

September 2, 2025

Zach Forbath
CITY VENTURES
3121 Michelson Drive, Suite 150
Irvine, CA 92612



TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Subject: 9903 Flower Street Traffic Study, City of Bellflower, California

Dear Mr. Forbath:

TJW Engineering, Inc. (TJW) is pleased to submit this Traffic Study for the proposed project at 9903 Flower Street in the City of Bellflower, California. The project is for the construction of 32 multi-family residential units. The purpose of this study is to evaluate potential circulation deficiencies at the nearby signalized intersection Bellflower Boulevard/Flower Street that may result from the development of the proposed project and, if applicable, recommend improvements to achieve acceptable operations. This study follows the *City of Bellflower General Plan Circulation Element* (City Circulation Element) (April 1997).

PROJECT DESCRIPTION

The proposed project will be located at 9903 Flower Street in the City of Bellflower, California. The project is for the construction of 32 multifamily residential units. Site access will be provided via one right-in/right-out driveway on Flower Street. **Exhibit 1** shows the project location. **Exhibit 2** shows the project site plan.

ANALYSIS METHODOLOGY

In accordance with the City Circulation Element, operations for signalized intersections is evaluated using the Intersection Capacity Utilization (ICU) methodology. The ICU methodology provides a comparison of the theoretical hourly vehicle capacity of an intersection to the number of vehicles passing through that intersection during the peak hour. The results are reported in terms of a volume-to-capacity (V/C) ratio and a corresponding level of service (LOS). The LOS is used to describe the quality of flow on roadways and intersections. LOS is represented by letter grades, A through F, with LOS A indicating free flow with little congestion and LOS F indicating severely congested conditions.



Legend:

 Project Site



Exhibit 1: Project Location

9903 Flower Street Traffic Impact Analysis



EXISTING CONDITIONS

The City Circulation Element classifies both Bellflower Boulevard and Flower Street as Secondary Arterials. Both roadways have one painted double-yellow line median. The speed limit on Bellflower Boulevard at the intersection with Flower Street is 25-30 miles per hour (mph) while the limit on Flower Street is 30-35 mph. **Exhibit 3** shows the study intersection location and its lane geometry.

Existing Traffic Volumes

To determine the *Existing* operation of the study intersection Bellflower Boulevard/Flower Street, AM and PM peak period traffic volumes were collected on Wednesday, August 27, 2025. AM peak hour volumes were collected from 7:00 AM – 9:00 AM. PM peak hour volumes were collected from 4:00 PM – 6:00 PM. Detailed traffic count data is provided in **Appendix A**. The *Existing* AM and PM peak hour volumes at the study intersection is shown in **Exhibit 4**.

Existing Conditions Intersection Analysis

The analysis of the *Existing* conditions at the study intersection Bellflower Boulevard/Flower Street during the AM and PM peak hours is shown in **Table 1**. The ICU analysis sheet is attached as **Appendix B**.

Table 1
Intersection Analysis – Existing Conditions

Intersection			Control Type	Peak Hour	Existing Conditions	
					V/C ¹	LOS
1	Bellflower Boulevard	Flower Street	Signal	AM	0.502	A
				PM	0.497	A

1: Volume-to-capacity ratio.

As shown in **Table 1**, the study intersection Bellflower Boulevard/Flower Street operates at an acceptable LOS during the AM and PM peak hours.

Existing Conditions Queue Analysis

The sufficiency of storage space for *Existing* volumes at the westbound left-turn movement at Bellflower Boulevard/Flower Street was analyzed. Using the *Existing* volumes, the 95th percentile queue length was calculated and compared with the storage space. **Table 2** compares the *Existing* storage length with the *Existing* conditions 95th percentile queue length. The HCM analysis sheet with 95th percentile queue data is attached in **Appendix C**.

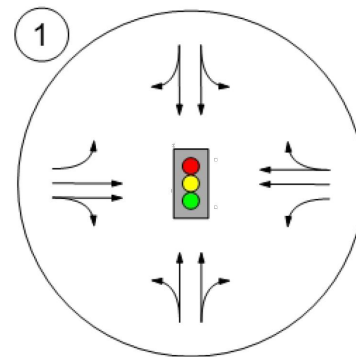
Table 2
Queue Analysis – Existing Conditions

Intersection			Control	Leg ¹	Movement ²	Storage Length (ft)	95 th Percentile Queue (ft)	
							AM Peak	PM Peak
1	Bellflower Boulevard	Flower Street	Signal	WB	LT	90	81	97

As shown in **Table 2**, the westbound left-turn movement 95th percentile queue length under *Existing* conditions exceeds the storage length at the study intersection.



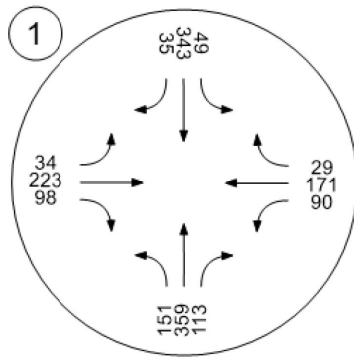
Bellflower Blvd/ Flower St





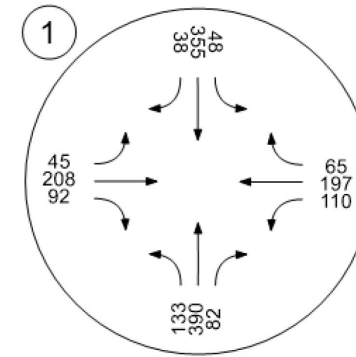
AM Peak Hour Volumes

Bellflower Blvd /
Flower Street



PM Peak Hour Volumes

Bellflower Blvd /
Flower Street



OPENING YEAR CONDITIONS

The *Opening Year* conditions analysis is intended to identify traffic conditions at the time of the anticipated opening of the proposed project. It does not include the impact of the proposed project itself.

Opening Year Traffic Volumes

Opening Year traffic volumes include traffic estimated to the project opening year, 2027. It does not include traffic from the proposed project. To calculate Opening Year volumes an annual growth rate of 2% per year for two years was applied to *Existing* volumes. **Exhibit 5** shows the AM and PM peak hour volumes at the study intersection under *Opening Year* conditions.

$$\text{Opening Year Volumes} = \text{Existing (2025) Counts} * 1.02^2$$

Opening Year Intersection Analysis

The analysis of the *Opening Year* conditions at the study intersection Bellflower Boulevard/Flower Street during the AM and PM peak hours is shown in **Table 3**. Calculations are based the *Existing* geometrics of the study intersections presumed to be in place in 2027. The ICU analysis sheet is attached as **Appendix B**.

Table 3
Intersection Analysis – Opening Year Conditions

Intersection			Control Type	Target LOS	Peak Hour	Opening Year Conditions	
						V/C ¹	LOS
1	Bellflower Boulevard	Flower Street	Signal	C	AM	0.523	A
					PM	0.516	A

1: Volume-to-capacity ratio.

As shown in **Table 3**, the study intersection Bellflower Boulevard/Flower Street is projected to operate at an acceptable LOS under *Opening Year* conditions during the AM and PM peak hours.

Opening Year Queue Analysis

The sufficiency of storage space for *Opening Year* volumes at the westbound left-turn movement at Bellflower Boulevard/Flower Street was analyzed. Using the *Opening Year* volumes, the 95th percentile queue length was calculated and compared with the storage space. **Table 4** compares the *Opening Year* storage length with the *Opening Year* conditions 95th percentile queue length. The HCM analysis sheet with 95th percentile queue data is attached in **Appendix C**.

Table 4
Queue Analysis – Opening Year Conditions

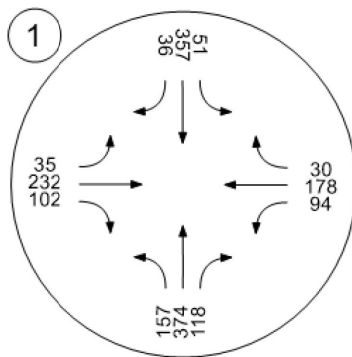
Intersection			Control	Leg ¹	Movement ²	Storage Length (ft)	95 th Percentile Queue (ft)	
							AM Peak	PM Peak
1	Bellflower Boulevard	Flower Street	Signal	WB	LT	90	84	100

As shown in **Table 4**, the westbound left-turn movement 95th percentile queue length under *Opening Year* conditions exceeds the storage length at the study intersection.



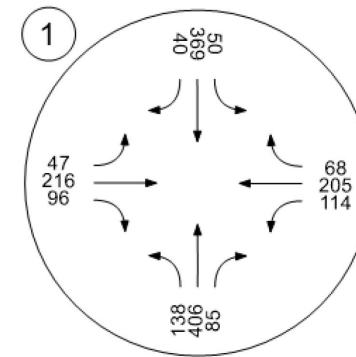
AM Peak Hour Volumes

Bellflower Blvd /
Flower Street



PM Peak Hour Volumes

Bellflower Blvd /
Flower Street



OPENING YEAR PLUS PROJECT CONDITIONS

The *Opening Year Plus Project* conditions analysis is intended to identify traffic conditions at the time of the anticipated opening of the proposed project and includes the impact of the proposed project itself.

Project Trip Generation

To project the volume of vehicle trips generated by proposed project, the *Institute of Transportation Engineers (ITE) Trip Generation Manual* (11th Edition, 2021) trip generation rates for the land use Multifamily Housing (Low-Rise) were utilized. **Table 5** summarizes the projected AM peak hour, PM peak hour, and daily trip generation of the proposed project. The proposed project is expected to generate 216 daily trips including 13 AM peak hour trips and 16 PM peak hour trips.

Table 5
Proposed Project Trip Generation

Proposed Land Use ¹	ITE Code	Qty	Unit ²	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
Multifamily Housing (Low-Rise)	220	32	DU	6.74	216	0.4	24:76	3	10	13	0.51	63:37	10	6	16

1: Trip generation rates are from the ITE Trip Generation Manual (11th Edition, 2021).

2: DU = Dwelling Units.

Project Trip Distribution

Projecting trip distribution involves the process of identifying probable destinations and traffic routes that will be utilized by the proposed project's traffic. The potential interaction between the proposed land use and surrounding regional access routes are considered to identify the probable routes onto which project generated trips to and from the project site would distribute as well as the percentage of the trips through each route. **Exhibit 6** shows the project proposed trip distribution.

Opening Year Plus Project Traffic Volumes

Opening Year Plus Project traffic volumes are traffic estimated to the project opening year, 2027, plus the project volumes. To calculate Opening Year volumes an annual growth rate of 2% per year for two years was applied to *Existing* volumes. Volumes generated by the project are then added. **Exhibit 7** shows the AM and PM peak hour volumes at the study intersection under *Opening Year Plus Project* conditions.

$$\text{Opening Year Plus Project Volumes} = (\text{Existing (2025) Counts} * 1.02^2) + \text{Proposed Project}$$



Opening Year Plus Project Intersection Analysis

The analysis of the *Opening Year Plus Project* conditions at the study intersection Bellflower Boulevard/Flower Street during the AM and PM peak hours is shown in **Table 6**. The ICU analysis sheet is attached as **Appendix B**.

Table 6
Intersection Analysis – Opening Year Plus Project Conditions

Intersection			Control Type ¹	Target LOS	Peak Hour	Opening Year		Opening Year + Project	
						V/C ¹	LOS	V/C ¹	LOS
1	Bellflower Boulevard	Flower Street	Signal	C	AM	0.523	A	0.525	A
					PM	0.516	A	0.518	A

1: Volume-to-capacity ratio.

As shown in **Table 6**, the study intersection Bellflower Boulevard/Flower Street is projected to operate at an acceptable LOS under *Opening Year Plus Project* conditions during the AM and PM peak hours.

Opening Year Plus Project Queue Analysis

The sufficiency of storage space for *Opening Year Plus Project* volumes at the westbound left-turn movement at Bellflower Boulevard/Flower Street was analyzed. Using the *Opening Year Plus Project* volumes, the 95th percentile queue length was calculated and compared with the storage space. **Table 7** compares the *Opening Year Plus Project* storage length with the *Opening Year Plus Project* conditions 95th percentile queue length. The HCM analysis sheet with 95th percentile queue data is attached in **Appendix C**. As shown in **Table 7**, the westbound left-turn movement 95th percentile queue length under *Opening Year Plus Project* conditions exceeds the storage length at the study intersection.

Table 7
Queue Analysis – Opening Year Plus Project Conditions

Intersection			Control	Leg ¹	Movement ²	Storage Length (ft)	95 th Percentile Queue (ft)			
							Opening Year		Opening Year + Project	
							AM Peak	PM Peak	AM Peak	PM Peak
1	Bellflower Boulevard	Flower Street	Signal	WB	LT	90	84	100	87	102

The baseline *Opening Year* conditions 95th percentile queue length exceeds the storage length by ten (10) feet for approximately a half (½) car length while the proposed project adds an additional two (2) feet for a total of twelve (12) feet (also approximately a half car length). As the average passenger vehicle is 20-feet, the *Opening Year With Project* 95th percentile queue length would remain consistent with the baseline *Opening Year* conditions whereas the queue length exceeds the storage length by a little more than half (½) a car length. Therefore, the spillover is not likely to change with the addition of the project. It should also be noted, there are two through travel lanes allowing for vehicles to pass in the event of any spillover.



Legend:

-  Project Site
-  Study Intersection Location
- (XX%) Percent Trip Distribution



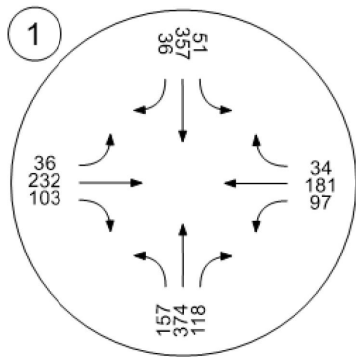
Exhibit 6: Project Trip Distribution

9903 Flower Street Traffic Impact Analysis



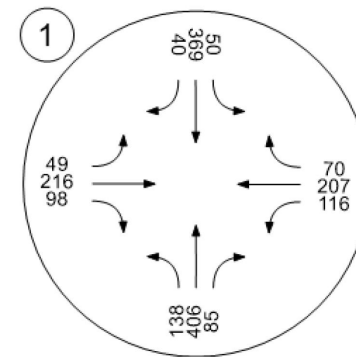
AM Peak Hour Volumes

Bellflower Blvd /
Flower Street



PM Peak Hour Volumes

Bellflower Blvd /
Flower Street

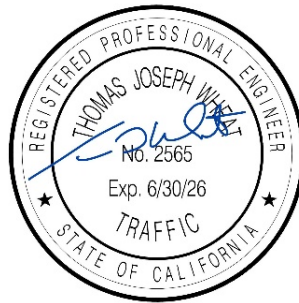


Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,



Thomas Wheat, PE, TE
President
Registered Civil Engineer #69467
Registered Traffic Engineer #2565



David Chew, PTP
Transportation Planner



Travis Yokota
Assistant Transportation Planner

APPENDIX A

EXISTING TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

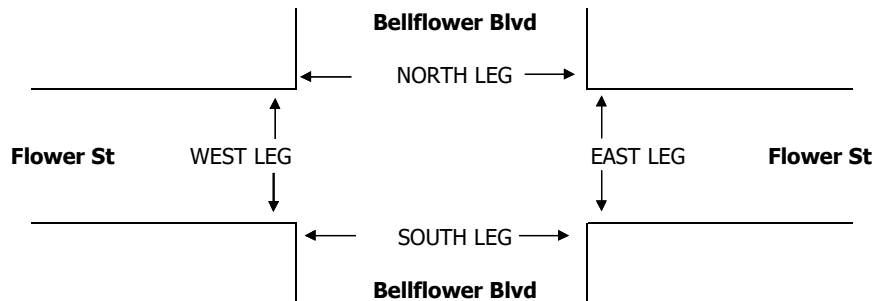
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Aug 27, 25	LOCATION: NORTH & SOUTH: EAST & WEST:	Bellflower Bellflower Blvd Flower St	PROJECT #: LOCATION #: CONTROL:	SC5583 1 SIGNAL
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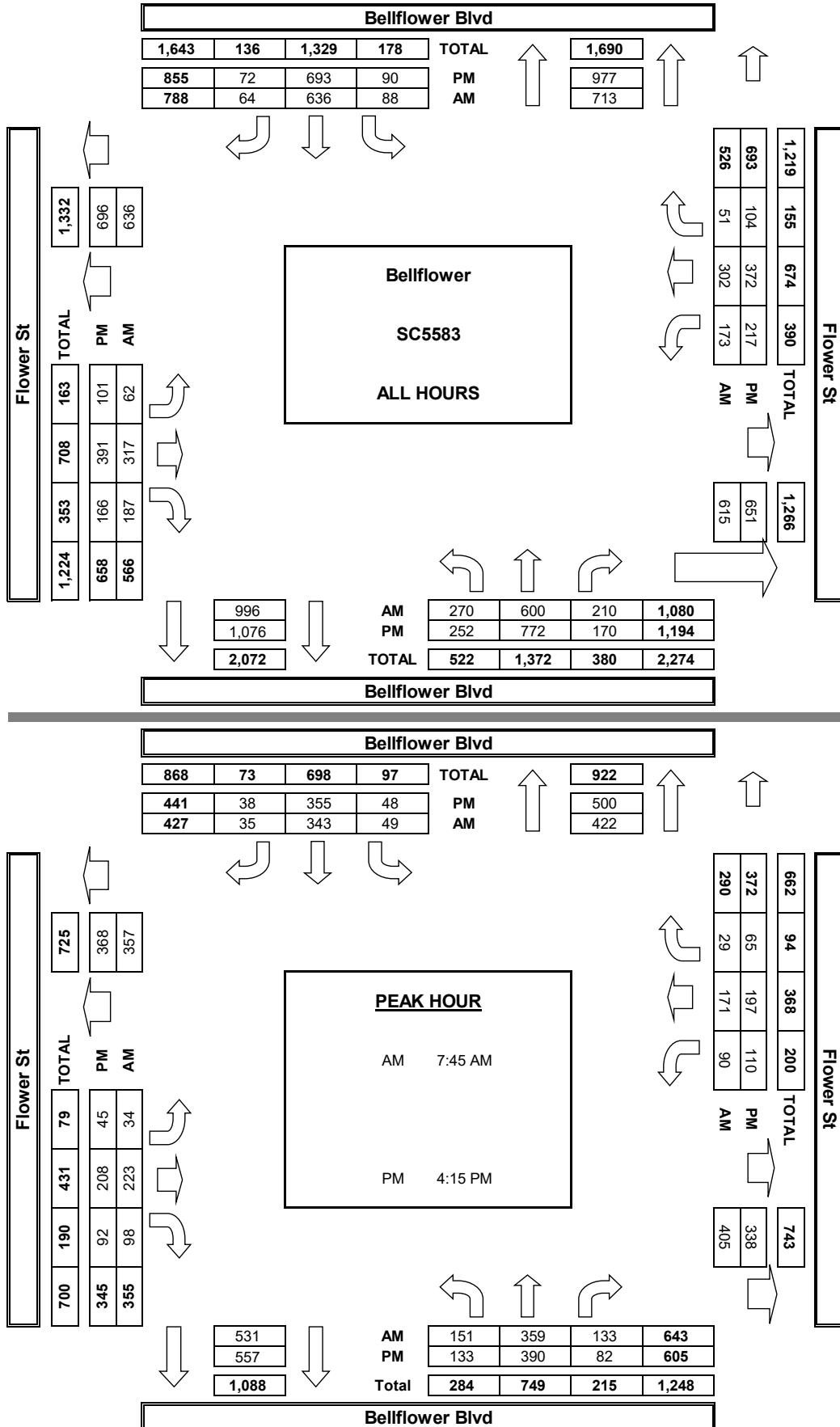
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND Bellflower Blvd			SOUTHBOUND Bellflower Blvd			EASTBOUND Flower St			WESTBOUND Flower St			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	2	0	0	2	0	1	2	0	1	2	0	

AM	7:00 AM	20	52	14	7	52	4	9	10	20	21	25	2	236
	7:15 AM	29	40	12	4	71	5	9	27	25	21	22	6	271
	7:30 AM	40	57	23	13	87	11	5	29	22	18	37	5	347
	7:45 AM	38	86	32	19	75	8	11	54	28	26	36	8	421
	8:00 AM	38	86	46	11	84	4	12	78	22	14	30	5	430
	8:15 AM	37	94	28	11	80	10	6	61	29	24	57	7	444
	8:30 AM	38	93	27	8	104	13	5	30	19	26	48	9	420
	8:45 AM	30	92	28	15	83	9	5	28	22	23	47	9	391
	VOLUMES	270	600	210	88	636	64	62	317	187	173	302	51	2,960
	APPROACH %	25%	56%	19%	11%	81%	8%	11%	56%	33%	33%	57%	10%	
PM	APP/DEPART	1,080	/	713	788	/	996	566	/	615	526	/	636	0
	BEGIN PEAK HR	7:45 AM												
	VOLUMES	151	359	133	49	343	35	34	223	98	90	171	29	1,715
	APPROACH %	23%	56%	21%	11%	80%	8%	10%	63%	28%	31%	59%	10%	
	PEAK HR FACTOR	0.946			0.854			0.792			0.824			0.966
	APP/DEPART	643	/	422	427	/	531	355	/	405	290	/	357	0
	4:00 PM	27	97	34	17	86	13	13	51	14	31	47	9	439
	4:15 PM	36	99	23	13	79	10	11	50	23	25	47	17	433
	4:30 PM	29	96	22	12	104	8	15	54	20	25	46	16	447
	4:45 PM	30	96	16	10	79	9	14	52	27	25	64	21	443
PM	5:00 PM	38	99	21	13	93	11	5	52	22	35	40	11	440
	5:15 PM	37	87	25	6	81	5	14	46	18	25	49	10	403
	5:30 PM	28	101	18	7	92	9	8	45	20	30	46	9	413
	5:45 PM	27	97	11	12	79	7	21	41	22	21	33	11	382
	VOLUMES	252	772	170	90	693	72	101	391	166	217	372	104	3,400
	APPROACH %	21%	65%	14%	11%	81%	8%	15%	59%	25%	31%	54%	15%	
	APP/DEPART	1,194	/	977	855	/	1,076	658	/	651	693	/	696	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	133	390	82	48	355	38	45	208	92	110	197	65	1,763
	APPROACH %	22%	64%	14%	11%	80%	9%	13%	60%	27%	30%	53%	17%	
	PEAK HR FACTOR	0.957			0.889			0.927			0.845			0.986
	APP/DEPART	605	/	500	441	/	557	345	/	338	372	/	368	0



AimTD LLC
TURNING MOVEMENT COUNTS



APPENDIX B

ICU ANALYSIS WORKSHEETS

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.502

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	93	29	13	89	9	9	58	25	23	44	8
Total Analysis Volume [veh/h]	156	372	117	51	355	36	35	231	101	93	177	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.20	0.20	0.03	0.14	0.14	0.02	0.10	0.10	0.06	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.502											

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.497

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	99	21	12	90	10	11	53	23	28	50	16
Total Analysis Volume [veh/h]	135	396	83	49	360	39	46	211	93	112	200	66
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.19	0.19	0.03	0.14	0.14	0.03	0.10	0.10	0.07	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.497											

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.523

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	374	118	51	357	36	35	232	102	94	178	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	97	31	13	92	9	9	60	26	24	46	8
Total Analysis Volume [veh/h]	163	387	122	53	370	37	36	240	106	97	184	31
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.21	0.21	0.03	0.14	0.14	0.02	0.11	0.11	0.06	0.07	0.07
Intersection LOS	A											
Intersection V/C	0.523											

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.516

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	406	85	50	369	40	47	216	96	114	205	68
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	103	22	13	94	10	12	55	24	29	52	17
Total Analysis Volume [veh/h]	140	412	86	51	374	41	48	219	97	116	208	69
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.03	0.15	0.15	0.03	0.10	0.10	0.07	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.516											

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.525

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	1	0	1	3	3	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	374	118	51	357	36	36	232	103	97	181	34
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	97	31	13	92	9	9	60	27	25	47	9
Total Analysis Volume [veh/h]	163	387	122	53	370	37	37	240	107	100	187	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.21	0.21	0.03	0.14	0.14	0.02	0.11	0.11	0.06	0.07	0.07
Intersection LOS	A											
Intersection V/C	0.525											

Intersection Level Of Service Report

Intersection 1: Bellflower Blvd/ Flower St

Control Type: Signalized
 Analysis Method: ICU 2
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.518

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	2	0	2	2	2	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	406	85	50	369	40	49	216	98	116	207	70
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	103	22	13	94	10	12	55	25	29	52	18
Total Analysis Volume [veh/h]	140	412	86	51	374	41	50	219	99	118	210	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.03	0.15	0.15	0.03	0.10	0.10	0.07	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.518											

APPENDIX C

HCM ANALYSIS WORKSHEETS

Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	93	29	13	89	9	9	58	25	23	44	8
Total Analysis Volume [veh/h]	156	372	117	51	355	36	35	231	101	93	177	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	23	0	0	22	0	0	23	0	0	23	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	27.0	0.0	0.0	26.0	0.0	0.0	27.0	0.0	0.0	27.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23.0	23.0	25.8	25.8	19.2	19.2	19.2	19.2	19.2	19.2
g / C, Green / Cycle	0.29	0.29	0.32	0.32	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.13	0.13	0.03	0.10	0.10	0.10	0.06	0.06
s, saturation flow rate [veh/h]	1670	1605	1691	1662	1074	1710	1539	958	1710	1626
c, Capacity [veh/h]	480	462	545	536	262	410	369	207	410	390
d1, Uniform Delay [s]	25.27	25.30	21.13	21.15	29.17	25.69	25.80	34.13	24.62	24.66
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.68	8.07	2.25	2.31	0.23	0.68	0.81	1.52	0.33	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.69	0.41	0.41	0.13	0.42	0.43	0.45	0.26	0.26
d, Delay for Lane Group [s/veh]	32.95	33.37	23.38	23.46	29.40	26.37	26.61	35.65	24.95	25.01
Lane Group LOS	C	C	C	C	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	6.31	6.15	3.52	3.48	0.58	2.70	2.55	1.80	1.60	1.56
50th-Percentile Queue Length [ft/ln]	157.83	153.65	87.92	87.10	14.47	67.54	63.78	44.96	40.02	39.09
95th-Percentile Queue Length [veh/ln]	10.43	10.21	6.33	6.27	1.04	4.86	4.59	3.24	2.88	2.81
95th-Percentile Queue Length [ft/ln]	260.85	255.30	158.26	156.78	26.05	121.57	114.80	80.93	72.04	70.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.95	33.18	33.37	23.38	23.42	23.46	29.40	26.43	26.61	35.65	24.97	25.01
Movement LOS	C	C	C	C	C	C	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	33.16			23.42			26.76			28.29		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.53											
Intersection LOS	C											
Intersection V/C	0.434											

Emissions

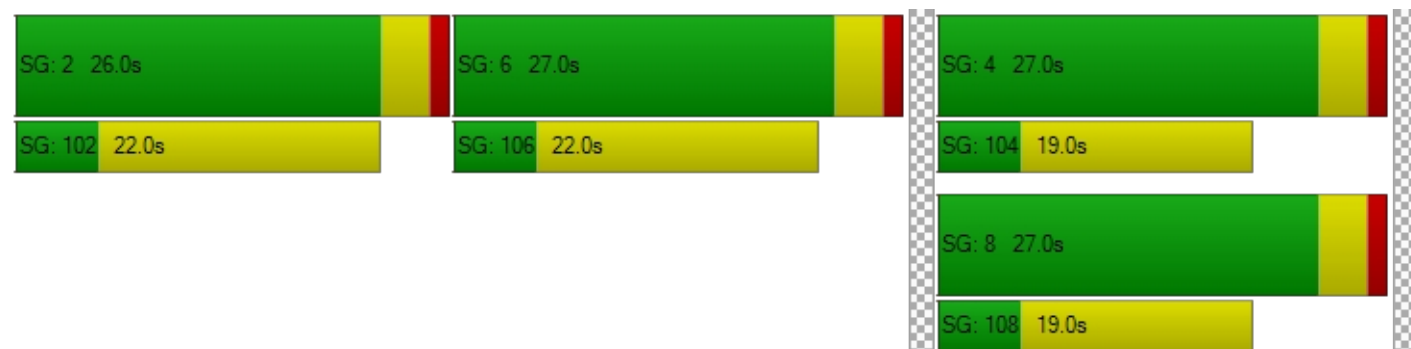
Vehicle Miles Traveled [mph]	12.72	12.27	8.74	8.64	1.54	7.53	7.05	4.67	5.26	5.12
Stops [stops/h]	284.10	276.58	158.26	156.78	26.05	121.57	114.80	80.93	72.04	70.35
Fuel consumption [US gal/h]	4.29	4.18	2.06	2.04	0.46	2.12	2.00	1.31	1.15	1.12
CO [g/h]	300.13	292.52	143.87	142.49	32.43	148.27	139.90	91.84	80.18	78.25
NOx [g/h]	58.39	56.91	27.99	27.72	6.31	28.85	27.22	17.87	15.60	15.22
VOC [g/h]	69.56	67.79	33.34	33.02	7.52	34.36	32.42	21.29	18.58	18.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.550	2.355	2.463	2.432
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	575	550	575	575
d_b, Bicycle Delay [s]	20.31	21.03	20.31	20.31
I_b,int, Bicycle LOS Score for Intersection	2.092	1.924	1.862	1.807
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	28.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	99	21	12	90	10	11	53	23	28	50	16
Total Analysis Volume [veh/h]	135	396	83	49	360	39	46	211	93	112	200	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	22	0	0	24	0	0	24	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	26.0	0.0	0.0	26.0	0.0	0.0	28.0	0.0	0.0	28.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22.0	22.0	26.0	26.0	20.0	20.0	20.0	20.0	20.0	20.0
g / C, Green / Cycle	0.28	0.28	0.33	0.33	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.13	0.13	0.05	0.09	0.10	0.11	0.08	0.08
s, saturation flow rate [veh/h]	1674	1631	1692	1659	1018	1710	1538	983	1710	1569
c, Capacity [veh/h]	460	449	552	541	245	426	383	228	426	391
d1, Uniform Delay [s]	25.81	25.83	20.96	20.98	30.09	24.84	24.95	33.36	24.52	24.59
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.70	7.96	2.24	2.31	0.37	0.53	0.63	1.63	0.43	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.68	0.41	0.41	0.19	0.37	0.38	0.49	0.32	0.33
d, Delay for Lane Group [s/veh]	33.51	33.80	23.20	23.29	30.46	25.37	25.58	34.99	24.95	25.08
Lane Group LOS	C	C	C	C	C	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.02	5.93	3.55	3.51	0.78	2.41	2.28	2.15	2.10	2.00
50th-Percentile Queue Length [ft/ln]	150.62	148.15	88.81	87.84	19.55	60.14	56.88	53.80	52.49	49.95
95th-Percentile Queue Length [veh/ln]	10.05	9.92	6.39	6.32	1.41	4.33	4.10	3.87	3.78	3.60
95th-Percentile Queue Length [ft/ln]	251.26	247.96	159.85	158.11	35.19	108.26	102.38	96.84	94.48	89.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.51	33.67	33.80	23.20	23.25	23.29	30.46	25.43	25.58	34.99	24.99	25.08
Movement LOS	C	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	33.65			23.25			26.13			27.97		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.38											
Intersection LOS	C											
Intersection V/C	0.434											

Emissions

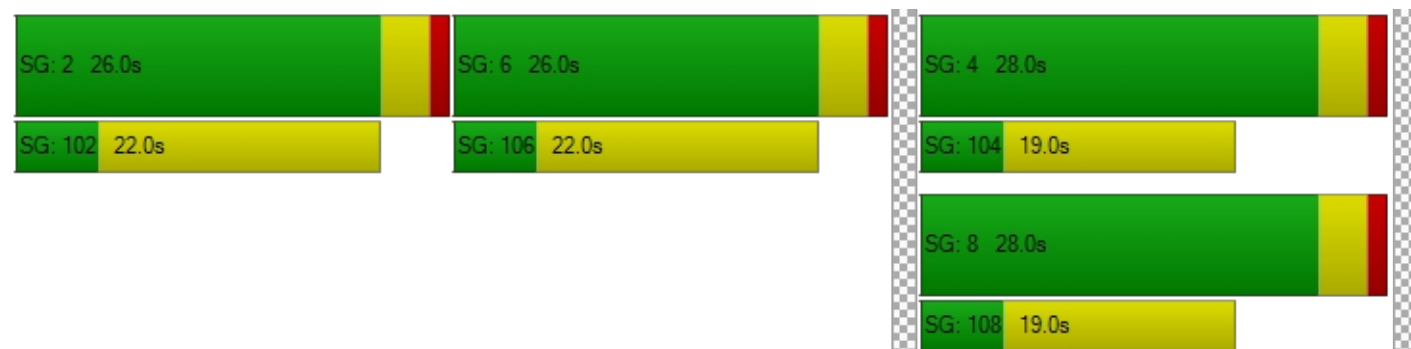
Vehicle Miles Traveled [mph]	12.03	11.76	8.87	8.74	2.02	6.89	6.46	5.62	6.85	6.49
Stops [stops/h]	271.12	266.68	159.85	158.11	35.19	108.26	102.38	96.84	94.48	89.92
Fuel consumption [US gal/h]	4.11	4.05	2.08	2.05	0.63	1.89	1.78	1.56	1.50	1.42
CO [g/h]	287.27	282.78	145.19	143.56	43.81	131.87	124.58	109.31	104.72	99.55
NOx [g/h]	55.89	55.02	28.25	27.93	8.52	25.66	24.24	21.27	20.37	19.37
VOC [g/h]	66.58	65.54	33.65	33.27	10.15	30.56	28.87	25.33	24.27	23.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.573	2.386	2.460	2.436
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	600	600
d_b, Bicycle Delay [s]	21.03	21.03	19.60	19.60
I_b,int, Bicycle LOS Score for Intersection	2.066	1.929	1.848	1.871
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	374	118	51	357	36	35	232	102	94	178	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	97	31	13	92	9	9	60	26	24	46	8
Total Analysis Volume [veh/h]	163	387	122	53	370	37	36	240	106	97	184	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	23	0	0	22	0	0	23	0	0	23	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	27.0	0.0	0.0	26.0	0.0	0.0	27.0	0.0	0.0	27.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23.0	23.0	25.1	25.1	19.9	19.9	19.9	19.9	19.9	19.9
g / C, Green / Cycle	0.29	0.29	0.31	0.31	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.14	0.14	0.03	0.10	0.11	0.10	0.06	0.07
s, saturation flow rate [veh/h]	1670	1605	1691	1663	1066	1710	1538	946	1710	1626
c, Capacity [veh/h]	480	462	532	523	268	424	381	211	424	403
d1, Uniform Delay [s]	25.54	25.56	21.78	21.80	28.71	25.26	25.37	33.91	24.16	24.19
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.70	9.13	2.58	2.65	0.22	0.67	0.79	1.56	0.32	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.71	0.44	0.44	0.13	0.42	0.44	0.46	0.26	0.26
d, Delay for Lane Group [s/veh]	34.23	34.69	24.36	24.44	28.93	25.93	26.17	35.47	24.47	24.54
Lane Group LOS	C	C	C	C	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	6.73	6.55	3.75	3.72	0.59	2.79	2.63	1.87	1.65	1.61
50th-Percentile Queue Length [ft/ln]	168.25	163.72	93.87	92.98	14.75	69.87	65.81	46.85	41.15	40.15
95th-Percentile Queue Length [veh/ln]	10.98	10.75	6.76	6.69	1.06	5.03	4.74	3.37	2.96	2.89
95th-Percentile Queue Length [ft/ln]	274.62	268.64	168.96	167.37	26.56	125.76	118.46	84.33	74.06	72.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.23	34.48	34.69	24.36	24.41	24.44	28.93	25.99	26.17	35.47	24.50	24.54
Movement LOS	C	C	C	C	C	C	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	34.46			24.40			26.31			27.91		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.10											
Intersection LOS	C											
Intersection V/C	0.452											

Emissions

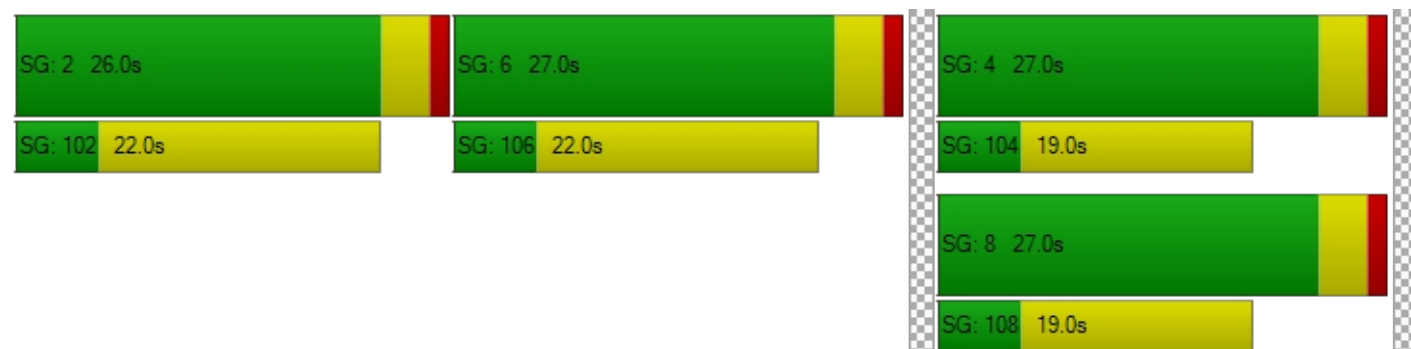
Vehicle Miles Traveled [mph]	13.25	12.78	9.10	8.99	1.58	7.85	7.34	4.87	5.47	5.32
Stops [stops/h]	302.85	294.69	168.96	167.37	26.56	125.76	118.46	84.33	74.06	72.27
Fuel consumption [US gal/h]	4.60	4.48	2.20	2.18	0.47	2.19	2.06	1.37	1.18	1.15
CO [g/h]	321.65	313.41	154.10	152.61	32.99	153.02	144.01	95.51	82.27	80.22
NOx [g/h]	62.58	60.98	29.98	29.69	6.42	29.77	28.02	18.58	16.01	15.61
VOC [g/h]	74.55	72.64	35.71	35.37	7.65	35.46	33.38	22.14	19.07	18.59

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.568	2.364	2.470	2.437
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	575	550	575	575
d_b, Bicycle Delay [s]	20.31	21.03	20.31	20.31
I_b,int, Bicycle LOS Score for Intersection	2.114	1.939	1.875	1.817
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	406	85	50	369	40	47	216	96	114	205	68
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	103	22	13	94	10	12	55	24	29	52	17
Total Analysis Volume [veh/h]	140	412	86	51	374	41	48	219	97	116	208	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	22	0	0	24	0	0	24	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	26.0	0.0	0.0	26.0	0.0	0.0	28.0	0.0	0.0	28.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22.0	22.0	25.5	25.5	20.5	20.5	20.5	20.5	20.5	20.5
g / C, Green / Cycle	0.28	0.28	0.32	0.32	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.14	0.14	0.05	0.10	0.10	0.12	0.08	0.09
s, saturation flow rate [veh/h]	1674	1631	1692	1658	1008	1710	1538	972	1710	1568
c, Capacity [veh/h]	460	449	539	528	249	438	394	232	438	402
d1, Uniform Delay [s]	26.05	26.06	21.56	21.58	29.77	24.45	24.56	33.14	24.13	24.19
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.61	8.90	2.55	2.63	0.37	0.52	0.62	1.67	0.43	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.70	0.44	0.44	0.19	0.37	0.39	0.50	0.32	0.33
d, Delay for Lane Group [s/veh]	34.66	34.97	24.12	24.21	30.14	24.98	25.18	34.81	24.55	24.68
Lane Group LOS	C	C	C	C	C	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.39	6.28	3.79	3.74	0.81	2.48	2.34	2.23	2.17	2.06
50th-Percentile Queue Length [ft/ln]	159.68	157.02	94.65	93.57	20.29	62.07	58.57	55.68	54.25	51.53
95th-Percentile Queue Length [veh/ln]	10.53	10.39	6.81	6.74	1.46	4.47	4.22	4.01	3.91	3.71
95th-Percentile Queue Length [ft/ln]	263.30	259.78	170.37	168.43	36.52	111.73	105.42	100.22	97.65	92.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.66	34.83	34.97	24.12	24.16	24.21	30.14	25.03	25.18	34.81	24.59	24.68
Movement LOS	C	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	34.81			24.16			25.74			27.62		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.85											
Intersection LOS	C											
Intersection V/C	0.452											

Emissions

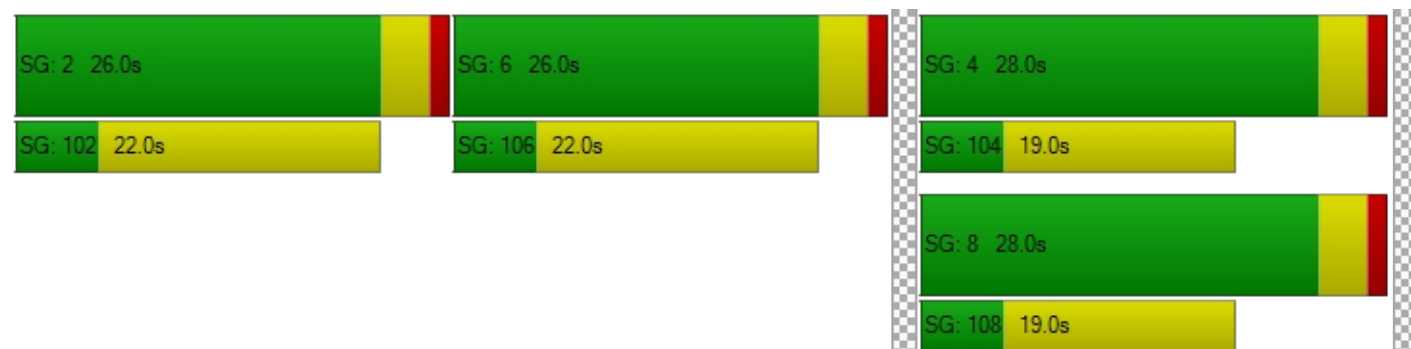
Vehicle Miles Traveled [mph]	12.50	12.22	9.23	9.09	2.11	7.17	6.71	5.82	7.14	6.75
Stops [stops/h]	287.42	282.64	170.37	168.43	36.52	111.73	105.42	100.22	97.65	92.75
Fuel consumption [US gal/h]	4.38	4.31	2.22	2.19	0.65	1.94	1.83	1.62	1.55	1.47
CO [g/h]	306.01	301.18	155.20	153.40	45.40	135.81	128.02	112.89	108.01	102.49
NOx [g/h]	59.54	58.60	30.20	29.85	8.83	26.42	24.91	21.96	21.02	19.94
VOC [g/h]	70.92	69.80	35.97	35.55	10.52	31.48	29.67	26.16	25.03	23.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.590	2.397	2.467	2.442
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	600	600
d_b, Bicycle Delay [s]	21.03	21.03	19.60	19.60
I_b,int, Bicycle LOS Score for Intersection	2.086	1.944	1.860	1.884
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	151	359	113	49	343	35	34	223	98	90	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	1	0	1	3	3	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	374	118	51	357	36	36	232	103	97	181	34
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	97	31	13	92	9	9	60	27	25	47	9
Total Analysis Volume [veh/h]	163	387	122	53	370	37	37	240	107	100	187	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	23	0	0	22	0	0	23	0	0	23	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	27.0	0.0	0.0	26.0	0.0	0.0	27.0	0.0	0.0	27.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23.0	23.0	24.9	24.9	20.1	20.1	20.1	20.1	20.1	20.1
g / C, Green / Cycle	0.29	0.29	0.31	0.31	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.14	0.14	0.03	0.10	0.11	0.11	0.07	0.07
s, saturation flow rate [veh/h]	1670	1605	1691	1663	1060	1710	1537	945	1710	1619
c, Capacity [veh/h]	480	462	526	518	269	429	386	214	429	406
d1, Uniform Delay [s]	25.54	25.56	21.97	21.99	28.64	25.07	25.18	33.77	24.02	24.06
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.70	9.13	2.65	2.72	0.23	0.65	0.77	1.59	0.32	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.71	0.44	0.44	0.14	0.42	0.43	0.47	0.26	0.27
d, Delay for Lane Group [s/veh]	34.23	34.69	24.63	24.71	28.87	25.71	25.95	35.36	24.34	24.41
Lane Group LOS	C	C	C	C	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	6.73	6.55	3.78	3.74	0.61	2.79	2.63	1.93	1.70	1.65
50th-Percentile Queue Length [ft/ln]	168.25	163.72	94.47	93.58	15.15	69.75	65.65	48.27	42.45	41.30
95th-Percentile Queue Length [veh/ln]	10.98	10.75	6.80	6.74	1.09	5.02	4.73	3.48	3.06	2.97
95th-Percentile Queue Length [ft/ln]	274.62	268.64	170.04	168.45	27.27	125.56	118.17	86.88	76.41	74.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.23	34.48	34.69	24.63	24.67	24.71	28.87	25.77	25.95	35.36	24.37	24.41
Movement LOS	C	C	C	C	C	C	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	34.46			24.67			26.12			27.79		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.10											
Intersection LOS	C											
Intersection V/C	0.452											

Emissions

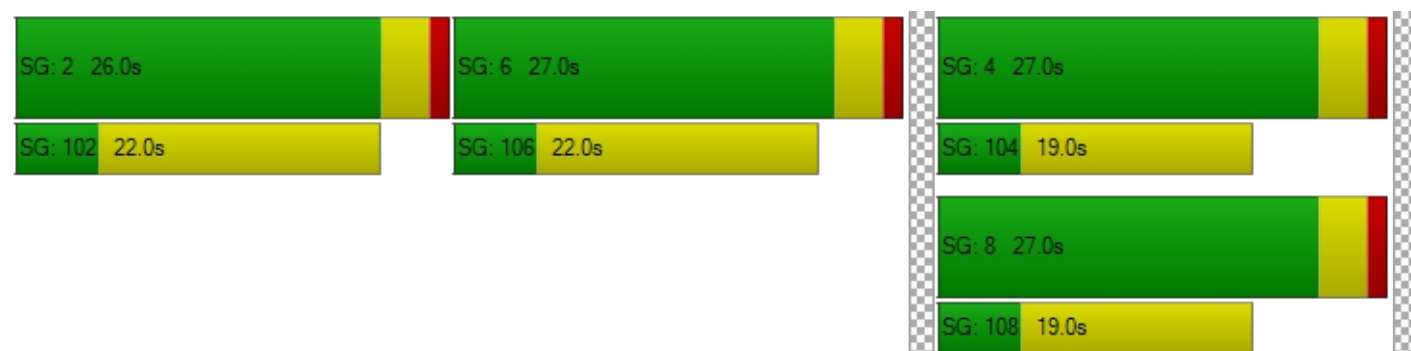
Vehicle Miles Traveled [mph]	13.25	12.78	9.10	8.99	1.62	7.88	7.35	5.02	5.65	5.48
Stops [stops/h]	302.85	294.69	170.04	168.45	27.27	125.56	118.17	86.88	76.41	74.33
Fuel consumption [US gal/h]	4.60	4.48	2.22	2.20	0.48	2.18	2.05	1.41	1.21	1.18
CO [g/h]	321.65	313.41	155.25	153.77	33.86	152.65	143.55	98.29	84.80	82.43
NOx [g/h]	62.58	60.98	30.21	29.92	6.59	29.70	27.93	19.12	16.50	16.04
VOC [g/h]	74.55	72.64	35.98	35.64	7.85	35.38	33.27	22.78	19.65	19.10

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.573	2.366	2.471	2.439
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	575	550	575	575
d_b, Bicycle Delay [s]	20.31	21.03	20.31	20.31
I_b,int, Bicycle LOS Score for Intersection	2.114	1.939	1.876	1.825
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Bellflower Blvd/ Flower St

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	90.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bellflower Boulevard			Bellflower Boulevard			Flower Street			Flower Street		
Base Volume Input [veh/h]	133	390	82	48	355	38	45	208	92	110	197	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	2	0	2	2	2	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	406	85	50	369	40	49	216	98	116	207	70
Peak Hour Factor	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860	0.9860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	103	22	13	94	10	12	55	25	29	52	18
Total Analysis Volume [veh/h]	140	412	86	51	374	41	50	219	99	118	210	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Flashing Yellow Arrow							No			No		
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	22	0	0	24	0	0	24	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	17.0	0.0	0.0	17.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0.0	26.0	0.0	0.0	26.0	0.0	0.0	28.0	0.0	0.0	28.0	0.0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22.0	22.0	25.3	25.3	20.7	20.7	20.7	20.7	20.7	20.7
g / C, Green / Cycle	0.28	0.28	0.32	0.32	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.14	0.14	0.05	0.10	0.10	0.12	0.08	0.09
s, saturation flow rate [veh/h]	1674	1631	1692	1658	1004	1710	1535	971	1710	1566
c, Capacity [veh/h]	460	449	535	524	250	443	397	234	443	405
d1, Uniform Delay [s]	26.05	26.06	21.72	21.74	29.72	24.31	24.42	33.06	24.00	24.07
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.61	8.90	2.61	2.68	0.39	0.52	0.62	1.69	0.43	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.70	0.44	0.44	0.20	0.37	0.39	0.51	0.33	0.34
d, Delay for Lane Group [s/veh]	34.66	34.97	24.33	24.42	30.11	24.83	25.03	34.74	24.43	24.55
Lane Group LOS	C	C	C	C	C	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.39	6.28	3.81	3.76	0.85	2.49	2.35	2.26	2.20	2.08
50th-Percentile Queue Length [ft/ln]	159.68	157.02	95.14	94.06	21.14	62.30	58.69	56.62	54.93	52.10
95th-Percentile Queue Length [veh/ln]	10.53	10.39	6.85	6.77	1.52	4.49	4.23	4.08	3.95	3.75
95th-Percentile Queue Length [ft/ln]	263.30	259.78	171.25	169.30	38.05	112.14	105.65	101.91	98.87	93.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.66	34.83	34.97	24.33	24.37	24.42	30.11	24.88	25.03	34.74	24.47	24.55
Movement LOS	C	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	34.81			24.37			25.63			27.52		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.85											
Intersection LOS	C											
Intersection V/C	0.454											

Emissions

Vehicle Miles Traveled [mph]	12.50	12.22	9.23	9.09	2.20	7.22	6.75	5.92	7.25	6.84
Stops [stops/h]	287.42	282.64	171.25	169.30	38.05	112.14	105.65	101.91	98.87	93.78
Fuel consumption [US gal/h]	4.38	4.31	2.23	2.21	0.68	1.95	1.83	1.64	1.56	1.48
CO [g/h]	306.01	301.18	156.14	154.33	47.26	136.22	128.22	114.70	109.29	103.55
NOx [g/h]	59.54	58.60	30.38	30.03	9.20	26.50	24.95	22.32	21.26	20.15
VOC [g/h]	70.92	69.80	36.19	35.77	10.95	31.57	29.72	26.58	25.33	24.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersectio	2.594	2.401	2.468	2.443
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	600	600
d_b, Bicycle Delay [s]	21.03	21.03	19.60	19.60
I_b,int, Bicycle LOS Score for Intersection	2.086	1.944	1.863	1.889
Bicycle LOS	B	A	A	A

Sequence

Ring 1	2	6	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

