On Green	0.04	0.69	0.69	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	5018	217	533	5106	1585	1280	179	1433	781	36	673
Grp Volume(v), veh/h	124	688	371	13	953	100	27	0	9	248	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1831	533	1702	1585	1280	0	1612	1491	0	0
Q Serve(g_s), s	3.0	9.4	9.4	0.0	0.0	0.0	0.0	0.0	0.5	17.9	0.0	0.0
Cycle Q Clear(g_c), s	3.0	9.4	9.4	0.0	0.0	0.0	2.5	0.0	0.5	18.7	0.0	0.0
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.89	0.54		0.45
Lane Grp Cap(c), veh/h	460	2354	1267	384	3105	964	299	0	349	369	0	0
V/C Ratio(X)	0.27	0.29	0.29	0.03	0.31	0.10	0.09	0.00	0.03	0.67	0.00	0.00
Avail Cap(c_a), veh/h	534	2354	1267	384	3105	964	299	0	349	369	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	7.1	7.2	0.0	0.0	0.0	37.8	0.0	37.0	44.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	0.6	0.2	0.2	0.2	0.1	0.0	0.0	9.4	0.0	0.0
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	3.1	3.4	0.0	0.1	0.1	0.7	0.0	0.2	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	7.5	7.7	0.2	0.2	0.2	37.9	0.0	37.1	53.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		1183			1066			36			248	
Approach Delay, s/veh		7.6			0.2			37.7			53.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		89.0		31.0	10.0	79.0		31.0				
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s		83.0		26.0	10.0	68.0		26.0				
Max Q Clear Time (g_c+I1), s		11.4		20.7	5.0	2.0		4.5				
Green Ext Time (p_c), s		8.3		0.6	0.1	8.6		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	474	489	5
Future Volume (Veh/h)	0	3	0	474	489	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	0	515	532	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					715	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	792	268	537			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	673	122	405			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	369	860	1092			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	258	258	355	182
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	5
cSH	860	1700	1700	1700	1700
Volume to Capacity	0.00	0.15	0.15	0.21	0.11
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.2	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	5	49	101	5	58	151
Future Volume (Veh/h)	5	49	101	5	58	151
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	58	119	6	68	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	314	0	286	225	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	0	286	225	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	95	80	99	96	
cM capacity (veh/h)	576	1085	606	646	1623	

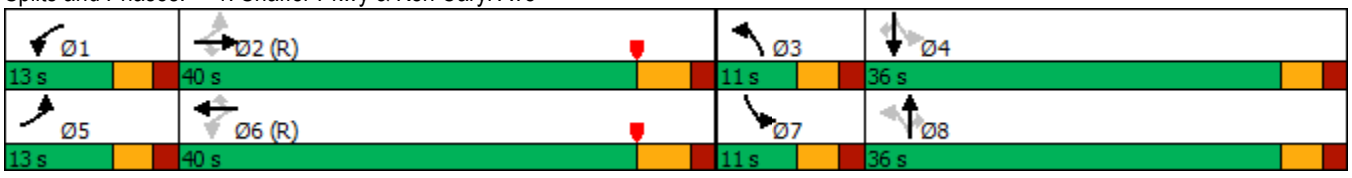
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	64	125	246
Volume Left	0	119	68
Volume Right	58	0	178
cSH	1002	607	1623
Volume to Capacity	0.06	0.21	0.04
Queue Length 95th (ft)	5	19	3
Control Delay (s)	8.8	12.5	2.3
Lane LOS	A	B	A
Approach Delay (s)	8.8	12.5	2.3
Approach LOS	A	B	

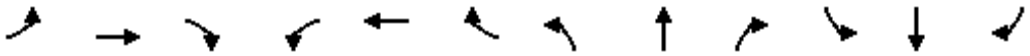
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	841	375	115	611	68	195	21	90	58	19	145
Future Volume (vph)	99	841	375	115	611	68	195	21	90	58	19	145
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	13.0	40.0	40.0	13.0	40.0	40.0	11.0	36.0	36.0	11.0	36.0	36.0
Total Split (%)	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%	11.0%	36.0%	36.0%	11.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	43.0	34.3	34.3	43.0	34.3	34.3	38.0	33.2	33.2	36.9	31.0	31.0
Actuated g/C Ratio	0.43	0.34	0.34	0.43	0.34	0.34	0.38	0.33	0.33	0.37	0.31	0.31
v/c Ratio	0.34	0.58	0.54	0.52	0.40	0.12	0.42	0.04	0.16	0.13	0.04	0.28
Control Delay	17.6	28.7	5.0	36.7	16.5	2.4	23.7	24.5	2.4	18.4	24.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	28.7	5.0	36.7	16.5	2.4	23.7	24.5	2.4	18.4	24.5	5.3
LOS	B	C	A	D	B	A	C	C	A	B	C	A
Approach Delay		21.1			18.2			17.5			10.4	
Approach LOS		C			B			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 39 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

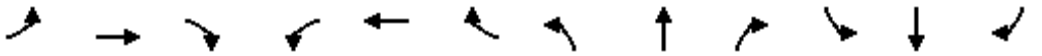
Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	119	1013	452	131	694	77	222	24	102	69	23	173
v/c Ratio	0.34	0.58	0.54	0.52	0.40	0.12	0.42	0.04	0.16	0.13	0.04	0.28
Control Delay	17.6	28.7	5.0	36.7	16.5	2.4	23.7	24.5	2.4	18.4	24.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	28.7	5.0	36.7	16.5	2.4	23.7	24.5	2.4	18.4	24.5	5.3
Queue Length 50th (ft)	41	193	0	53	53	0	92	11	0	26	10	0
Queue Length 95th (ft)	67	214	43	111	99	2	144	29	16	49	27	38
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	351	1741	839	259	1743	628	532	618	620	534	577	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.58	0.54	0.51	0.40	0.12	0.42	0.04	0.16	0.13	0.04	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	841	375	115	611	68	195	21	90	58	19	145
Future Volume (veh/h)	99	841	375	115	611	68	195	21	90	58	19	145
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	1013	452	131	694	77	222	24	102	69	23	173
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.88	0.88	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	1814	563	258	1838	571	537	612	519	540	580	491
Arrive On Green	0.06	0.36	0.36	0.06	0.36	0.36	0.06	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	119	1013	452	131	694	77	222	24	102	69	23	173
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.2	16.0	25.7	4.6	10.1	3.3	6.0	0.9	4.6	2.6	0.9	8.5
Cycle Q Clear(g_c), s	4.2	16.0	25.7	4.6	10.1	3.3	6.0	0.9	4.6	2.6	0.9	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	1814	563	258	1838	571	537	612	519	540	580	491
V/C Ratio(X)	0.33	0.56	0.80	0.51	0.38	0.13	0.41	0.04	0.20	0.13	0.04	0.35
Avail Cap(c_a), veh/h	396	1814	563	285	1838	571	537	612	519	571	580	491
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	25.9	29.1	20.2	23.7	21.5	23.1	22.9	24.2	21.8	24.1	26.7
Incr Delay (d2), s/veh	0.5	1.2	11.5	1.5	0.6	0.5	0.5	0.1	0.8	0.1	0.1	2.0
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	1.7	6.3	11.3	1.9	4.0	1.3	3.9	0.4	1.8	1.1	0.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	27.2	40.6	21.7	24.3	22.0	23.6	23.0	25.0	21.9	24.2	28.7
LnGrp LOS	B	C	D	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1584			902			348			265	
Approach Delay, s/veh		30.4			23.7			24.0			26.5	
Approach LOS		C			C			C			C	

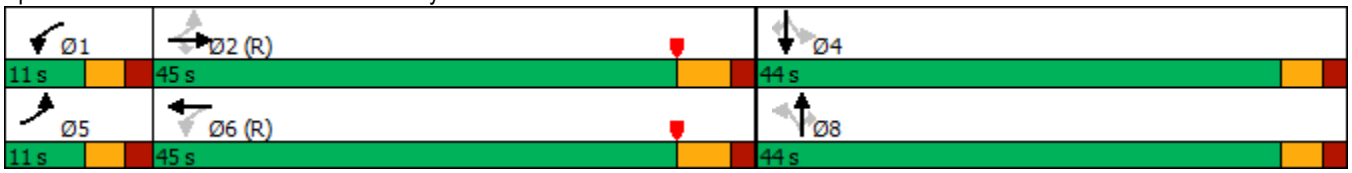
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	41.5	11.0	36.0	11.0	42.0	9.3	37.7
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	34.0	6.0	31.0	8.0	34.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	6.6	27.7	8.0	10.5	6.2	12.1	4.6	6.6
Green Ext Time (p_c), s	0.0	4.0	0.0	0.6	0.0	4.8	0.0	0.4

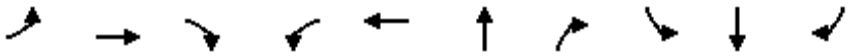
Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	39	905	20	82	602	30	7	41	93	12	127
Future Volume (vph)	39	905	20	82	602	30	7	41	93	12	127
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	45.0	45.0	11.0	45.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	47.0	41.2	41.2	48.0	43.4		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.47	0.41	0.41	0.48	0.43		0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.13	0.53	0.04	0.40	0.34		0.07	0.07	0.24	0.02	0.24
Control Delay	6.5	9.2	0.1	19.5	23.5		19.6	1.1	22.1	19.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	9.2	0.1	19.5	23.5		19.6	1.1	22.1	19.0	4.0
LOS	A	A	A	B	C		B	A	C	B	A
Approach Delay		8.9			23.0		9.8			12.0	
Approach LOS		A			C		A			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 48 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 47.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Alkire St & Ken Caryl Ave

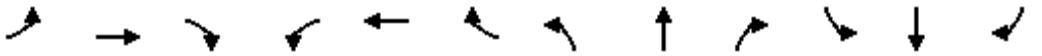




Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	48	1117	25	94	738	41	46	127	16	174
v/c Ratio	0.13	0.53	0.04	0.40	0.34	0.07	0.07	0.24	0.02	0.24
Control Delay	6.5	9.2	0.1	19.5	23.5	19.6	1.1	22.1	19.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	9.2	0.1	19.5	23.5	19.6	1.1	22.1	19.0	4.0
Queue Length 50th (ft)	5	53	0	44	172	16	0	54	6	0
Queue Length 95th (ft)	m10	58	m0	82	204	38	6	76	16	19
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	359	2095	696	237	2194	605	670	530	726	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.53	0.04	0.40	0.34	0.07	0.07	0.24	0.02	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	905	20	82	602	40	30	7	41	93	12	127
Future Volume (veh/h)	39	905	20	82	602	40	30	7	41	93	12	127
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1117	25	94	692	46	33	8	46	127	16	174
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.90	0.90	0.90	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	2057	639	272	2022	134	463	105	618	574	729	618
Arrive On Green	0.04	0.40	0.40	0.05	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	5106	1585	1781	4893	324	1019	270	1585	1350	1870	1585
Grp Volume(v), veh/h	48	1117	25	94	480	258	41	0	46	127	16	174
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1812	1290	0	1585	1350	1870	1585
Q Serve(g_s), s	1.6	16.7	1.0	3.1	9.6	9.7	1.3	0.0	1.8	6.5	0.5	7.5
Cycle Q Clear(g_c), s	1.6	16.7	1.0	3.1	9.6	9.7	1.8	0.0	1.8	8.4	0.5	7.5
Prop In Lane	1.00		1.00	1.00		0.18	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	2057	639	272	1406	749	568	0	618	574	729	618
V/C Ratio(X)	0.13	0.54	0.04	0.35	0.34	0.34	0.07	0.00	0.07	0.22	0.02	0.28
Avail Cap(c_a), veh/h	406	2057	639	295	1406	749	568	0	618	574	729	618
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	1.00	1.00
Uniform Delay (d), s/veh	16.5	22.8	18.1	17.7	20.0	20.1	19.1	0.0	19.2	21.8	18.8	20.9
Incr Delay (d2), s/veh	0.2	1.0	0.1	0.8	0.7	1.3	0.2	0.0	0.2	0.9	0.1	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	0.6	6.5	0.4	1.2	3.8	4.1	0.6	0.0	0.7	2.2	0.2	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	23.8	18.2	18.4	20.7	21.3	19.4	0.0	19.4	22.7	18.8	22.0
LnGrp LOS	B	C	B	B	C	C	B	A	B	C	B	C
Approach Vol, veh/h		1190			832			87			317	
Approach Delay, s/veh		23.4			20.6			19.4			22.1	
Approach LOS		C			C			B			C	

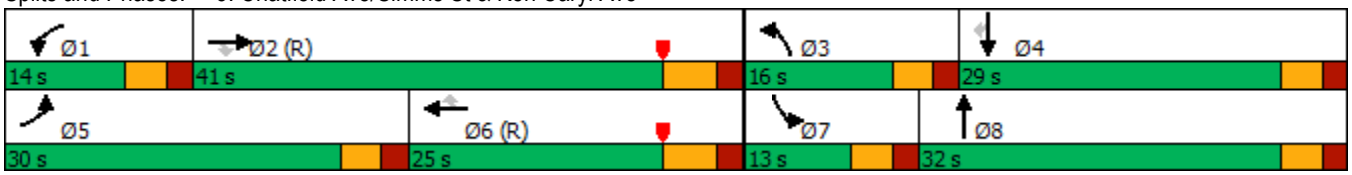
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	46.3		44.0	8.7	47.3		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	6.0	39.0		39.0	6.0	39.0		39.0				
Max Q Clear Time (g_c+I1), s	5.1	18.7		10.4	3.6	11.7		3.8				
Green Ext Time (p_c), s	0.0	7.7		1.1	0.0	4.8		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	284	551	162	56	343	285	94	355	160	306	259
Future Volume (vph)	284	551	162	56	343	285	94	355	160	306	259
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	23.0
Total Split (s)	30.0	41.0	41.0	14.0	25.0	25.0	16.0	32.0	13.0	29.0	29.0
Total Split (%)	30.0%	41.0%	41.0%	14.0%	25.0%	25.0%	16.0%	32.0%	13.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	Max
Act Effct Green (s)	24.0	38.0	38.0	8.1	20.0	20.0	9.1	27.0	8.0	25.9	25.9
Actuated g/C Ratio	0.24	0.38	0.38	0.08	0.20	0.20	0.09	0.27	0.08	0.26	0.26
v/c Ratio	0.90	0.55	0.30	0.48	0.41	0.66	0.42	0.57	0.76	0.43	0.51
Control Delay	61.6	9.7	1.0	54.9	36.7	16.5	46.9	33.7	63.6	33.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	9.7	1.0	54.9	36.7	16.5	46.9	33.7	63.6	33.0	6.6
LOS	E	A	A	D	D	B	D	C	E	C	A
Approach Delay		23.1			29.7			36.3		30.3	
Approach LOS		C			C			D		C	

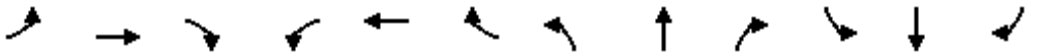
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	384	745	219	68	418	348	132	542	208	397	336
v/c Ratio	0.90	0.55	0.30	0.48	0.41	0.66	0.42	0.57	0.76	0.43	0.51
Control Delay	61.6	9.7	1.0	54.9	36.7	16.5	46.9	33.7	63.6	33.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	9.7	1.0	54.9	36.7	16.5	46.9	33.7	63.6	33.0	6.6
Queue Length 50th (ft)	139	41	0	42	86	45	41	154	68	111	0
Queue Length 95th (ft)	181	48	0	77	107	107	54	156	90	134	31
Internal Link Dist (ft)		504			417			635		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	442	1346	737	159	1016	529	377	950	274	918	659
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.55	0.30	0.43	0.41	0.66	0.35	0.57	0.76	0.43	0.51

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	551	162	56	343	285	94	355	30	160	306	259
Future Volume (veh/h)	284	551	162	56	343	285	94	355	30	160	306	259
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	745	219	68	418	0	132	500	42	208	397	336
Peak Hour Factor	0.74	0.74	0.74	0.82	0.82	0.82	0.71	0.71	0.71	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1393	621	88	1085		199	896	75	272	1035	462
Arrive On Green	0.46	0.78	0.78	0.05	0.21	0.00	0.06	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3319	278	3456	3554	1585
Grp Volume(v), veh/h	384	745	219	68	418	0	132	267	275	208	397	336
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1820	1728	1777	1585
Q Serve(g_s), s	20.6	7.8	4.1	3.8	7.0	0.0	3.7	12.9	13.0	5.9	8.9	19.1
Cycle Q Clear(g_c), s	20.6	7.8	4.1	3.8	7.0	0.0	3.7	12.9	13.0	5.9	8.9	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	408	1393	621	88	1085		199	480	491	272	1035	462
V/C Ratio(X)	0.94	0.53	0.35	0.77	0.39		0.66	0.56	0.56	0.76	0.38	0.73
Avail Cap(c_a), veh/h	445	1393	621	160	1085		380	480	491	276	1035	462
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	7.4	7.0	47.0	33.8	0.0	46.2	31.4	31.4	45.1	28.3	31.9
Incr Delay (d2), s/veh	26.7	1.4	1.5	13.5	1.0	0.0	3.8	4.6	4.5	11.8	1.1	9.6
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	8.8	2.2	1.4	2.0	2.9	0.0	1.7	5.9	6.1	2.9	3.8	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	8.8	8.5	60.5	34.8	0.0	50.0	36.0	35.9	56.9	29.3	41.5
LnGrp LOS	D	A	A	E	C		D	D	D	E	C	D
Approach Vol, veh/h		1348			486	A		674			941	
Approach Delay, s/veh		21.4			38.4			38.7			39.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	45.2	10.7	34.1	27.9	27.2	12.9	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	24.0	25.0	19.0	8.0	27.0
Max Q Clear Time (g_c+I1), s	5.8	9.8	5.7	21.1	22.6	9.0	7.9	15.0
Green Ext Time (p_c), s	0.0	6.0	0.2	1.1	0.3	1.8	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

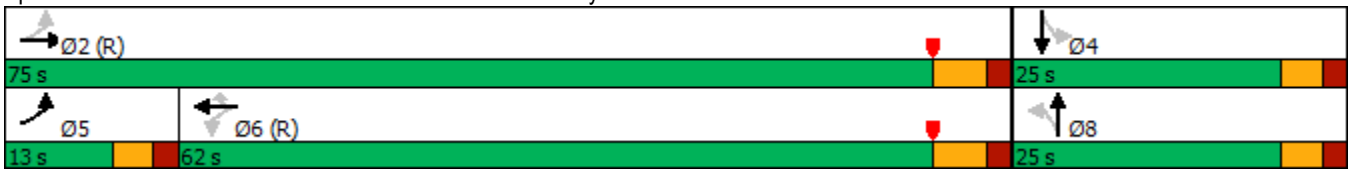
Notes

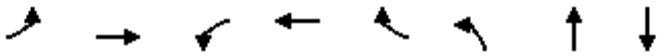
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	55	950	4	647	45	36	1	35	0
Future Volume (vph)	55	950	4	647	45	36	1	35	0
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	6	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	75.0	62.0	62.0	62.0	25.0	25.0	25.0	25.0
Total Split (%)	13.0%	75.0%	62.0%	62.0%	62.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
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		0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	5.0	5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	Max	Max
Act Effct Green (s)	70.0	69.0	59.5	59.5	59.5	20.0	20.0		20.0
Actuated g/C Ratio	0.70	0.69	0.60	0.60	0.60	0.20	0.20		0.20
v/c Ratio	0.13	0.32	0.02	0.25	0.05	0.15	0.04		0.21
Control Delay	2.8	5.2	5.8	4.7	0.4	34.8	17.1		7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	2.8	5.2	5.8	4.7	0.4	34.8	17.1		7.6
LOS	A	A	A	A	A	C	B		A
Approach Delay		5.1		4.4			30.4		7.6
Approach LOS		A		A			C		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 5.6	Intersection LOS: A
Intersection Capacity Utilization 47.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Site Access/12300 Block & Ken Caryl Ave

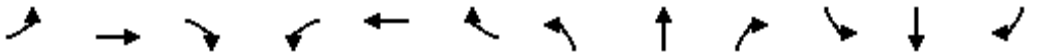




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	65	1133	5	761	53	42	14	76
v/c Ratio	0.13	0.32	0.02	0.25	0.05	0.15	0.04	0.21
Control Delay	2.8	5.2	5.8	4.7	0.4	34.8	17.1	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	5.2	5.8	4.7	0.4	34.8	17.1	7.6
Queue Length 50th (ft)	8	52	1	29	0	22	1	0
Queue Length 95th (ft)	m16	59	m2	51	m2	49	16	27
Internal Link Dist (ft)		120		504			217	188
Turn Bay Length (ft)	100		100			60		
Base Capacity (vph)	505	3502	264	3024	972	275	331	366
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	0.13	0.32	0.02	0.25	0.05	0.15	0.04	0.21

Intersection Summary

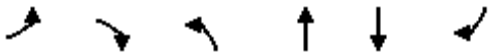
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	950	13	4	647	45	36	1	11	35	0	30
Future Volume (veh/h)	55	950	13	4	647	45	36	1	11	35	0	30
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	1118	15	5	761	53	42	1	13	41	0	35
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	548	3583	48	369	3055	948	361	23	298	201	16	138
Arrive On Green	0.04	0.69	0.69	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1781	5192	70	497	5106	1585	1373	114	1488	730	80	691
Grp Volume(v), veh/h	65	733	400	5	761	53	42	0	14	76	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1858	497	1702	1585	1373	0	1603	1501	0	0
Q Serve(g_s), s	1.3	8.5	8.5	0.0	0.0	0.0	0.0	0.0	0.7	2.3	0.0	0.0
Cycle Q Clear(g_c), s	1.3	8.5	8.5	0.0	0.0	0.0	2.0	0.0	0.7	4.0	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.93	0.54		0.46
Lane Grp Cap(c), veh/h	548	2349	1282	369	3055	948	361	0	321	356	0	0
V/C Ratio(X)	0.12	0.31	0.31	0.01	0.25	0.06	0.12	0.00	0.04	0.21	0.00	0.00
Avail Cap(c_a), veh/h	616	2349	1282	369	3055	948	361	0	321	356	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	6.1	6.1	0.0	0.0	0.0	32.8	0.0	32.3	33.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.6	0.1	0.2	0.1	0.1	0.0	0.1	1.4	0.0	0.0
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	2.6	2.9	0.0	0.0	0.0	0.8	0.0	0.3	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	6.5	6.8	0.1	0.2	0.1	32.9	0.0	32.3	34.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		1198			819			56			76	
Approach Delay, s/veh		6.5			0.2			32.8			34.9	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.0		25.0	9.2	65.8		25.0				
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s		69.0		20.0	8.0	56.0		20.0				
Max Q Clear Time (g_c+I1), s		10.5		6.0	3.3	2.0		4.0				
Green Ext Time (p_c), s		9.1		0.2	0.0	6.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	0	479	522	2
Future Volume (Veh/h)	0	5	0	479	522	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	0	521	567	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					715	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	828	284	569			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	677	95	399			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	361	882	1080			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	5	260	260	378	191
Volume Left	0	0	0	0	0
Volume Right	5	0	0	0	2
cSH	882	1700	1700	1700	1700
Volume to Capacity	0.01	0.15	0.15	0.22	0.11
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.1	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	24.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	5	40	134	5	55	68
Future Volume (Veh/h)	5	40	134	5	55	68
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	47	158	6	65	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	210	0	220	170	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210	0	220	170	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	96	77	99	96	
cM capacity (veh/h)	660	1085	678	694	1623	

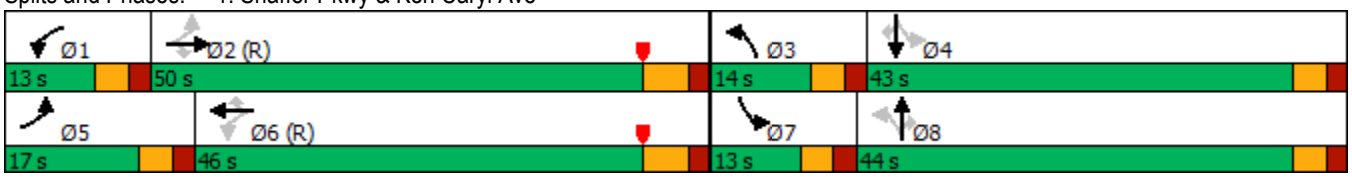
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	53	164	145
Volume Left	0	158	65
Volume Right	47	0	80
cSH	1011	678	1623
Volume to Capacity	0.05	0.24	0.04
Queue Length 95th (ft)	4	24	3
Control Delay (s)	8.8	12.0	3.4
Lane LOS	A	B	A
Approach Delay (s)	8.8	12.0	3.4
Approach LOS	A	B	

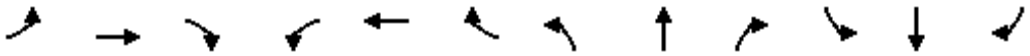
Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	932	300	130	695	78	490	45	200	85	23	130
Future Volume (vph)	196	932	300	130	695	78	490	45	200	85	23	130
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (s)	17.0	50.0	50.0	13.0	46.0	46.0	14.0	44.0	44.0	13.0	43.0	43.0
Total Split (%)	14.2%	41.7%	41.7%	10.8%	38.3%	38.3%	11.7%	36.7%	36.7%	10.8%	35.8%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	56.5	44.1	44.1	49.5	40.6	40.6	48.3	39.3	39.3	45.7	38.0	38.0
Actuated g/C Ratio	0.47	0.37	0.37	0.41	0.34	0.34	0.40	0.33	0.33	0.38	0.32	0.32
v/c Ratio	0.58	0.51	0.40	0.54	0.43	0.14	0.90	0.08	0.32	0.19	0.05	0.26
Control Delay	25.1	30.8	4.5	42.5	50.7	19.3	52.1	28.6	5.2	21.7	28.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	30.8	4.5	42.5	50.7	19.3	52.1	28.6	5.2	21.7	28.9	5.7
LOS	C	C	A	D	D	B	D	C	A	C	C	A
Approach Delay		24.5			46.8			37.9			13.6	
Approach LOS		C			D			D			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Shaffer Pkwy & Ken Caryl Ave

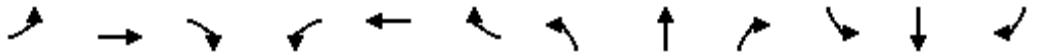




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	961	309	140	747	84	510	47	208	104	28	159
v/c Ratio	0.58	0.51	0.40	0.54	0.43	0.14	0.90	0.08	0.32	0.19	0.05	0.26
Control Delay	25.1	30.8	4.5	42.5	50.7	19.3	52.1	28.6	5.2	21.7	28.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	30.8	4.5	42.5	50.7	19.3	52.1	28.6	5.2	21.7	28.9	5.7
Queue Length 50th (ft)	89	210	0	100	215	16	309	25	0	48	15	0
Queue Length 95th (ft)	139	254	58	158	260	61	#525	54	53	76	34	36
Internal Link Dist (ft)		1058			341			383			323	
Turn Bay Length (ft)	120		210	210		480				80		80
Base Capacity (vph)	360	1868	777	261	1721	608	568	609	657	546	589	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.51	0.40	0.54	0.43	0.14	0.90	0.08	0.32	0.19	0.05	0.26

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	932	300	130	695	78	490	45	200	85	23	130
Future Volume (veh/h)	196	932	300	130	695	78	490	45	200	85	23	130
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	961	309	140	747	84	510	47	208	104	28	159
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	1874	582	274	1755	545	560	631	535	513	592	502
Arrive On Green	0.09	0.37	0.37	0.07	0.34	0.34	0.08	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	202	961	309	140	747	84	510	47	208	104	28	159
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.7	17.6	18.4	6.0	13.5	4.4	9.0	2.0	12.0	4.7	1.2	9.1
Cycle Q Clear(g_c), s	8.7	17.6	18.4	6.0	13.5	4.4	9.0	2.0	12.0	4.7	1.2	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	1874	582	274	1755	545	560	631	535	513	592	502
V/C Ratio(X)	0.54	0.51	0.53	0.51	0.43	0.15	0.91	0.07	0.39	0.20	0.05	0.32
Avail Cap(c_a), veh/h	391	1874	582	275	1755	545	560	631	535	535	592	502
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	29.6	29.9	24.0	30.3	27.3	35.7	27.0	30.3	25.2	28.4	31.1
Incr Delay (d2), s/veh	1.4	1.0	3.5	1.6	0.8	0.6	19.1	0.2	2.1	0.2	0.2	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	3.7	7.2	7.5	2.6	5.5	1.8	13.2	1.0	4.9	2.0	0.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	30.6	33.3	25.6	31.0	27.9	54.8	27.2	32.4	25.4	28.6	32.8
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		1472			971			765			291	
Approach Delay, s/veh		30.3			30.0			47.0			29.8	
Approach LOS		C			C			D			C	

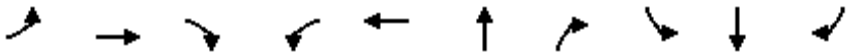
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	50.0	14.0	43.0	15.8	47.2	11.5	45.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	44.0	9.0	38.0	12.0	40.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	8.0	20.4	11.0	11.1	10.7	15.5	6.7	14.0
Green Ext Time (p_c), s	0.0	8.1	0.0	0.7	0.1	5.4	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	137	1140	25	106	745	35	17	82	63	9	63
Future Volume (vph)	137	1140	25	106	745	35	17	82	63	9	63
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		8			4	
Permitted Phases	2		2	6		8		8	4		4
Detector Phase	5	2	2	1	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	13.0	63.0	63.0	13.0	63.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	10.8%	52.5%	52.5%	10.8%	52.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	66.2	57.4	57.4	65.8	57.2		39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.55	0.48	0.48	0.55	0.48		0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.40	0.49	0.03	0.40	0.37		0.12	0.16	0.16	0.02	0.12
Control Delay	8.1	18.1	2.8	15.7	9.6		29.4	6.4	30.1	27.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	18.1	2.8	15.7	9.6		29.4	6.4	30.1	27.8	6.5
LOS	A	B	A	B	A		C	A	C	C	A
Approach Delay		16.7			10.2		15.4			19.0	
Approach LOS		B			B		B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

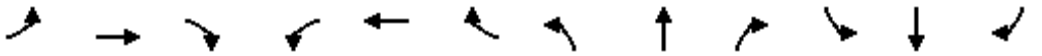
Splits and Phases: 2: Alkire St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	143	1188	26	108	874	61	95	69	10	69
v/c Ratio	0.40	0.49	0.03	0.40	0.37	0.12	0.16	0.16	0.02	0.12
Control Delay	8.1	18.1	2.8	15.7	9.6	29.4	6.4	30.1	27.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	18.1	2.8	15.7	9.6	29.4	6.4	30.1	27.8	6.5
Queue Length 50th (ft)	11	295	3	15	42	33	0	38	5	0
Queue Length 95th (ft)	27	335	m10	m54	90	64	34	75	18	31
Internal Link Dist (ft)		376			477	264			636	
Turn Bay Length (ft)	140		240	185			110	60		125
Base Capacity (vph)	362	2431	790	272	2391	507	578	434	605	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.49	0.03	0.40	0.37	0.12	0.16	0.16	0.02	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1140	25	106	745	112	35	17	82	63	9	63
Future Volume (veh/h)	137	1140	25	106	745	112	35	17	82	63	9	63
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	1188	26	108	760	114	41	20	95	69	10	69
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.98	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	2531	786	300	2177	324	361	167	515	441	608	515
Arrive On Green	0.06	0.50	0.50	0.05	0.49	0.49	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	4487	668	957	514	1585	1277	1870	1585
Grp Volume(v), veh/h	143	1188	26	108	575	299	61	0	95	69	10	69
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1750	1471	0	1585	1277	1870	1585
Q Serve(g_s), s	4.8	18.4	1.0	3.6	12.6	12.7	2.3	0.0	5.2	4.8	0.4	3.7
Cycle Q Clear(g_c), s	4.8	18.4	1.0	3.6	12.6	12.7	3.2	0.0	5.2	8.1	0.4	3.7
Prop In Lane	1.00		1.00	1.00		0.38	0.67		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	401	2531	786	300	1651	849	528	0	515	441	608	515
V/C Ratio(X)	0.36	0.47	0.03	0.36	0.35	0.35	0.12	0.00	0.18	0.16	0.02	0.13
Avail Cap(c_a), veh/h	419	2531	786	336	1651	849	528	0	515	441	608	515
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	1.00	1.00
Uniform Delay (d), s/veh	14.6	19.9	15.5	15.6	19.1	19.2	28.4	0.0	29.1	31.3	27.5	28.6
Incr Delay (d2), s/veh	0.5	0.6	0.1	0.7	0.6	1.1	0.4	0.0	0.8	0.8	0.0	0.5
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	1.9	7.1	0.4	1.5	4.9	5.3	1.3	0.0	2.1	1.6	0.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	20.5	15.6	16.4	19.7	20.3	28.8	0.0	29.9	32.0	27.5	29.1
LnGrp LOS	B	C	B	B	B	C	C	A	C	C	C	C
Approach Vol, veh/h		1357			982			156			148	
Approach Delay, s/veh		19.9			19.5			29.5			30.4	
Approach LOS		B			B			C			C	

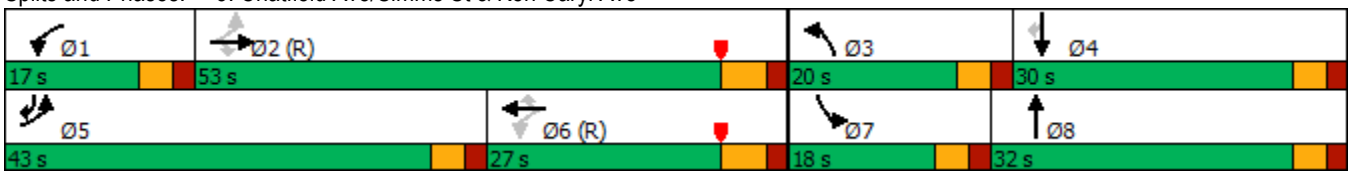
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	65.5		44.0	11.8	64.2		44.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	8.0	57.0		39.0	8.0	57.0		39.0				
Max Q Clear Time (g_c+I1), s	5.6	20.4		10.1	6.8	14.7		7.2				
Green Ext Time (p_c), s	0.0	10.1		0.5	0.0	6.3		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	349	531	214	59	504	110	199	265	195	262	308
Future Volume (vph)	349	531	214	59	504	110	199	265	195	262	308
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases	2		2	6		6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0	24.0	10.0	23.0	10.0	23.0	10.0
Total Split (s)	43.0	53.0	53.0	17.0	27.0	27.0	20.0	32.0	18.0	30.0	43.0
Total Split (%)	35.8%	44.2%	44.2%	14.2%	22.5%	22.5%	16.7%	26.7%	15.0%	25.0%	35.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	None	Max	None
Act Effct Green (s)	65.0	53.7	53.7	47.2	38.7	38.7	12.4	28.3	11.7	27.6	52.9
Actuated g/C Ratio	0.54	0.45	0.45	0.39	0.32	0.32	0.10	0.24	0.10	0.23	0.44
v/c Ratio	0.66	0.35	0.27	0.16	0.32	0.19	0.59	0.39	0.62	0.34	0.44
Control Delay	32.0	10.1	1.4	16.1	32.4	2.8	58.1	38.8	60.1	40.5	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	10.1	1.4	16.1	32.4	2.8	58.1	38.8	60.1	40.5	19.2
LOS	C	B	A	B	C	A	E	D	E	D	B
Approach Delay		15.3			26.1			46.3		36.9	
Approach LOS		B			C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 60.9%	ICU Level of Service B
Analysis Period (min) 15	

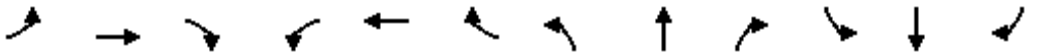
Splits and Phases: 3: Chatfield Ave/Simms St & Ken Caryl Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	360	547	221	62	531	116	209	326	205	276	324
v/c Ratio	0.66	0.35	0.27	0.16	0.32	0.19	0.59	0.39	0.62	0.34	0.44
Control Delay	32.0	10.1	1.4	16.1	32.4	2.8	58.1	38.8	60.1	40.5	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	10.1	1.4	16.1	32.4	2.8	58.1	38.8	60.1	40.5	19.2
Queue Length 50th (ft)	134	61	1	22	112	0	80	107	79	94	132
Queue Length 95th (ft)	m234	89	m1	44	161	22	118	154	119	140	191
Internal Link Dist (ft)		504			417			635		285	
Turn Bay Length (ft)	210			300			240		225		295
Base Capacity (vph)	708	1583	830	453	1641	615	429	828	371	814	961
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.35	0.27	0.14	0.32	0.19	0.49	0.39	0.55	0.34	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	531	214	59	504	110	199	265	45	195	262	308
Future Volume (veh/h)	349	531	214	59	504	110	199	265	45	195	262	308
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	360	547	221	62	531	0	209	279	47	205	276	324
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	1730	772	370	1981		271	686	114	265	793	568
Arrive On Green	0.04	0.16	0.16	0.04	0.39	0.00	0.08	0.22	0.22	0.08	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	3456	3049	507	3456	3554	1585
Grp Volume(v), veh/h	360	547	221	62	531	0	209	161	165	205	276	324
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	1728	1777	1779	1728	1777	1585
Q Serve(g_s), s	13.2	16.3	14.7	2.5	8.5	0.0	7.1	9.3	9.5	7.0	7.8	19.8
Cycle Q Clear(g_c), s	13.2	16.3	14.7	2.5	8.5	0.0	7.1	9.3	9.5	7.0	7.8	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	578	1730	772	370	1981		271	400	400	265	793	568
V/C Ratio(X)	0.62	0.32	0.29	0.17	0.27		0.77	0.40	0.41	0.77	0.35	0.57
Avail Cap(c_a), veh/h	901	1730	772	484	1981		432	400	400	374	793	568
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	32.7	32.0	20.7	25.1	0.0	54.2	39.6	39.7	54.4	39.3	31.0
Incr Delay (d2), s/veh	1.1	0.5	0.9	0.2	0.3	0.0	4.6	3.0	3.1	6.3	1.2	4.1
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	6.3	7.9	6.4	1.0	3.4	0.0	3.2	4.3	4.4	3.2	3.5	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	33.2	32.9	20.9	25.4	0.0	58.8	42.6	42.8	60.7	40.5	35.1
LnGrp LOS	B	C	C	C	C		E	D	D	E	D	D
Approach Vol, veh/h		1128			593	A		535			805	
Approach Delay, s/veh		28.7			25.0			49.0			43.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	64.4	14.4	31.8	21.2	52.5	14.2	32.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	47.0	15.0	25.0	38.0	21.0	13.0	27.0
Max Q Clear Time (g_c+I1), s	4.5	18.3	9.1	21.8	15.2	10.5	9.0	11.5
Green Ext Time (p_c), s	0.1	4.5	0.3	0.9	1.0	2.4	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

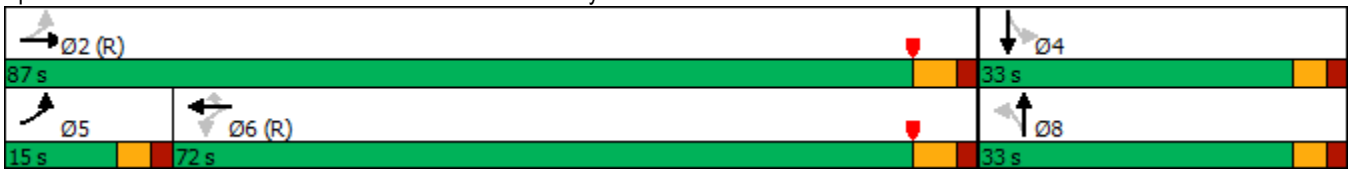
Notes

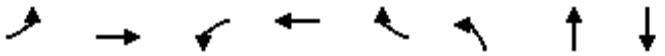
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	120	958	11	905	95	23	1	130	1
Future Volume (vph)	120	958	11	905	95	23	1	130	1
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	6	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	24.0	24.0	24.0	24.0	23.5	23.5	23.0	23.0
Total Split (s)	15.0	87.0	72.0	72.0	72.0	33.0	33.0	33.0	33.0
Total Split (%)	12.5%	72.5%	60.0%	60.0%	60.0%	27.5%	27.5%	27.5%	27.5%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
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		0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	5.0	5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None	None	Max	Max
Act Effct Green (s)	82.0	81.0	67.4	67.4	67.4	28.0	28.0		28.0
Actuated g/C Ratio	0.68	0.68	0.56	0.56	0.56	0.23	0.23		0.23
v/c Ratio	0.39	0.34	0.05	0.37	0.12	0.11	0.02		0.77
Control Delay	14.0	2.9	12.5	14.2	3.5	37.8	20.8		53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	14.0	2.9	12.5	14.2	3.5	37.8	20.8		53.4
LOS	B	A	B	B	A	D	C		D
Approach Delay		4.1		13.2			33.5		53.4
Approach LOS		A		B			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 61 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Site Access/12300 Block & Ken Caryl Ave



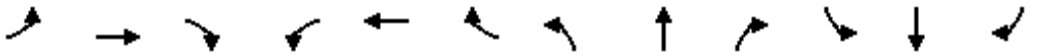


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	141	1171	13	1065	112	27	9	278
v/c Ratio	0.39	0.34	0.05	0.37	0.12	0.11	0.02	0.77
Control Delay	14.0	2.9	12.5	14.2	3.5	37.8	20.8	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	2.9	12.5	14.2	3.5	37.8	20.8	53.4
Queue Length 50th (ft)	22	32	5	148	6	17	1	180
Queue Length 95th (ft)	54	52	m12	159	18	40	14	#267
Internal Link Dist (ft)		120		504			217	188
Turn Bay Length (ft)	100		100			60		
Base Capacity (vph)	379	3415	239	2856	938	246	382	361
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	0.37	0.34	0.05	0.37	0.12	0.11	0.02	0.77

Intersection Summary

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

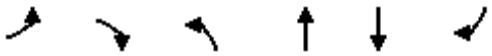
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	958	37	11	905	95	23	1	7	130	1	105
Future Volume (veh/h)	120	958	37	11	905	95	23	1	7	130	1	105
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	1127	44	13	1065	112	27	1	8	153	1	124
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	424	3404	133	339	2992	929	315	42	334	233	6	155
Arrive On Green	0.05	0.68	0.68	1.00	1.00	1.00	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	5042	197	479	5106	1585	1266	179	1433	800	24	663
Grp Volume(v), veh/h	141	761	410	13	1065	112	27	0	9	278	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1835	479	1702	1585	1266	0	1612	1487	0	0
Q Serve(g_s), s	3.6	11.2	11.2	0.0	0.0	0.0	0.0	0.0	0.5	20.6	0.0	0.0
Cycle Q Clear(g_c), s	3.6	11.2	11.2	0.6	0.0	0.0	2.5	0.0	0.5	21.1	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.89	0.55		0.45
Lane Grp Cap(c), veh/h	424	2298	1239	339	2992	929	315	0	376	393	0	0
V/C Ratio(X)	0.33	0.33	0.33	0.04	0.36	0.12	0.09	0.00	0.02	0.71	0.00	0.00
Avail Cap(c_a), veh/h	488	2298	1239	339	2992	929	315	0	376	393	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	8.2	8.2	0.0	0.0	0.0	36.2	0.0	35.5	43.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.4	0.7	0.2	0.3	0.2	0.1	0.0	0.0	10.2	0.0	0.0
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	3.8	4.2	0.0	0.1	0.1	0.6	0.0	0.2	8.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	8.5	8.9	0.2	0.3	0.2	36.3	0.0	35.5	53.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		1312			1190			36			278	
Approach Delay, s/veh		8.6			0.3			36.1			53.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		87.0		33.0	10.7	76.3		33.0				
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s		81.0		28.0	10.0	66.0		28.0				
Max Q Clear Time (g_c+I1), s		13.2		23.1	5.6	2.6		4.5				
Green Ext Time (p_c), s		9.7		0.7	0.1	10.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	509	529	5
Future Volume (Veh/h)	0	3	0	509	529	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	0	553	575	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					715	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	854	290	580			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	729	132	439			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	338	844	1056			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	276	276	383	197
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	5
cSH	844	1700	1700	1700	1700
Volume to Capacity	0.00	0.16	0.16	0.23	0.12
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.3	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	24.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	5	60	106	5	70	158
Future Volume (Veh/h)	5	60	106	5	70	158
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	71	125	6	82	186
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)					403	
pX, platoon unblocked						
vC, conflicting volume	350	0	331	257	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	350	0	331	257	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	99	93	77	99	95	
cM capacity (veh/h)	545	1085	555	614	1623	

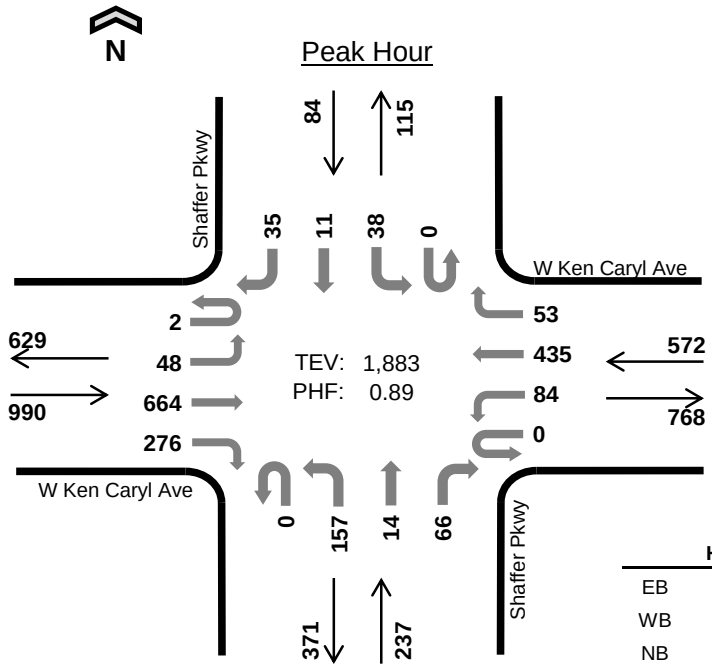
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	77	131	268
Volume Left	0	125	82
Volume Right	71	0	186
cSH	1007	557	1623
Volume to Capacity	0.08	0.24	0.05
Queue Length 95th (ft)	6	23	4
Control Delay (s)	8.9	13.4	2.5
Lane LOS	A	B	A
Approach Delay (s)	8.9	13.4	2.5
Approach LOS	A	B	

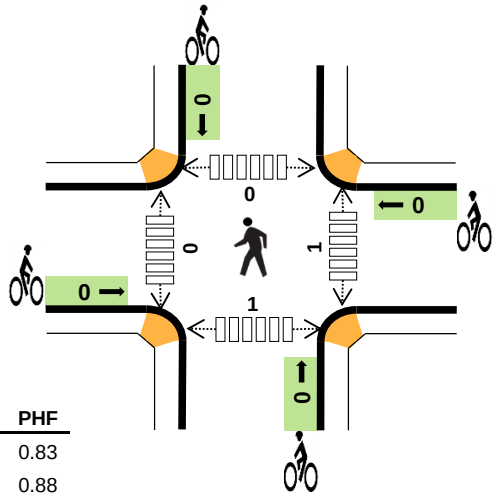
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Traffic Count Data Sheets

Shaffer Pkwy
W Ken Caryl Ave

Date: Tue, Feb 11, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	0.9%	0.83
WB	0.9%	0.88
NB	1.7%	0.88
SB	9.5%	0.84
TOTAL	1.4%	0.89

Two-Hour Count Summaries

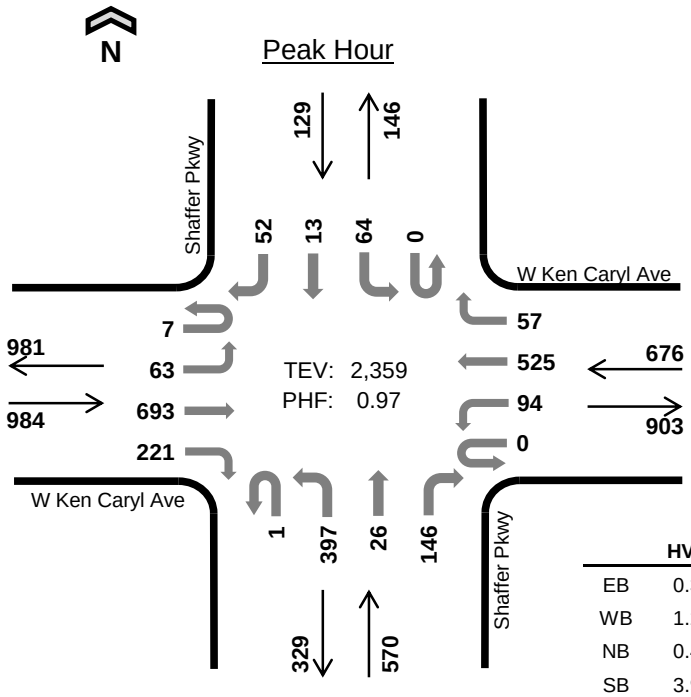
Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				Shaffer Pkwy Northbound				Shaffer Pkwy Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	91	41	1	12	136	10	0	48	4	6	0	4	4	8	371	0
7:15 AM	**0**	**10**	**140**	**62**	**0**	**18**	**107**	**6**	**0**	**46**	**6**	**12**	**0**	**6**	**3**	**8**	**424**	0
7:30 AM	**0**	**17**	**207**	**76**	**0**	**27**	**94**	**17**	**0**	**43**	**4**	**20**	**0**	**12**	**5**	**8**	**530**	0
7:45 AM	**1**	**11**	**201**	**79**	**0**	**25**	**99**	**16**	**0**	**34**	**1**	**20**	**0**	**10**	**1**	**11**	**509**	1,834
8:00 AM	**1**	**10**	**116**	**59**	**0**	**14**	**135**	**14**	**0**	**34**	**3**	**14**	**0**	**10**	**2**	**8**	**420**	**1,883**
8:15 AM	0	10	134	48	0	24	102	9	0	45	3	16	0	7	1	5	404	1,863
8:30 AM	2	12	135	50	1	7	129	13	0	49	5	17	0	9	3	4	436	1,769
8:45 AM	0	18	205	55	0	20	95	7	0	46	2	9	0	5	3	13	478	1,738
Count Total	4	94	1,229	470	2	147	897	92	0	345	28	114	0	63	22	65	3,572	0
Peak Hour	**2**	**48**	**664**	**276**	**0**	**84**	**435**	**53**	**0**	**157**	**14**	**66**	**0**	**38**	**11**	**35**	**1,883**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

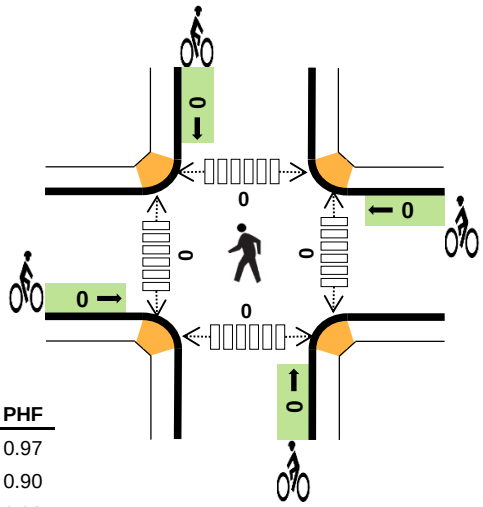
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	3	2	1	*7*	0	0	0	0	*0*	0	1	1	0	*2*
7:15 AM	**3**	**1**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**2**	**3**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
7:45 AM	**2**	**1**	**1**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**1**	**0**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	1	4	0	1	*6*	0	0	0	0	*0*	0	0	0	1	*1*
8:30 AM	3	1	1	2	*7*	0	0	0	0	*0*	1	0	0	0	*1*
8:45 AM	3	2	2	1	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	17	15	9	13	*54*	0	0	0	0	*0*	2	1	1	2	*6*
Peak Hour	**9**	**5**	**4**	**8**	***26***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

Shaffer Pkwy
W Ken Caryl Ave



Date: Tue, Feb 11, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.3%	0.97
WB	1.2%	0.90
NB	0.4%	0.93
SB	3.9%	0.79
TOTAL	0.8%	0.97

Two-Hour Count Summaries

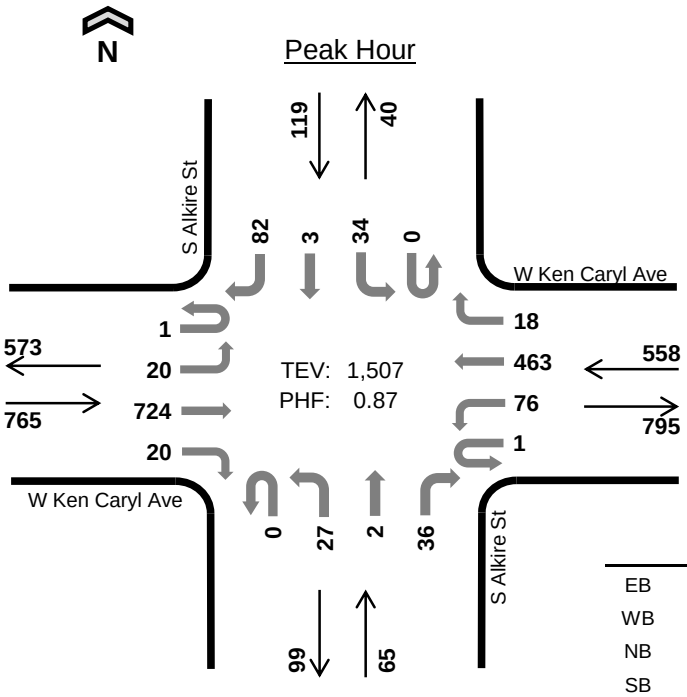
Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				Shaffer Pkwy Northbound				Shaffer Pkwy Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	13	204	62	0	23	115	12	0	73	6	34	0	12	2	14	571	0
4:15 PM	2	12	207	56	0	15	157	7	0	69	4	24	0	12	0	8	573	0
4:30 PM	**0**	**12**	**167**	**62**	**0**	**25**	**122**	**11**	**1**	**101**	**9**	**43**	**0**	**15**	**4**	**11**	**583**	0
4:45 PM	**0**	**12**	**185**	**52**	**0**	**25**	**127**	**12**	**0**	**94**	**3**	**37**	**0**	**11**	**3**	**14**	**575**	2,302
5:00 PM	**3**	**19**	**163**	**56**	**0**	**22**	**146**	**19**	**0**	**104**	**5**	**28**	**0**	**18**	**2**	**10**	**595**	2,326
5:15 PM	**4**	**20**	**178**	**51**	**0**	**22**	**130**	**15**	**0**	**98**	**9**	**38**	**0**	**20**	**4**	**17**	**606**	**2,359**
5:30 PM	0	18	176	53	0	19	115	15	0	83	9	25	0	11	7	14	545	2,321
5:45 PM	2	17	195	54	1	16	117	14	0	67	4	31	0	22	4	12	556	2,302
Count Total	12	123	1,475	446	1	167	1,029	105	1	689	49	260	0	121	26	100	4,604	0
Peak Hour	**7**	**63**	**693**	**221**	**0**	**94**	**525**	**57**	**1**	**397**	**26**	**146**	**0**	**64**	**13**	**52**	**2,359**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

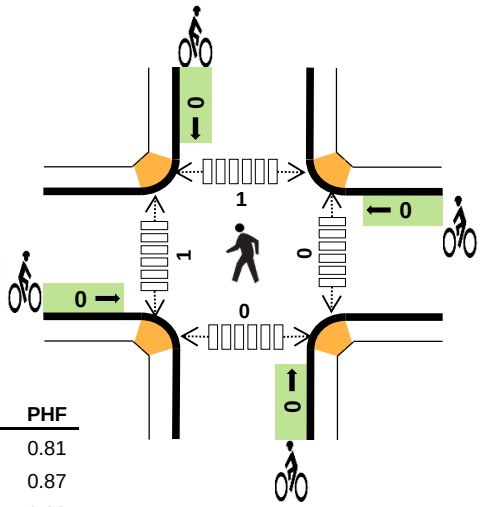
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	3	0	2	*7*	0	0	0	0	*0*	0	3	2	0	*5*
4:15 PM	0	3	3	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**1**	**2**	**1**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**2**	**1**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**3**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	2	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	3	0	3	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	6	19	5	11	*41*	0	0	0	0	*0*	0	3	2	0	*5*
Peak Hour	**3**	**8**	**2**	**5**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

S Alkire St
W Ken Caryl Ave



Date: Tue, Feb 11, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	2.0%	0.81
WB	1.1%	0.87
NB	1.5%	0.90
SB	3.4%	0.73
TOTAL	1.7%	0.87

Two-Hour Count Summaries

Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				S Alkire St Northbound				S Alkire St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	1	5	87	7	0	26	138	1	0	5	0	7	0	8	4	22	311	0
7:15 AM	**0**	**8**	**155**	**2**	**0**	**17**	**106**	**4**	**0**	**8**	**1**	**9**	**0**	**8**	**1**	**20**	**339**	0
7:30 AM	**0**	**5**	**216**	**3**	**0**	**11**	**99**	**3**	**0**	**5**	**0**	**9**	**0**	**12**	**1**	**28**	**392**	0
7:45 AM	**1**	**2**	**229**	**4**	**1**	**28**	**122**	**7**	**0**	**6**	**0**	**9**	**0**	**8**	**0**	**14**	**431**	1,473
8:00 AM	**0**	**5**	**124**	**11**	**0**	**20**	**136**	**4**	**0**	**8**	**1**	**9**	**0**	**6**	**1**	**20**	**345**	**1,507**
8:15 AM	1	7	141	4	0	22	122	5	0	8	0	7	0	9	0	7	333	1,501
8:30 AM	0	1	141	6	0	25	123	2	0	2	1	17	0	8	3	19	348	1,457
8:45 AM	2	5	211	6	0	19	109	3	0	6	0	21	0	3	3	9	397	1,423
Count Total	5	38	1,304	43	1	168	955	29	0	48	3	88	0	62	13	139	2,896	0
Peak Hour	**1**	**20**	**724**	**20**	**1**	**76**	**463**	**18**	**0**	**27**	**2**	**36**	**0**	**34**	**3**	**82**	**1,507**	**0**

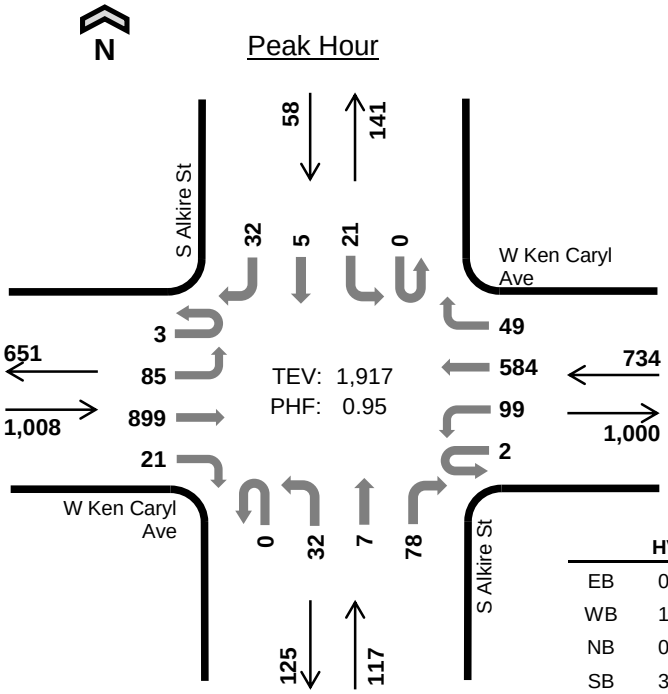
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

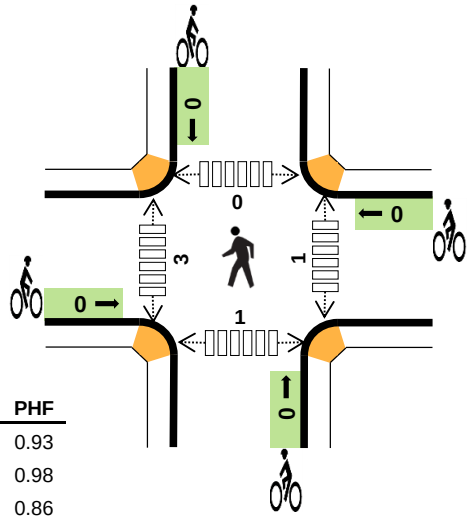
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	8	0	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**6**	**3**	**0**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**2**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
7:45 AM	**4**	**0**	**1**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**3**	**1**	**0**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	1	4	0	0	*5*	0	0	0	0	*0*	1	0	0	1	*2*
8:30 AM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	4	1	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	25	23	2	4	*54*	0	0	0	0	*0*	1	1	1	1	*4*
Peak Hour	**15**	**6**	**1**	**4**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	***2***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

S Alkire St
W Ken Caryl Ave

Date: Tue, Feb 11, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.8%	0.93
WB	1.1%	0.98
NB	0.0%	0.86
SB	3.4%	0.91
TOTAL	0.9%	0.95

Two-Hour Count Summaries

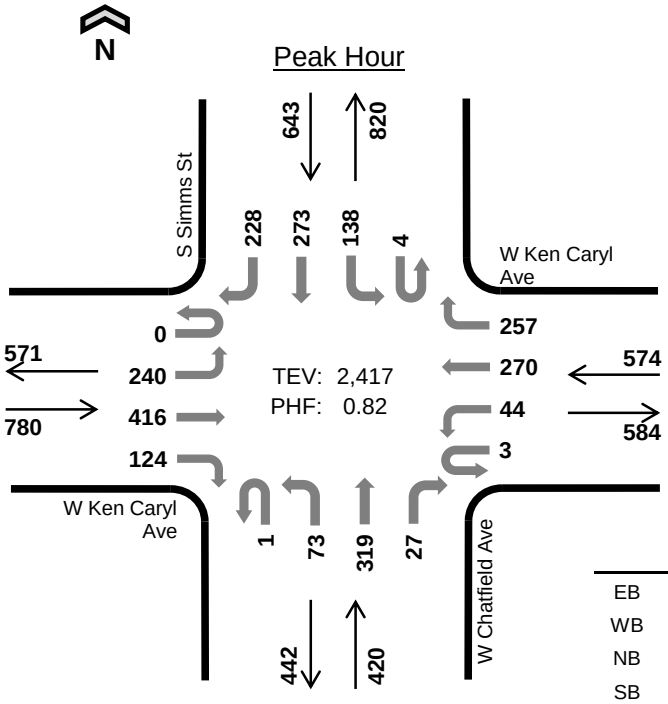
Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				S Alkire St Northbound				S Alkire St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**19**	**244**	**8**	**0**	**31**	**142**	**12**	**0**	**7**	**3**	**23**	**0**	**4**	**1**	**11**	**505**	0
4:15 PM	**0**	**12**	**228**	**4**	**1**	**21**	**151**	**10**	**0**	**13**	**2**	**19**	**0**	**6**	**1**	**7**	**475**	0
4:30 PM	**2**	**28**	**211**	**4**	**0**	**21**	**151**	**15**	**0**	**5**	**1**	**18**	**0**	**6**	**1**	**6**	**469**	0
4:45 PM	**1**	**26**	**216**	**5**	**1**	**26**	**140**	**12**	**0**	**7**	**1**	**18**	**0**	**5**	**2**	**8**	**468**	**1,917**
5:00 PM	3	22	181	8	1	31	173	12	0	10	3	31	0	4	2	9	490	1,902
5:15 PM	1	22	218	5	0	26	140	18	0	5	3	25	0	12	4	11	490	1,917
5:30 PM	0	24	181	4	0	31	130	12	0	7	1	18	0	5	2	14	429	1,877
5:45 PM	1	24	214	3	0	36	130	11	0	4	7	21	0	10	2	10	473	1,882
Count Total	8	177	1,693	41	3	223	1,157	102	0	58	21	173	0	52	15	76	3,799	0
Peak Hour	**3**	**85**	**899**	**21**	**2**	**99**	**584**	**49**	**0**	**32**	**7**	**78**	**0**	**21**	**5**	**32**	**1,917**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

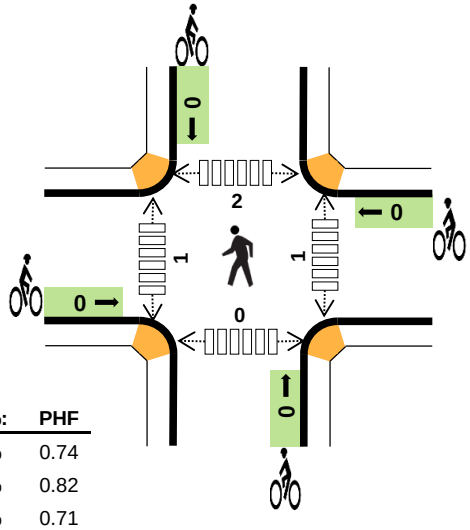
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**4**	**3**	**0**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
4:30 PM	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
4:45 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
5:00 PM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	3	0	1	*4*	0	0	0	0	*0*	1	0	0	1	*2*
5:30 PM	1	3	0	0	*4*	0	0	0	0	*0*	0	1	0	0	*1*
5:45 PM	2	2	1	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	14	18	1	4	*37*	0	0	0	0	*0*	2	4	0	2	*8*
Peak Hour	**8**	**8**	**0**	**2**	***18***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**0**	**1**	***5***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

W Chatfield Ave
W Ken Caryl Ave



Date: Tue, Feb 11, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	2.4%	0.74
WB	1.2%	0.82
NB	0.7%	0.71
SB	0.6%	0.77
TOTAL	1.4%	0.82

Two-Hour Count Summaries

Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				W Chatfield Ave Northbound				S Simms St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	34	47	17	2	8	80	30	0	17	32	4	0	16	30	53	370	0
7:15 AM	**0**	**64**	**73**	**29**	**0**	**9**	**63**	**61**	**0**	**18**	**66**	**5**	**0**	**29**	**43**	**44**	**504**	0
7:30 AM	**0**	**61**	**133**	**24**	**0**	**11**	**59**	**105**	**1**	**18**	**124**	**5**	**2**	**27**	**72**	**51**	**693**	0
7:45 AM	**0**	**74**	**149**	**42**	**2**	**13**	**59**	**65**	**0**	**23**	**94**	**10**	**0**	**49**	**91**	**70**	**741**	2,308
8:00 AM	**0**	**41**	**61**	**29**	**1**	**11**	**89**	**26**	**0**	**14**	**35**	**7**	**2**	**33**	**67**	**63**	**479**	**2,417**
8:15 AM	0	66	59	22	0	10	90	23	0	21	50	4	0	22	47	45	459	2,372
8:30 AM	0	49	85	24	0	8	70	25	0	26	36	9	1	29	33	61	456	2,135
8:45 AM	0	64	93	51	1	10	55	27	0	25	46	9	0	20	38	43	482	1,876
Count Total	0	453	700	238	6	80	565	362	1	162	483	53	5	225	421	430	4,184	0
Peak Hour	**0**	**240**	**416**	**124**	**3**	**44**	**270**	**257**	**1**	**73**	**319**	**27**	**4**	**138**	**273**	**228**	**2,417**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	3	1	6	*13*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**6**	**2**	**0**	**2**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**2**	**1**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:45 AM	**7**	**1**	**1**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	*2*
8:00 AM	**4**	**2**	**1**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
8:15 AM	1	5	2	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	1	1	3	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	0	1	4	*10*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	29	16	8	17	*70*	0	0	0	0	*0*	1	1	2	0	*4*
Peak Hour	**19**	**7**	**3**	**4**	***33***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**2**	**0**	***4***

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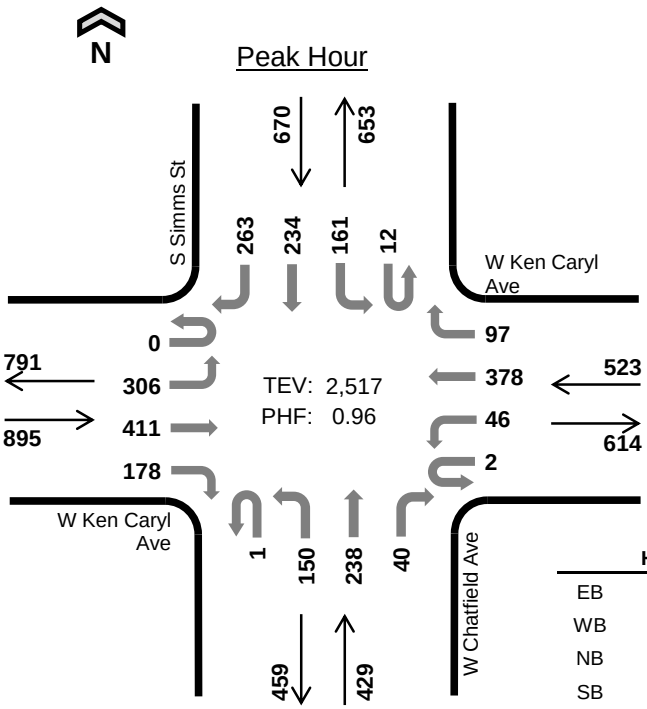
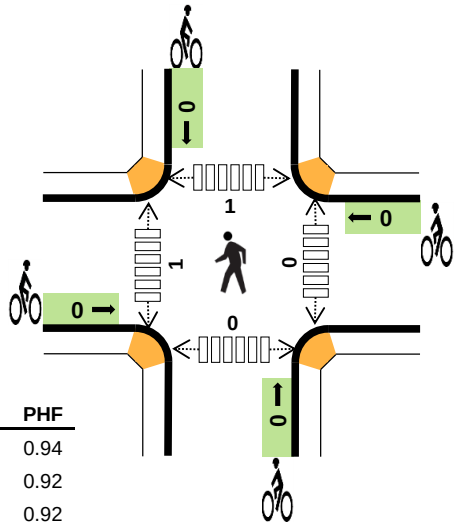
W Chatfield Ave
W Ken Caryl Ave



Date: Tue, Feb 11, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.7%	0.94
WB	1.5%	0.92
NB	0.0%	0.92
SB	0.0%	0.92
TOTAL	0.6%	0.96

Two-Hour Count Summaries

Interval Start	W Ken Caryl Ave Eastbound				W Ken Caryl Ave Westbound				W Chatfield Ave Northbound				S Simms St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	68	134	49	0	10	83	27	0	44	40	2	3	31	51	61	603	0
4:15 PM	0	62	129	44	0	14	92	19	0	38	52	7	1	48	57	66	629	0
4:30 PM	0	69	112	32	0	7	87	27	0	49	52	9	3	38	45	60	590	0
4:45 PM	**0**	**90**	**110**	**30**	**0**	**13**	**86**	**25**	**0**	**46**	**62**	**9**	**2**	**35**	**62**	**59**	**629**	2,451
5:00 PM	**0**	**58**	**104**	**53**	**0**	**12**	**113**	**13**	**0**	**40**	**57**	**8**	**5**	**53**	**37**	**75**	**628**	2,476
5:15 PM	**0**	**86**	**100**	**51**	**1**	**7**	**87**	**24**	**1**	**33**	**68**	**13**	**4**	**36**	**79**	**63**	**653**	2,500
5:30 PM	**0**	**72**	**97**	**44**	**1**	**14**	**92**	**35**	**0**	**31**	**51**	**10**	**1**	**37**	**56**	**66**	**607**	**2,517**
5:45 PM	1	68	123	39	0	11	78	33	0	36	45	5	4	46	70	59	618	2,506
Count Total	1	573	909	342	2	88	718	203	1	317	427	63	23	324	457	509	4,957	0
Peak Hour	**0**	**306**	**411**	**178**	**2**	**46**	**378**	**97**	**1**	**150**	**238**	**40**	**12**	**161**	**234**	**263**	**2,517**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	3	1	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	0	0	3	*5*	0	0	0	0	*0*	2	0	0	0	*2*
4:30 PM	3	2	0	0	*5*	0	0	0	0	*0*	1	0	1	0	*2*
4:45 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:15 PM	**2**	**2**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:30 PM	**1**	**3**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	2	2	0	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	15	15	1	4	*35*	0	0	0	0	*0*	3	1	2	0	*6*
Peak Hour	**6**	**8**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	***2***

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