

November 14, 2023

Mr. Nick J. Schubin
Bayside Capital Co.
Bayco Investment Co.
P.O. Box 6105
Boise, ID 83707

RE: Foster City - Parking Lot Traffic Study

Dear Mr. Schubin:

Bayside Capital Co./Bayco Investment Co. (Client) is considering the existing parking lot for various uses including a local trip generator (such as an off-site parking lot for the Zoox headquarters, located at 1149 Chess Drive) or for a regional trip generator, such as fleet management, including bus storage for shuttle services. This memorandum summarizes the results of the local traffic operations related to evaluating traffic operational deficiencies at nearby intersections. The vehicle miles traveled (VMT) assessment is in a separate memorandum.

Background

The Client is considering using the existing surface parking lot located adjacent to 384 Foster City Boulevard (to the east of Vintage Park Drive, to the west of Foster City Boulevard, and to the north of Chess Drive) in Foster City, CA for various potential uses. The surface parking lot has been vacant since December 2020. Previous uses for the surface parking prior to vacancy was a 304-auto vehicle parking lot for Applied Bio Systems in 2000 which continued for approximately 10 years. Gilead Systems then leased the lot in its entirety initially for parking and subsequently for storage of construction materials and contractor offices and employee training. Since December 2020, Gilead Systems no longer needed the overflow parking due to their campus development plan and newly developed lab structures. Therefore, the existing parking surface lot is now vacant. The Client is now considering the following potential uses:

1. Alternative #1: Local Trip Generator –
 - a. Off-site parking for Zoox, located at 1149 Chess Drive
 - i. Would lease the entire 305 parking stalls for their existing employees
 - b. Off-site parking for Gilead
 - c. Off-site parking for Bayside Towers at 4100 E 3rd Avenue (a shuttle would be implemented)
2. Alternative #2: Regional Fleet Management –
 - a. Bus storage for shuttle service
 - i. Buses would park here when not in use, but would provide shuttle service between Employee Residences or Pick-up/Drop-off locations and Workplace Sites
 - ii. Bus drivers would park here when operating the buses

Figure 1 shows a map of the project site (surface parking lot) and the Zoox headquarters.

Figure 1 – Project Study Area Map



Source: Google Earth

Traffic Operational Analysis

To determine the effect of the project alternatives on the local roadway network, a traffic operational analysis (TOA) was completed for each project alternative.

Study Intersections

The TOA includes an evaluation of five (5) study intersections:

1. Lakeside Drive / Vintage Park Drive / West Project Driveway
2. Chess Drive / WB SR-92 Ramps
3. Chess Drive / Foster City Boulevard
4. Metro Center Boulevard / EB SR-92 Ramps
5. Metro Center Boulevard / Foster City Boulevard

Analysis Scenarios

The TOA analyzed the following scenarios for the weekday AM and PM peak hours:

1. Existing Conditions
2. Existing Plus Project Alternative #1 Conditions
3. Existing Plus Project Alternative #2 Conditions

Intersection Level of Service (LOS) Methodology

The intersection LOS was reviewed at each of these five (5) study intersections using a similar methodology as other traffic studies in the area. The intersection LOS analysis uses Vistro software which assumes Highway Capacity Manual (HCM) methodology for determining LOS at signalized and unsignalized intersections.

To develop the baseline existing conditions, Kimley-Horn reviewed the Vistro outputs from traffic studies from nearby projects that evaluated similar intersections and recreated a Vistro model that would mimic the LOS results for those intersections. These other nearby projects include:

- *Foster City Housing Element EIR*¹
- *388 Vintage Park Drive Transportation Impact Assessment*²
- *Gilead Campus Master Plan EIR*³

¹ Fehr and Peers, *Foster City Housing Element EIR Traffic Analysis Supplemental Memorandum*, February 2023.

² Fehr and Peers, *388 Vintage Park Drive Transportation Impact Assessment*, December 2021.

It should be noted that the intersection operations at the intersections along Chess Drive and Metro Center Boulevard were analyzed using a VISSIM microsimulation model because of its ability to capture the effect of vehicle queuing between intersection and the effect of queue spillback from upstream intersections. However, developing a VISSIM model to mimic the LOS results is very time consuming and is not needed for this traffic task. Therefore, Kimley-Horn modeled these intersections in Vistro.

Existing Conditions

The intersection level of service for the Existing conditions is shown in **Table 1**. Intersection LOS outputs from Vistro are included in **Attachment A**. As shown, each study intersection operates at an acceptable LOS D or better in the Existing conditions without the project alternative vehicle trips added. It should be noted that the project site was vacant at the time the analysis was completed. Therefore, the existing site does not generate any existing vehicle trips and no existing trip credits will be taken.

Table 1 – Existing Intersection LOS Summary

#	Intersection	LOS Criteria	Control	Existing			
				AM Peak		PM Peak	
				LOS	Delay (sec)	LOS	Delay (sec)
1	Vintage Park Drive/Lakeside Drive/Parking Lot Access	D	Signal	A	8.5	B	12.0
2	Chess Drive/WB SR-92 Ramps	D	Signal	C	29.2	C	28.1
3	Chess Drive/Foster City Boulevard	D	Signal	D	43.3	D	45.1
4	Metro Center Boulevard/EB SR-92 Ramps	D	Signal	D	37.9	D	40.6
5	Metro Center Boulevard/Foster City Boulevard	D	Signal	D	42.1	D	39.1

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

Project Alternative #1 – Local Trip Generator: Zoox Parking

For Project Alternative #1, Local Trip Generator, the intersection LOS analysis was only based on the Zoox project. For this analysis, it was assumed that vehicle trips would shift from the Zoox Headquarters, located at 1149 Chess Drive, to the surface parking lot near 384 Foster City Boulevard.

Project Trip Generation, Distribution, and Assignment

Since a parking lot is not a land use that generates vehicle trips, an alternative method was used to estimate trips. The trips generated would be based on the number of parking spaces and the Zoox

³ LSA Associates, Inc., *Gilead Sciences Integrated Corporate Campus Master Plan Subsequent Environmental Impact Report*, December 2012.

land use. The 305 parking spaces were used to determine the equivalent size of research and development building (land use code 760) using the Institute of Transportation Engineers (ITE) Parking Generation, 5th Edition⁴. After acquiring the area of the building, the number of vehicle trips were calculated using the ITE *Trip Generation Manual, 11th Edition*⁵ for Land Use Code 760: Research and Development Existing. **Table 2** presents the trip generation for Project Alternative #1. As shown in **Table 2**, the project would generate 1,394 daily trips, 130 trips in the AM peak hour, and 124 trips in the PM peak hour.

Table 2 – Project Alternative #1 Trip Generation

Land Use	ITE Code	Unit	Rate/Eqn?	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
					Total	In	Out	Total	In	Out
ITE Rates / Equations										
Research and Development Center	760	118.21 KSF	Daily: $T = 9.70(X) + 247.71$ AM: $T = 0.89(X) + 24.54$ PM: $T = 0.84(X) + 25.08$	1,394	130	120	10	124	20	104

For Alternative #1, the vehicle trips were removed from the existing Zoox Headquarters and added to the project surface parking lot based on the trip distribution from the *Gilead Campus Master Plan EIR*, which is also consistent with the trip distribution in the VMT assessment. The trip distribution is summarized below:

1. Lakeside Drive (west) = 5%
2. SR-92 (west) and US-101 = 73%
3. SR-92 (east) = 12%
4. Foster City Boulevard (south) = 10%

Level of Service Analysis

The intersection level of service for the Existing plus Project Alternative #1 conditions is shown in **Table 3**. Intersection LOS outputs from Vistro are included in **Attachment B**.

As shown, each intersection operates at an acceptable LOS D or better. Under Alternative #1, the delay for Intersection #1 slightly increased by 0.1 seconds during both the AM and PM peak hours because some of the vehicle trips originally going to/from the existing Zoox Headquarters were added to this intersection. However, since some trips were redistributed from Intersections #2 and #3 to other intersections, the LOS for Intersections #2 and #3 slightly decreased by 0.1-0.3 seconds.

⁴ Institute of Transportation Engineers (ITE), *Parking Generation, 5th Edition*, February 2019.

⁵ Institute of Transportation Engineers (ITE), *Trip Generation Manual, 11th Edition*, September 2021.

Table 3 – Existing plus Project Alternative #1 Intersection LOS Summary

#	Intersection	LOS Criteria ¹	Control	Existing				Shuttle					
				AM Peak		PM Peak		AM Peak			PM Peak		
				LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	Delay Var (sec)	LOS	Delay (sec)	Delay Var (sec)
1	Vintage Park Drive/Lakeside Drive/Parking Lot Access	D	Signal	A	8.5	B	12.0	A	9.8	1.3	B	12.1	0.1
2	Chess Drive/WB SR-92 Ramps	D	Signal	C	29.2	C	28.1	C	29.2	0.0	C	28.0	-0.1
3	Chess Drive/Foster City Boulevard	D	Signal	D	43.3	D	45.1	D	43.2	-0.1	D	44.7	-0.4
4	Metro Center Boulevard/EB SR-92 Ramps	D	Signal	D	37.9	D	40.6	D	38.5	0.6	D	40.5	-0.1
5	Metro Center Boulevard/Foster City Boulevard	D	Signal	D	42.1	D	39.1	D	42.2	0.1	D	39.2	0.1

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

¹ LOS criteria is from the City's General Plan, Land Use and Circulation Element Policy LUC-F-1.

The minimal changes in intersection LOS for the study area mostly due to the reassignment of vehicle trips from the Zoox headquarters to the project surface parking lot. Since no new trips are being added to the local area, the effect on the local roadways is minimal. As shown in the LOS analysis, all intersections continue to operate acceptably, and therefore it can be concluded that Project Alternative #1 would not result in any operational deficiencies.

Project Alternative #2 – Regional Trip Generator: Fleet Shuttle Bus Storage

For Project Alternative #2, Regional Trip Generator, the intersection LOS analysis was only based on an example fleet service scenario. It was assumed that shuttle buses would park overnight and when not in use in the project surface parking lot. Then during the commute periods, the shuttle buses would pick-up and drop-off employees at the workplace campuses. In addition, this would also include parking for shuttle bus drivers to park in the project surface parking lot while they are using the shuttle buses. This would not be an employee pick-up/drop-off site.

The project surface parking lot is assumed to have 42 bus parking spaces and 42 passenger car parking spaces.

Project Trip Generation, Distribution, and Assignment

Since a parking lot is not a land use that generates vehicle trips, an alternative method was used to estimate trips. For Alternative #2, it was assumed that half of the buses would depart the project surface parking lot during the AM peak hour. This is equivalent to 21 outbound bus trips. In addition, 21 inbound passenger car trips were assumed in the AM peak hour to account for the bus drivers arriving on-site prior to departing in the shuttle buses.

In the PM peak hour, it was assumed that half of the buses would arrive at the project surface parking lot as they arrive back from their shuttle service. This is equivalent to 21 inbound bus trips. In addition, 21 outbound passenger car trips were assumed in the PM peak hour to account for the bus drivers leaving the project site after finishing their shuttle bus routes.

For Project Alternative #2, the trip distribution for the passenger cars is assumed to be the same as for the Zoox employees in Project Alternative #1. This is summarized below:

1. Lakeside Drive (west) = 5%
2. SR-92 (west) and US-101 = 73%
3. SR-92 (east) = 12%
4. Foster City Boulevard (south) = 10%

For the trip distribution of buses, it was assumed that the workplace campuses and their employees would all be coming from NB US-101 or SB US-101 to the west. Therefore, the trip distribution for the buses is assumed to be 100% on SR-92 (west) and US-101.

Level of Service Analysis

The intersection level of service for the Existing Plus Project Alternative #2 is shown in **Table 4**. Intersection LOS outputs from Vistro are included in **Attachment C**.

Table 4 – Existing plus Project Alternative #2 Intersection LOS Summary

#	Intersection	LOS Criteria	Control	Existing					Shuttle					
				AM Peak		PM Peak			AM Peak			PM Peak		
				LOS	Delay (sec)	LOS	Delay (sec)	V/C ¹	LOS	Delay (sec)	Delay Var (sec)	LOS	Delay (sec)	Delay Var (sec)
1	Vintage Park Drive/Lakeside Drive/Parking Lot Access	D	Signal	A	8.5	B	12.0	0.0	A	9.8	1.3	B	12.1	0.1
2	Chess Drive/WB SR-92 Ramps	D	Signal	C	29.2	C	28.1	0.0	C	29.2	0.0	C	28.0	-0.1
3	Chess Drive/Foster City Boulevard	D	Signal	D	43.3	D	45.1	0.0	D	43.2	-0.1	D	44.7	-0.4
4	Metro Center Boulevard/EB SR-92 Ramps	D	Signal	D	37.9	D	40.6	0.365	D	38.5	0.6	D	40.5	-0.1
5	Metro Center Boulevard/Foster City Boulevard	D	Signal	D	42.1	D	39.1	0.0	D	42.2	0.1	D	39.2	0.1

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

As shown, each intersection operates at an acceptable LOS D or better. The largest increase in delay for all intersections is 1.3 seconds at Intersection #1 in the AM peak hour. The minimal changes in intersection LOS for the study area mostly due to the low number of vehicle trips being added to the project surface parking lot. As shown in the LOS analysis, all intersections continue to operate acceptably, and therefore it can be concluded that Project Alternative #2 would not result in any operational deficiencies.

Site Access

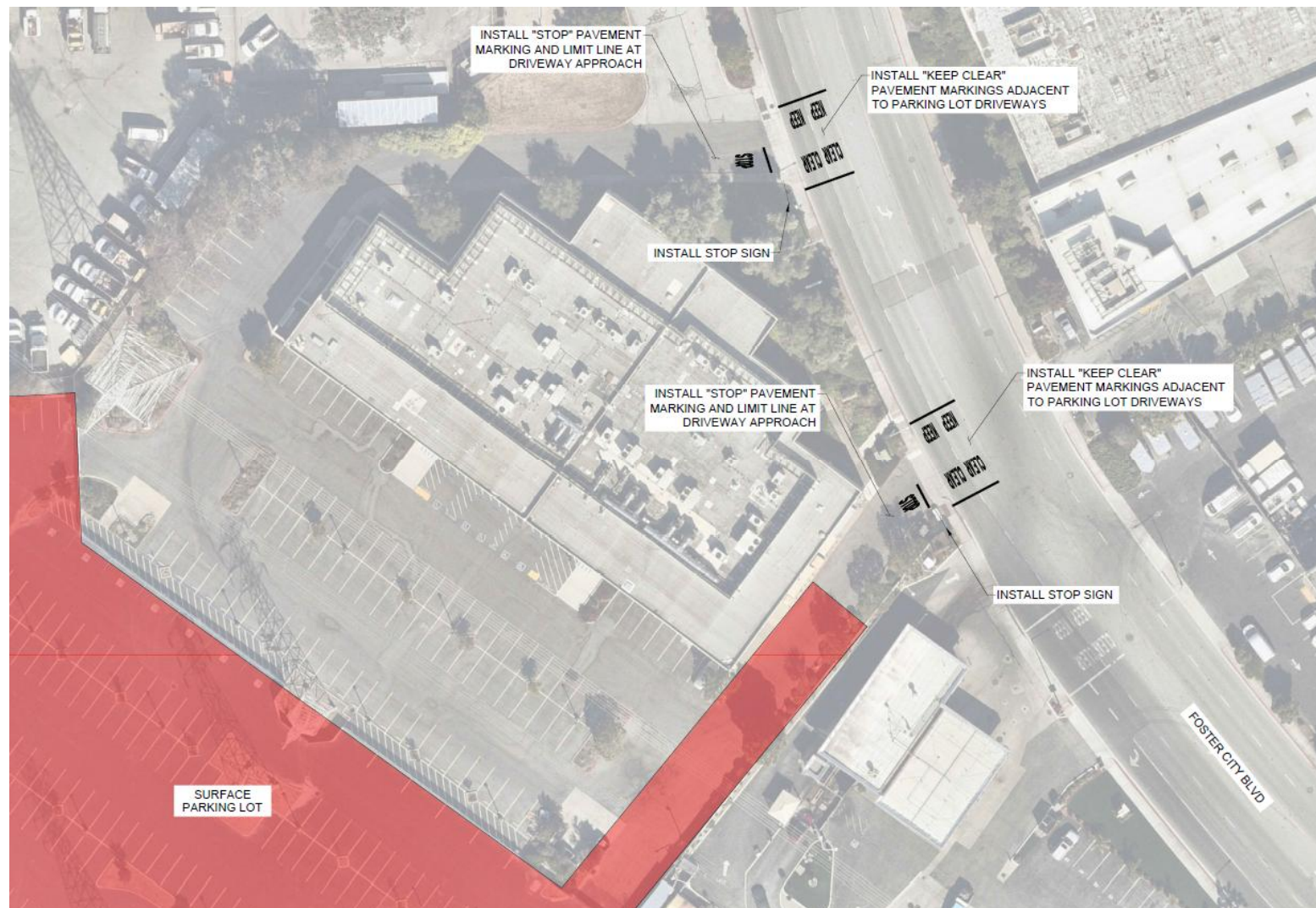
Access to the site is provided by three driveways with one signalized driveway on Vintage Park Drive and two unsignalized driveways on Foster City Boulevard. The unsignalized driveways on Foster City Boulevard is full access with no turn restrictions. Based on the Existing and Existing Plus Project Alternatives #1 and #2 analysis, the 95th percentile southbound through queues in each scenario at Intersection #3 (Foster City Boulevard and Chess Drive) are approximately 480 feet in the PM peak hour and extends to the north parking lot driveway on Foster City Boulevard. A summary of the southbound through queues for each scenario is shown in **Table 5**. To allow vehicles adequate access to the parking lot during periods when the southbound queues extend to the driveways, it is recommended that a “Keep Clear” striping and pavement legend be placed along Foster City Boulevard adjacent to both unsignalized parking lot driveways.

Table 5 – 95th Percentile Queue Summary (Southbound Through at Intersection #3)

#	Intersection	Scenario	95th Percentile Southbound Through Queue (ft)	
			AM Peak	PM Peak
3	Chess Drive/Foster City Boulevard	Existing Conditions	146	478
		Existing Plus Project Alternative #1	147	480
		Existing Plus Project Alternative #2	146	481

It is also recommended that stop signs be placed at both unsignalized driveway approaches along Foster City Boulevard in addition to striping a “Stop” pavement legend and limit lines at the driveways. A figure showing the proposed recommendations is shown in **Figure 2**.

Figure 2 – Recommended Improvements at Parking Lot Driveways



Conclusions

The Client is considering the existing parking lot near 384 Foster City Boulevard for various uses including a local trip generator (such as an off-site parking lot for the Zoox headquarters, located at 1149 Chess Drive) or for a regional trip generator, such as fleet management, including bus storage for shuttle services. To determine the potential effects of the project alternatives on the adjacent street network operations, an intersection LOS analysis was completed.

For Project Alternative #1, each intersection operates at an acceptable LOS D or better. Under Alternative #1, the delay for Intersection #1 slightly increased by 0.1 seconds during both the AM and PM peak hours because some of the vehicle trips originally going to/from the existing Zoox Headquarters were added to this intersection. However, since some trips were redistributed from Intersections #2 and #3 to other intersections, the LOS for Intersections #2 and #3 slightly decreased by 0.1-0.3 seconds. The minimal changes in intersection LOS for the study area mostly due to the reassignment of vehicle trips from the Zoox headquarters to the project surface parking lot. Since no new trips are being added to the local area, the effect on the local roadways is minimal. **As shown in the LOS analysis, all intersections continue to operate acceptably, and therefore it can be concluded that Project Alternative #1 would not result in any operational deficiencies.**

For Project Alternative #2, each intersection operates at an acceptable LOS D or better in the Existing plus Project Alternative #2 conditions. The largest increase in delay for all intersections is 1.3 seconds at Intersection #1 in the AM peak hour. The minimal changes in intersection LOS for the study area mostly due to the low number of vehicle trips being added to the project surface parking lot. **As shown in the LOS analysis, all intersections continue to operate acceptably, and therefore it can be concluded that Project Alternative #2 would not result in any operational deficiencies.**

Under Existing Plus Alternative #1 and Existing Plus Alternative #2, the 95th percentile southbound queues at Intersection #3 (Foster City Boulevard and Chess Drive) extend to the parking lot driveways during the PM peak hour. To allow vehicles adequate access to the parking lot during periods when the southbound queues extend to the driveways, it is recommended that a "Keep Clear" striping and pavement legend be placed along Foster City Boulevard adjacent to both unsignalized parking lot driveways. It is also recommended that stop signs be placed at both unsignalized driveway approaches along Foster City Boulevard in addition to striping a "Stop" pavement legend and limit lines at the driveways.

Sincerely,



Ben Huie, P.E.
Project Manager
P.E. Certificate No. C76682

Attachments:

Attachment A – Existing Intersection LOS Output

Attachment B – Existing plus Project Alternative #1 Intersection LOS Output

Attachment C – Existing plus Project Alternative #2 Intersection LOS Output

Attachment A

Generated with **PTV VISTRO**

Foster City - Parking Lot

Version 2023 (SP 0-0)

Existing AM





Kimley-Horn

Intersection Level Of Service Report

Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	295	99	8	2	0	48	8	2	0	0	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	2	0	0	10	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	99	6	2	0	38	8	2	0	0	0	0
Peak Hour 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
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]	74	25	2	1	0	10	2	1	0	0	0	0
Total Analysis Volume [veh/h]	295	99	6	2	0	38	8	2	0	0	0	0
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	29	29	29	29	29	29	29	29	29
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	9	12	12	0	3	3	1	1	0
g / C, Green / Cycle	0.32	0.41	0.41	0.00	0.09	0.09	0.03	0.03	0.00
(v / s)_i Volume / Saturation Flow Rate	0.17	0.03	0.03	0.00	0.00	0.02	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1781	1870	1833	1781	1870	1589	1781	1870	1870
c, Capacity [veh/h]	568	766	751	6	176	150	50	53	1
d1, Uniform Delay [s]	7.97	5.14	5.14	14.25	0.00	12.04	13.59	13.55	0.00
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.74	0.04	0.04	29.50	0.00	0.88	1.47	0.29	0.00
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.07	0.07	0.33	0.00	0.25	0.16	0.04	0.00
d, Delay for Lane Group [s/veh]	8.71	5.18	5.18	43.75	0.00	12.92	15.06	13.84	0.00
Lane Group LOS	A	A	A	D	A	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.01	0.11	0.10	0.06	0.00	0.20	0.06	0.01	0.00
50th-Percentile Queue Length [ft/ln]	25.18	2.65	2.62	1.48	0.00	5.10	1.48	0.35	0.00
95th-Percentile Queue Length [veh/ln]	1.81	0.19	0.19	0.11	0.00	0.37	0.11	0.03	0.00
95th-Percentile Queue Length [ft/ln]	45.32	4.78	4.72	2.66	0.00	9.19	2.66	0.63	0.00

Movement, Approach, & Intersection Results

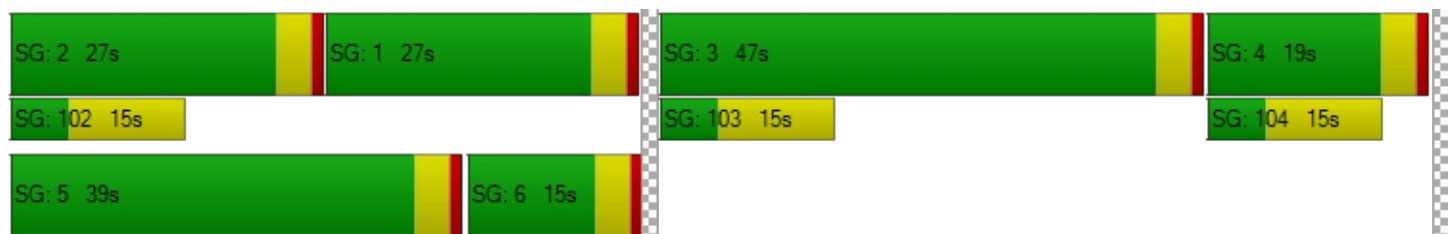
d_M, Delay for Movement [s/veh]	8.71	5.18	5.18	43.75	6.46	12.92	15.06	13.84	13.84	0.00	0.00	0.00
Movement LOS	A	A	A	D	A	B	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	7.78			14.46			14.82			0.00		
Approach LOS	A			B			B			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	A											
Intersection V/C	0.335											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	6.69			6.69			6.69			5.39		
I_p,int, Pedestrian LOS Score for Intersection	2.315			2.278			1.988			1.643		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	771			1612			3013			1051		
d_b, Bicycle Delay [s]	5.39			0.54			3.66			3.21		
I_b,int, Bicycle LOS Score for Intersection	1.891			1.601			1.576			1.560		
Bicycle LOS	A			A			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	389	35	731	2	16	5	1	130	122	708	192	11
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	43	0	0	2
Total Hourly Volume [veh/h]	389	35	731	2	16	4	1	130	79	708	192	9
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	105	9	197	1	4	1	0	35	21	190	52	2
Total Analysis Volume [veh/h]	418	38	786	2	17	4	1	140	85	761	206	10
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	8	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	10	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	55	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	3.5	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	2.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	43	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	12	0	17	0	0	0	10	0	12	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			Yes			Yes	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	3.5	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	17	17	2	10	31	63	63	63
g / C, Green / Cycle	0.15	0.15	0.02	0.09	0.29	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.01	0.08	0.03	0.21	0.21	0.13
s, saturation flow rate [veh/h]	1791	1805	1817	1880	2829	1791	1791	1697
c, Capacity [veh/h]	271	273	35	176	812	1026	1026	972
d1, Uniform Delay [s]	45.45	45.45	53.66	48.91	28.89	12.76	12.76	11.52
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.78	6.73	18.29	8.05	0.06	1.03	1.03	0.53
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.84	0.65	0.80	0.10	0.37	0.37	0.22
d, Delay for Lane Group [s/veh]	52.23	52.18	71.94	56.97	28.94	13.79	13.79	12.05
Lane Group LOS	D	D	E	E	C	B	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.52	6.56	0.81	4.18	0.84	5.19	5.19	2.65
50th-Percentile Queue Length [ft/ln]	162.88	164.07	20.29	104.55	20.92	129.75	129.75	66.27
95th-Percentile Queue Length [veh/ln]	10.70	10.76	1.46	7.53	1.51	8.93	8.93	4.77
95th-Percentile Queue Length [ft/ln]	267.53	269.11	36.52	188.19	37.66	223.16	223.16	119.29

Movement, Approach, & Intersection Results

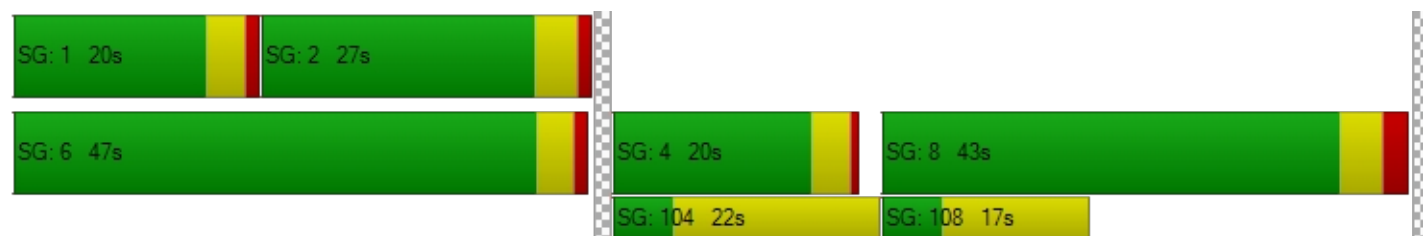
d_M, Delay for Movement [s/veh]	52.21	52.18	0.00	71.94	71.94	71.94	56.97	56.97	28.94	13.79	12.05	12.05
Movement LOS	D	D		E	E	E	E	E	C	B	B	B
d_A, Approach Delay [s/veh]	52.21			71.94			46.43			13.41		
Approach LOS	D			E			D			B		
d_I, Intersection Delay [s/veh]	29.16											
Intersection LOS	C											
Intersection V/C	0.479											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	22.0	9.0	0.0
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]	0.00	35.25	46.42	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	1.753	2.547	0.000
Crosswalk LOS	F	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	409	296	287	681
d_b, Bicycle Delay [s]	34.85	39.98	40.39	23.94
I_b,int, Bicycle LOS Score for Intersection	2.312	1.599	2.003	2.367
Bicycle LOS	B	A	B	B

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	113.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	819	893	194	3	299	67	322	61	480	19	25	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	39	0	0	23	0	0	0	0	0	1
Total Hourly Volume [veh/h]	819	893	155	3	299	44	322	61	480	19	25	3
Peak Hour 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
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]	205	223	39	1	75	11	81	15	120	5	6	1
Total Analysis Volume [veh/h]	819	893	155	3	299	44	322	61	480	19	25	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	31	38	0	8	15	42	0	42	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	27	65	65	0	38	62	20	20	20	19	19
g / C, Green / Cycle	0.22	0.54	0.54	0.00	0.31	0.52	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.24	0.28	0.29	0.00	0.08	0.03	0.11	0.11	0.30	0.01	0.02
s, saturation flow rate [veh/h]	3459	1870	1777	1781	3560	1589	1781	1808	1589	1781	1835
c, Capacity [veh/h]	766	1012	961	7	1116	821	290	294	258	284	293
d1, Uniform Delay [s]	46.80	17.62	17.93	59.74	30.93	14.43	47.20	47.15	50.33	42.92	43.12
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	52.78	1.91	2.20	38.56	0.13	0.03	11.20	10.78	400.15	0.45	0.65
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.07	0.52	0.54	0.44	0.27	0.05	0.66	0.65	1.86	0.07	0.10
d, Delay for Lane Group [s/veh]	99.58	19.54	20.13	98.30	31.06	14.46	58.40	57.94	450.48	43.37	43.77
Lane Group LOS	F	B	C	F	C	B	E	E	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	16.97	9.63	9.76	0.16	3.25	0.59	6.26	6.27	36.47	0.52	0.77
50th-Percentile Queue Length [ft/ln]	424.28	240.72	244.09	4.09	81.22	14.86	156.44	156.64	911.65	13.08	19.37
95th-Percentile Queue Length [veh/ln]	24.63	14.72	14.89	0.29	5.85	1.07	10.36	10.37	57.46	0.94	1.39
95th-Percentile Queue Length [ft/ln]	615.84	367.95	372.20	7.37	146.19	26.75	259.01	259.27	1436.53	23.55	34.86

Movement, Approach, & Intersection Results

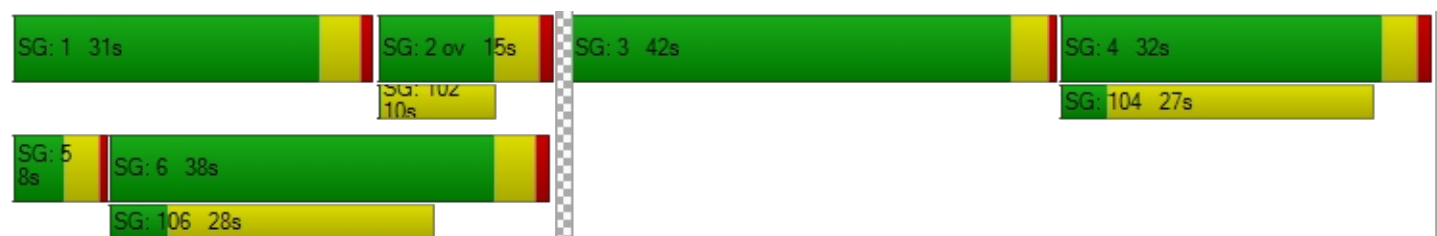
d_M, Delay for Movement [s/veh]	99.58	19.78	20.13	98.30	31.06	14.46	58.21	57.94	450.48	43.37	43.77	43.77
Movement LOS	F	B	C	F	C	B	E	E	F	D	D	D
d_A, Approach Delay [s/veh]	54.81			29.53			276.37			43.61		
Approach LOS	D			C			F			D		
d_I, Intersection Delay [s/veh]	113.07											
Intersection LOS	F											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			8.0			4.0			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]	0.00			52.32			56.12			51.39		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.803			2.665			2.366		
Crosswalk LOS	F			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	556			168			638			465		
d_b, Bicycle Delay [s]	31.30			50.38			27.86			35.39		
I_b,int, Bicycle LOS Score for Intersection	3.132			1.864			2.984			1.639		
Bicycle LOS	C			A			C			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Metro Center Boulevard/EB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	2	21	942	48	441	61	123	4	37	177	196
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	154	0	0	1	0	0	69
Total Hourly Volume [veh/h]	2	2	14	942	48	287	61	123	3	37	177	127
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	1	4	243	12	74	16	32	1	10	46	33
Total Analysis Volume [veh/h]	2	2	14	971	49	296	63	127	3	38	182	131
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			Yes		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	5.00	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	3.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	2	2	43	43	43	4	55	55	3	54	54	54
g / C, Green / Cycle	0.02	0.02	0.36	0.36	0.36	0.03	0.46	0.46	0.03	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.00	0.01	0.29	0.28	0.11	0.02	0.03	0.03	0.02	0.06	0.06	0.06
s, saturation flow rate [veh/h]	1826	1591	1782	1791	2816	3461	1871	1856	1782	1871	1775	1591
c, Capacity [veh/h]	28	24	635	638	1004	111	855	848	49	846	803	719
d1, Uniform Delay [s]	58.33	58.72	34.82	34.76	27.78	57.28	18.36	18.36	57.99	19.12	19.14	19.20
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	2.34	19.94	10.33	10.09	0.75	4.55	0.17	0.18	22.20	0.31	0.34	0.40
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.58	0.80	0.80	0.29	0.57	0.08	0.08	0.77	0.13	0.13	0.14
d, Delay for Lane Group [s/veh]	60.67	78.65	45.15	44.85	28.52	61.83	18.53	18.54	80.19	19.43	19.48	19.59
Lane Group LOS	E	E	D	D	C	E	B	B	F	B	B	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	0.57	14.91	14.85	3.13	1.01	1.05	1.05	1.45	1.85	1.80	1.70
50th-Percentile Queue Length [ft/ln]	3.52	14.17	372.71	371.26	78.34	25.14	26.37	26.30	36.25	46.36	45.08	42.45
95th-Percentile Queue Length [veh/ln]	0.25	1.02	21.24	21.17	5.64	1.81	1.90	1.89	2.61	3.34	3.25	3.06
95th-Percentile Queue Length [ft/ln]	6.34	25.50	531.01	529.26	141.01	45.25	47.46	47.34	65.24	83.44	81.14	76.41

Movement, Approach, & Intersection Results

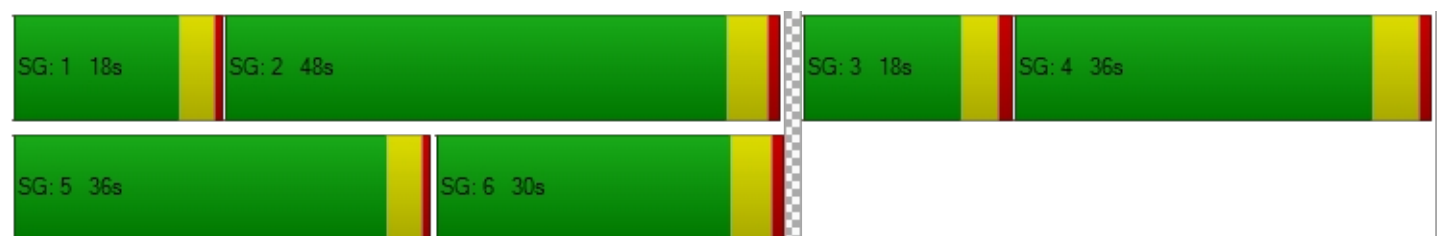
d_M, Delay for Movement [s/veh]	60.67	60.67	78.65	45.01	44.85	28.52	61.83	18.53	18.54	80.19	19.45	19.57
Movement LOS	E	E	E	D	D	C	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	74.66			41.29			32.67			26.07		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	37.88											
Intersection LOS	D											
Intersection V/C	0.417											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.609			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.601			3.985			1.720			1.906		
Bicycle LOS	A			D			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	42.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	131	955	66	137	467	194	457	183	446	52	85	494
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	97	0	0	223	0	0	173
Total Hourly Volume [veh/h]	131	955	53	137	467	97	457	183	223	52	85	321
Peak Hour 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
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]	33	239	13	34	117	24	114	46	56	13	21	80
Total Analysis Volume [veh/h]	131	955	53	137	467	97	457	183	223	52	85	321
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	11	40	40	11	40	40	26	26	42	27	27	27
g / C, Green / Cycle	0.09	0.33	0.33	0.09	0.33	0.33	0.22	0.22	0.35	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.19	0.08	0.09	0.03	0.13	0.05	0.08	0.03	0.05	0.20
s, saturation flow rate [veh/h]	1781	3560	1820	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	168	1183	605	166	1688	932	757	779	980	394	414	352
d1, Uniform Delay [s]	53.12	32.92	32.93	53.41	29.53	27.78	42.18	38.59	27.68	37.48	38.12	45.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	7.62	1.95	3.78	9.67	0.41	0.22	3.55	0.71	0.12	0.69	1.12	30.26
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.56	0.56	0.82	0.28	0.10	0.60	0.23	0.23	0.13	0.21	0.91
d, Delay for Lane Group [s/veh]	60.74	34.87	36.71	63.09	29.94	28.01	45.73	39.30	27.80	38.18	39.24	75.86
Lane Group LOS	E	C	D	E	C	C	D	D	C	D	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.19	8.17	8.67	4.47	3.35	0.99	6.42	2.29	2.27	1.32	2.20	12.32
50th-Percentile Queue Length [ft/ln]	104.65	204.16	216.77	111.79	83.65	24.78	160.38	57.25	56.86	33.09	55.07	308.11
95th-Percentile Queue Length [veh/ln]	7.54	12.85	13.50	7.94	6.02	1.78	10.57	4.12	4.09	2.38	3.97	18.08
95th-Percentile Queue Length [ft/ln]	188.38	321.33	337.50	198.49	150.57	44.60	264.22	103.05	102.35	59.56	99.13	452.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.74	35.43	36.71	63.09	29.94	28.01	45.73	39.30	27.80	38.18	39.24	75.86
Movement LOS	E	D	D	E	C	C	D	D	C	D	D	E
d_A, Approach Delay [s/veh]	38.40			36.15			39.73			64.78		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	42.09											
Intersection LOS	D											
Intersection V/C	0.599											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.972	0.000	0.000	2.726
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.193	1.999	2.456	2.601
Bicycle LOS	B	A	B	B

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access**

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	69	49	0	0	88	3	39	0	236	0	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	1	0	0	83	0	0	0
Total Hourly Volume [veh/h]	69	49	0	0	88	2	39	0	153	0	0	0
Peak Hour 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
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]	17	12	0	0	22	1	10	0	38	0	0	0
Total Analysis Volume [veh/h]	69	49	0	0	88	2	39	0	153	0	0	0
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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	35	35	35	35	35	35	35	35	35
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	5	11	11	0	6	6	9	9	0
g / C, Green / Cycle	0.14	0.31	0.31	0.00	0.17	0.17	0.24	0.24	0.00
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.01	0.00	0.02	0.02	0.02	0.10	0.00
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1855	1781	1589	1870
c, Capacity [veh/h]	251	577	577	0	314	311	429	383	0
d1, Uniform Delay [s]	13.64	8.61	8.61	0.00	12.61	12.61	10.47	11.33	0.00
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.59	0.03	0.03	0.00	0.21	0.21	0.09	0.68	0.00
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.04	0.04	0.00	0.14	0.14	0.09	0.40	0.00
d, Delay for Lane Group [s/veh]	14.22	8.64	8.64	0.00	12.82	12.82	10.56	12.01	0.00
Lane Group LOS	B	A	A	A	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.44	0.10	0.10	0.00	0.26	0.26	0.19	0.85	0.00
50th-Percentile Queue Length [ft/ln]	11.03	2.56	2.56	0.00	6.58	6.58	4.84	21.22	0.00
95th-Percentile Queue Length [veh/ln]	0.79	0.18	0.18	0.00	0.47	0.47	0.35	1.53	0.00
95th-Percentile Queue Length [ft/ln]	19.85	4.61	4.61	0.00	11.84	11.84	8.72	38.19	0.00

Movement, Approach, & Intersection Results

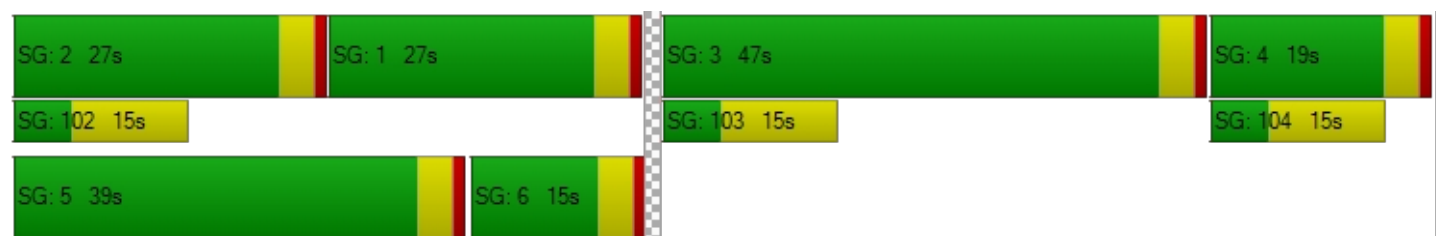
d_M, Delay for Movement [s/veh]	14.22	8.64	8.64	0.00	12.82	12.82	10.56	12.01	12.01	0.00	0.00	0.00
Movement LOS	B	A	A	A	B	B	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	11.90			12.82			11.72			0.00		
Approach LOS	B			B			B			A		
d_I, Intersection Delay [s/veh]	12.02											
Intersection LOS	B											
Intersection V/C	0.241											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	9.86			9.86			9.86			8.42		
I_p,int, Pedestrian LOS Score for Intersection	2.335			2.285			2.120			1.658		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	621			1298			2427			847		
d_b, Bicycle Delay [s]	8.42			2.18			0.81			5.89		
I_b,int, Bicycle LOS Score for Intersection	1.657			1.635			2.013			1.560		
Bicycle LOS	A			A			B			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	77	2	197	10	20	4	0	262	780	912	175	1
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	273	0	0	0
Total Hourly Volume [veh/h]	77	2	197	10	20	3	0	262	507	912	175	1
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	21	1	53	3	5	1	0	70	136	245	47	0
Total Analysis Volume [veh/h]	83	2	212	11	22	3	0	282	545	981	188	1
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	0	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	0	0	17	0	0	0	10	0	12	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	5	5	3	19	28	66	66	66
g / C, Green / Cycle	0.04	0.04	0.03	0.17	0.25	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02	0.15	0.19	0.27	0.27	0.11
s, saturation flow rate [veh/h]	1791	1795	1826	1880	2829	1791	1791	1710
c, Capacity [veh/h]	77	77	49	320	722	1070	1070	1022
d1, Uniform Delay [s]	51.69	51.69	53.25	44.62	37.87	12.29	12.29	10.03
k, delay calibration	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.03	6.00	19.44	8.46	1.64	1.41	1.41	0.40
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.55	0.74	0.88	0.76	0.46	0.46	0.18
d, Delay for Lane Group [s/veh]	57.73	57.69	72.69	53.08	39.51	13.71	13.71	10.43
Lane Group LOS	E	E	E	D	D	B	B	B
Critical Lane Group	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.28	1.28	1.25	8.22	6.89	6.76	6.76	2.11
50th-Percentile Queue Length [ft/ln]	31.95	31.96	31.27	205.49	172.26	168.93	168.93	52.67
95th-Percentile Queue Length [veh/ln]	2.30	2.30	2.25	12.92	11.20	11.02	11.02	3.79
95th-Percentile Queue Length [ft/ln]	57.50	57.52	56.29	323.04	279.88	275.51	275.51	94.80

Movement, Approach, & Intersection Results

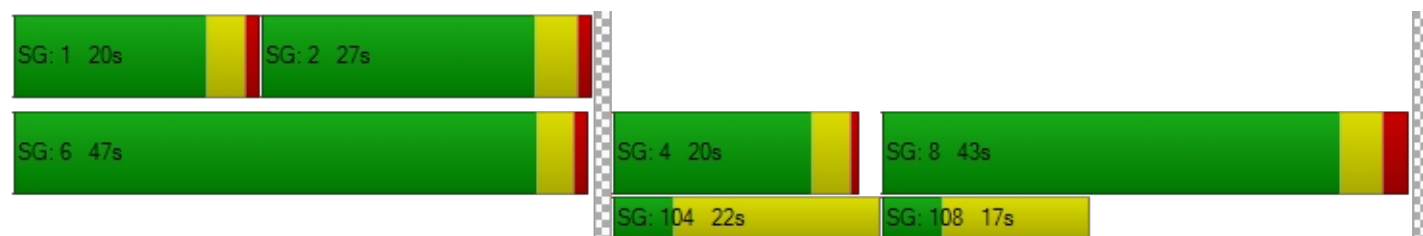
d_M, Delay for Movement [s/veh]	57.71	57.69	0.00	72.69	72.69	72.69	53.08	53.08	39.51	13.71	10.43	10.43
Movement LOS	E	E		E	E	E	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	57.71			72.69			44.14			13.18		
Approach LOS	E			E			D			B		
d_I, Intersection Delay [s/veh]	28.06											
Intersection LOS	C											
Intersection V/C	0.546											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			46.42			46.42			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			1.747			2.968			0.000		
Crosswalk LOS	F			A			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	409			296			287			681		
d_b, Bicycle Delay [s]	34.85			39.98			40.39			23.94		
I_b,int, Bicycle LOS Score for Intersection	1.700			1.621			3.375			2.525		
Bicycle LOS	A			A			C			B		

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	54.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	692	207	19	2	996	235	38	13	418	108	161	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	4	0	0	82	0	0	418	0	0	1
Total Hourly Volume [veh/h]	692	207	15	2	996	153	38	13	0	108	161	3
Peak Hour 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
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]	173	52	4	1	249	38	10	3	0	27	40	1
Total Analysis Volume [veh/h]	692	207	15	2	996	153	38	13	0	108	161	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	27	55	0	14	42	20	0	20	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	23	65	65	0	42	66	20	20	20	19	19
g / C, Green / Cycle	0.19	0.54	0.54	0.00	0.35	0.55	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.20	0.06	0.06	0.00	0.28	0.10	0.01	0.01	0.00	0.06	0.09
s, saturation flow rate [veh/h]	3459	1870	1826	1781	3560	1589	1781	1825	1589	1781	1864
c, Capacity [veh/h]	651	1012	988	5	1230	873	291	298	259	285	298
d1, Uniform Delay [s]	48.79	13.47	13.47	59.83	35.74	13.50	42.70	42.69	0.00	45.15	46.50
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	53.18	0.22	0.23	44.34	1.32	0.09	0.59	0.57	0.00	3.80	7.12
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.06	0.11	0.11	0.40	0.81	0.18	0.09	0.09	0.00	0.38	0.55
d, Delay for Lane Group [s/veh]	101.97	13.70	13.70	104.18	37.06	13.59	43.29	43.26	0.00	48.95	53.63
Lane Group LOS	F	B	B	F	D	B	D	D	A	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.52	1.55	1.51	0.12	13.16	2.04	0.69	0.70	0.00	3.22	5.15
50th-Percentile Queue Length [ft/ln]	362.92	38.66	37.79	3.05	329.07	50.97	17.35	17.40	0.00	80.45	128.81
95th-Percentile Queue Length [veh/ln]	21.43	2.78	2.72	0.22	19.11	3.67	1.25	1.25	0.00	5.79	8.87
95th-Percentile Queue Length [ft/ln]	535.84	69.59	68.02	5.49	477.82	91.75	31.23	31.32	0.00	144.81	221.87

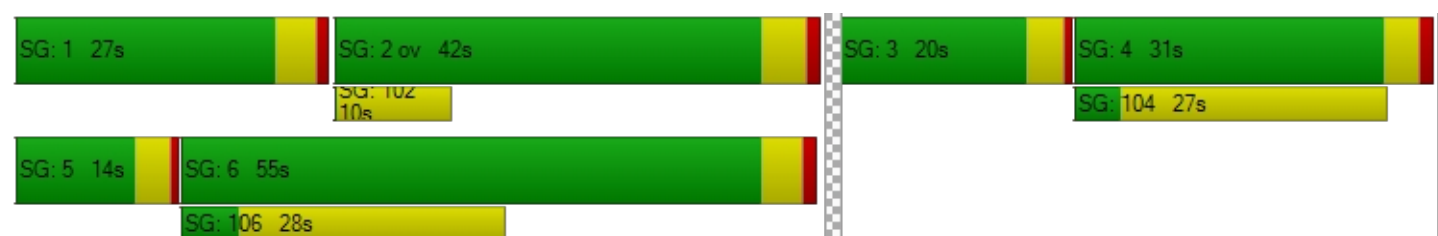
Movement, Approach, & Intersection Results

[illegible]

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	8.0	4.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.32	56.12	51.39
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.866	3.217	2.366
Crosswalk LOS	F	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	839	618	271	448
d_b, Bicycle Delay [s]	20.23	28.68	44.86	36.16
I_b,int, Bicycle LOS Score for Intersection	2.317	2.577	2.333	2.010
Bicycle LOS	B	B	B	B





Sequence

[illegible]

Intersection Level Of Service Report
Intersection 4: Metro Center Boulevard/EB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	40.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	49	21	108	4	44	504	257	6	8	101	972
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	15	0	0	1	0	0	340
Total Hourly Volume [veh/h]	2	49	14	108	4	29	504	257	5	8	101	632
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	13	4	28	1	7	130	66	1	2	26	163
Total Analysis Volume [veh/h]	2	51	14	111	4	30	520	265	5	8	104	652
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			Yes	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	3.60	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	0.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	5	40	40	66	21	57	57	1	37	37	37
g / C, Green / Cycle	0.04	0.04	0.33	0.33	0.55	0.18	0.48	0.48	0.01	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.03	0.03	0.01	0.15	0.07	0.07	0.00	0.06	0.20	0.20
s, saturation flow rate [veh/h]	1868	1591	1782	1788	2816	3461	1871	1859	1782	1871	1591	1591
c, Capacity [veh/h]	76	65	590	592	1552	618	891	885	14	572	486	486
d1, Uniform Delay [s]	56.83	55.71	27.76	27.76	12.22	47.65	17.75	17.75	59.34	30.65	36.41	36.41
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	10.83	1.64	0.33	0.33	0.02	3.19	0.36	0.36	31.13	0.70	7.20	7.20
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.22	0.10	0.10	0.02	0.84	0.15	0.15	0.57	0.18	0.67	0.67
d, Delay for Lane Group [s/veh]	67.66	57.35	28.09	28.09	12.24	50.83	18.11	18.11	90.47	31.35	43.60	43.60
Lane Group LOS	E	E	C	C	B	D	B	B	F	C	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.85	0.45	1.19	1.19	0.18	7.70	2.19	2.17	0.36	2.35	9.29	9.29
50th-Percentile Queue Length [ft/ln]	46.33	11.25	29.79	29.84	4.61	192.52	54.69	54.37	9.12	58.63	232.2	232.2
95th-Percentile Queue Length [veh/ln]	3.34	0.81	2.15	2.15	0.33	12.25	3.94	3.91	0.66	4.22	14.29	14.29
95th-Percentile Queue Length [ft/ln]	83.39	20.26	53.63	53.71	8.29	306.29	98.45	97.86	16.41	105.5	357.2	357.2

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.66	67.66	57.35	28.09	28.09	12.24	50.83	18.11	18.11	90.47	31.35	43.60
Movement LOS	E	E	E	C	C	B	D	B	B	F	C	D
d_A, Approach Delay [s/veh]	65.51			24.81			39.65			42.42		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	40.61											
Intersection LOS	D											
Intersection V/C	0.462											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.630			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.682			1.824			2.212			2.470		
Bicycle LOS	A			A			B			B		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	234	547	64	198	615	729	103	130	153	62	118	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	365	0	0	77	0	0	94
Total Hourly Volume [veh/h]	234	547	51	198	615	364	103	130	76	62	118	174
Peak Hour 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
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]	59	137	13	50	154	91	26	33	19	16	30	44
Total Analysis Volume [veh/h]	234	547	51	198	615	364	103	130	76	62	118	174
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	18	40	40	15	38	38	24	24	46	24	24	24
g / C, Green / Cycle	0.15	0.33	0.33	0.13	0.31	0.31	0.20	0.20	0.38	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.11	0.11	0.12	0.13	0.03	0.04	0.03	0.03	0.06	0.11
s, saturation flow rate [veh/h]	1781	3560	1790	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	264	1183	595	228	1590	878	697	718	1082	363	381	324
d1, Uniform Delay [s]	50.13	30.11	30.14	51.32	32.29	32.61	39.42	39.70	23.34	39.39	40.58	42.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	9.71	0.77	1.54	9.74	0.71	1.44	0.45	0.55	0.03	1.02	2.10	6.25
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.34	0.34	0.87	0.39	0.41	0.15	0.18	0.07	0.17	0.31	0.54
d, Delay for Lane Group [s/veh]	59.83	30.88	31.68	61.05	33.00	34.05	39.87	40.25	23.37	40.41	42.68	48.94
Lane Group LOS	E	C	C	E	C	C	D	D	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.52	4.40	4.59	6.40	4.72	4.31	1.29	1.64	0.68	1.64	3.23	5.23
50th-Percentile Queue Length [ft/ln]	188.09	109.96	114.71	159.97	118.01	107.86	32.30	41.06	17.11	40.90	80.73	130.67
95th-Percentile Queue Length [veh/ln]	12.02	7.84	8.10	10.55	8.28	7.72	2.33	2.96	1.23	2.94	5.81	8.98
95th-Percentile Queue Length [ft/ln]	300.55	195.95	202.54	263.68	207.09	193.03	58.14	73.91	30.81	73.62	145.31	224.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.83	31.10	31.68	61.05	33.00	34.05	39.87	40.25	23.37	40.41	42.68	48.94
Movement LOS	E	C	C	E	C	C	D	D	C	D	D	D
d_A, Approach Delay [s/veh]	39.22			38.04			35.97			45.36		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.14											
Intersection LOS	D											
Intersection V/C	0.407											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.900	0.000	0.000	2.585
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.024	2.408	1.878	2.299
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Attachment B

Generated with **PTV VISTRO**

Foster City - Parking Lot

Version 2023 (SP 0-0)

Project Alternative #1 AM





Kimley-Horn

Intersection Level Of Service Report

Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	295	99	14	2	0	48	8	2	0	1	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	3	0	0	10	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	99	11	2	0	38	8	2	0	1	0	0
Peak Hour 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
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]	74	25	3	1	0	10	2	1	0	0	0	0
Total Analysis Volume [veh/h]	295	99	11	2	0	38	8	2	0	1	0	0
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	29	29	29	29	29	29	29	29	29
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	9	12	12	0	3	3	1	1	0
g / C, Green / Cycle	0.32	0.41	0.41	0.00	0.09	0.09	0.03	0.03	0.00
(v / s)_i Volume / Saturation Flow Rate	0.17	0.03	0.03	0.00	0.00	0.02	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1781	1870	1806	1781	1870	1589	1781	1870	1781
c, Capacity [veh/h]	566	764	738	6	176	150	50	53	6
d1, Uniform Delay [s]	8.02	5.18	5.18	14.30	0.00	12.08	13.64	13.60	14.29
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.75	0.04	0.04	29.52	0.00	0.88	1.47	0.29	12.46
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.07	0.07	0.33	0.00	0.25	0.16	0.04	0.17
d, Delay for Lane Group [s/veh]	8.77	5.22	5.22	43.82	0.00	12.96	15.11	13.89	26.75
Lane Group LOS	A	A	A	D	A	B	B	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.02	0.11	0.11	0.06	0.00	0.21	0.06	0.01	0.03
50th-Percentile Queue Length [ft/ln]	25.42	2.83	2.78	1.48	0.00	5.13	1.49	0.35	0.66
95th-Percentile Queue Length [veh/ln]	1.83	0.20	0.20	0.11	0.00	0.37	0.11	0.03	0.05
95th-Percentile Queue Length [ft/ln]	45.75	5.10	5.00	2.67	0.00	9.23	2.67	0.63	1.19

Movement, Approach, & Intersection Results

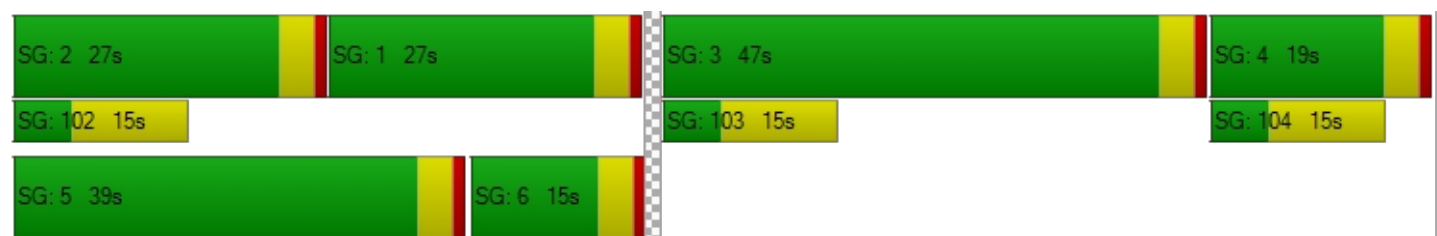
d_M, Delay for Movement [s/veh]	8.77	5.22	5.22	43.82	6.48	12.96	15.11	13.89	13.89	26.75	26.75	26.75
Movement LOS	A	A	A	D	A	B	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	7.80			14.51			14.87			26.75		
Approach LOS	A			B			B			C		
d_I, Intersection Delay [s/veh]	8.59											
Intersection LOS	A											
Intersection V/C	0.335											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	6.73			6.73			6.73			5.43		
I_p,int, Pedestrian LOS Score for Intersection	2.318			2.278			1.989			1.645		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	768			1606			3003			1048		
d_b, Bicycle Delay [s]	5.43			0.56			3.60			3.25		
I_b,int, Bicycle LOS Score for Intersection	1.896			1.601			1.576			1.561		
Bicycle LOS	A			A			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	389	35	731	2	16	5	1	124	122	708	191	11
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	43	0	0	2
Total Hourly Volume [veh/h]	389	35	731	2	16	4	1	124	79	708	191	9
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	105	9	197	1	4	1	0	33	21	190	51	2
Total Analysis Volume [veh/h]	418	38	786	2	17	4	1	133	85	761	205	10
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	8	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	10	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	55	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	3.5	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	2.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	43	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	12	0	17	0	0	0	10	0	12	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			Yes			Yes	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	3.5	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	17	17	2	10	31	64	64	64
g / C, Green / Cycle	0.15	0.15	0.02	0.09	0.28	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.01	0.07	0.03	0.21	0.21	0.13
s, saturation flow rate [veh/h]	1791	1805	1817	1880	2829	1791	1791	1697
c, Capacity [veh/h]	271	273	35	169	801	1033	1033	979
d1, Uniform Delay [s]	45.45	45.45	53.66	49.15	29.21	12.53	12.53	11.30
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.78	6.73	18.29	8.12	0.06	1.01	1.01	0.52
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.84	0.65	0.79	0.11	0.37	0.37	0.22
d, Delay for Lane Group [s/veh]	52.23	52.18	71.94	57.27	29.27	13.54	13.54	11.81
Lane Group LOS	D	D	E	E	C	B	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.52	6.56	0.81	3.98	0.84	5.13	5.13	2.61
50th-Percentile Queue Length [ft/ln]	162.88	164.07	20.29	99.59	21.06	128.20	128.20	65.14
95th-Percentile Queue Length [veh/ln]	10.70	10.76	1.46	7.17	1.52	8.84	8.84	4.69
95th-Percentile Queue Length [ft/ln]	267.53	269.11	36.52	179.26	37.90	221.05	221.05	117.24

Movement, Approach, & Intersection Results

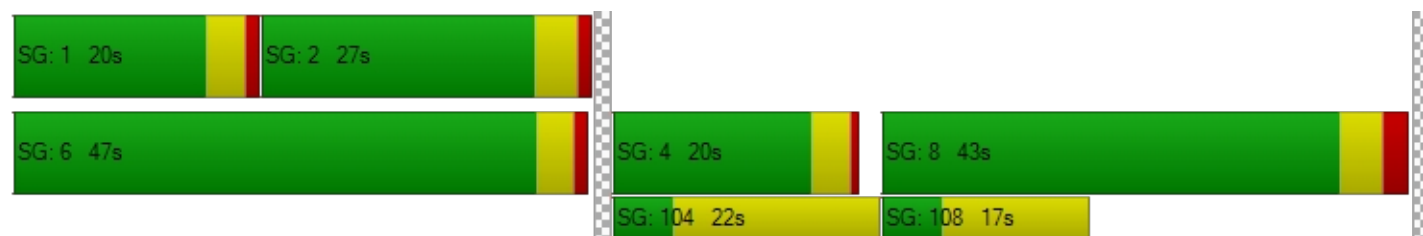
d_M, Delay for Movement [s/veh]	52.21	52.18	0.00	71.94	71.94	71.94	57.27	57.27	29.27	13.54	11.81	11.81
Movement LOS	D	D		E	E	E	E	E	C	B	B	B
d_A, Approach Delay [s/veh]	52.21			71.94			46.40			13.16		
Approach LOS	D			E			D			B		
d_I, Intersection Delay [s/veh]	28.95											
Intersection LOS	C											
Intersection V/C	0.475											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	22.0	9.0	0.0
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]	0.00	35.25	46.42	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	1.753	2.546	0.000
Crosswalk LOS	F	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	409	296	287	681
d_b, Bicycle Delay [s]	34.85	39.98	40.39	23.94
I_b,int, Bicycle LOS Score for Intersection	2.312	1.599	1.992	2.366
Bicycle LOS	B	A	A	B

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	112.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	819	993	94	3	301	74	336	41	480	17	17	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	19	0	0	26	0	0	0	0	0	1
Total Hourly Volume [veh/h]	819	993	75	3	301	48	336	41	480	17	17	3
Peak Hour 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
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]	205	248	19	1	75	12	84	10	120	4	4	1
Total Analysis Volume [veh/h]	819	993	75	3	301	48	336	41	480	17	17	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	31	38	0	8	15	42	0	42	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	27	65	65	0	38	62	20	20	20	19	19
g / C, Green / Cycle	0.22	0.54	0.54	0.00	0.31	0.52	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.00	0.08	0.03	0.11	0.10	0.30	0.01	0.01
s, saturation flow rate [veh/h]	3459	1870	1825	1781	3560	1589	1781	1800	1589	1781	1822
c, Capacity [veh/h]	766	1012	987	7	1116	821	290	293	258	284	291
d1, Uniform Delay [s]	46.80	17.74	17.89	59.74	30.95	14.47	47.12	47.09	50.33	42.87	42.93
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	52.78	1.98	2.12	38.56	0.13	0.03	10.77	10.51	400.15	0.40	0.46
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.07	0.53	0.54	0.44	0.27	0.06	0.65	0.65	1.86	0.06	0.07
d, Delay for Lane Group [s/veh]	99.58	19.72	20.02	98.30	31.08	14.50	57.89	57.60	450.48	43.27	43.39
Lane Group LOS	F	B	C	F	C	B	E	E	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	16.97	9.86	9.94	0.16	3.27	0.65	6.14	6.14	36.47	0.47	0.55
50th-Percentile Queue Length [ft/ln]	424.28	246.42	248.43	4.09	81.81	16.25	153.38	153.56	911.65	11.69	13.76
95th-Percentile Queue Length [veh/ln]	24.63	15.01	15.11	0.29	5.89	1.17	10.20	10.21	57.46	0.84	0.99
95th-Percentile Queue Length [ft/ln]	615.84	375.14	377.68	7.37	147.26	29.25	254.93	255.18	1436.53	21.04	24.76

Movement, Approach, & Intersection Results

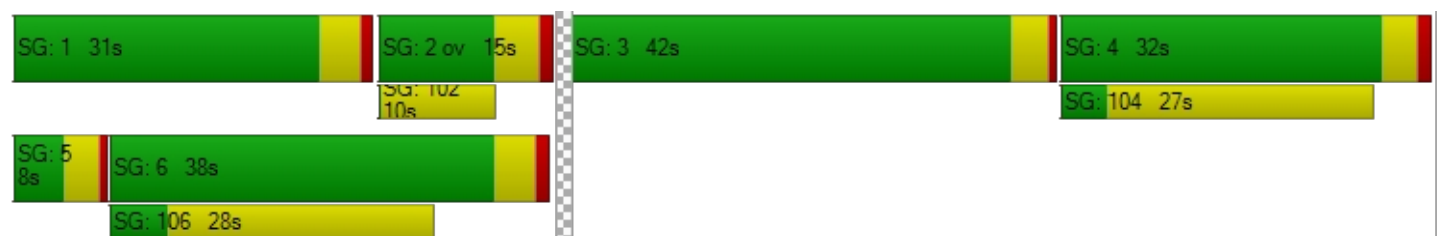
d_M, Delay for Movement [s/veh]	99.58	19.85	20.02	98.30	31.08	14.50	57.76	57.60	450.48	43.27	43.39	43.39
Movement LOS	F	B	C	F	C	B	E	E	F	D	D	D
d_A, Approach Delay [s/veh]	54.46			29.39			277.71			43.34		
Approach LOS	D			C			F			D		
d_I, Intersection Delay [s/veh]	112.58											
Intersection LOS	F											
Intersection V/C	0.634											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	8.0	4.0	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]	0.00	52.32	56.12	51.39
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.830	2.663	2.345
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	168	638	465
d_b, Bicycle Delay [s]	31.30	50.38	27.86	35.39
I_b,int, Bicycle LOS Score for Intersection	3.132	1.871	2.974	1.622
Bicycle LOS	C	A	C	A

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 4: Metro Center Boulevard/EB SR-92 Ramps**

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	2	21	942	48	441	61	123	4	37	177	196
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	154	0	0	1	0	0	69
Total Hourly Volume [veh/h]	2	2	14	942	48	287	61	123	3	37	177	127
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	1	4	243	12	74	16	32	1	10	46	33
Total Analysis Volume [veh/h]	2	2	14	971	49	296	63	127	3	38	182	131
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			Yes		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	5.00	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	3.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	2	2	43	43	43	4	55	55	3	54	54	54
g / C, Green / Cycle	0.02	0.02	0.36	0.36	0.36	0.03	0.46	0.46	0.03	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.00	0.01	0.29	0.28	0.11	0.02	0.03	0.03	0.02	0.06	0.06	0.06
s, saturation flow rate [veh/h]	1826	1591	1782	1791	2816	3461	1871	1856	1782	1871	1775	1591
c, Capacity [veh/h]	28	24	635	638	1004	111	855	848	49	846	803	719
d1, Uniform Delay [s]	58.33	58.72	34.82	34.76	27.78	57.28	18.36	18.36	57.99	19.12	19.14	19.20
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	2.34	19.94	10.33	10.09	0.75	4.55	0.17	0.18	22.20	0.31	0.34	0.40
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.58	0.80	0.80	0.29	0.57	0.08	0.08	0.77	0.13	0.13	0.14
d, Delay for Lane Group [s/veh]	60.67	78.65	45.15	44.85	28.52	61.83	18.53	18.54	80.19	19.43	19.48	19.59
Lane Group LOS	E	E	D	D	C	E	B	B	F	B	B	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	0.57	14.91	14.85	3.13	1.01	1.05	1.05	1.45	1.85	1.80	1.70
50th-Percentile Queue Length [ft/ln]	3.52	14.17	372.71	371.26	78.34	25.14	26.37	26.30	36.25	46.36	45.08	42.45
95th-Percentile Queue Length [veh/ln]	0.25	1.02	21.24	21.17	5.64	1.81	1.90	1.89	2.61	3.34	3.25	3.06
95th-Percentile Queue Length [ft/ln]	6.34	25.50	531.01	529.26	141.01	45.25	47.46	47.34	65.24	83.44	81.14	76.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.67	60.67	78.65	45.01	44.85	28.52	61.83	18.53	18.54	80.19	19.45	19.57
Movement LOS	E	E	E	D	D	C	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	74.66			41.29			32.67			26.07		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	37.88											
Intersection LOS	D											
Intersection V/C	0.417											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.609			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.601			3.985			1.720			1.906		
Bicycle LOS	A			D			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	42.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	131	955	66	137	467	194	457	183	446	52	85	494
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	97	0	0	223	0	0	173
Total Hourly Volume [veh/h]	131	955	53	137	467	97	457	183	223	52	85	321
Peak Hour 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
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]	33	239	13	34	117	24	114	46	56	13	21	80
Total Analysis Volume [veh/h]	131	955	53	137	467	97	457	183	223	52	85	321
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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	11	40	40	11	40	40	26	26	42	27	27	27
g / C, Green / Cycle	0.09	0.33	0.33	0.09	0.33	0.33	0.22	0.22	0.35	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.19	0.08	0.09	0.03	0.13	0.05	0.08	0.03	0.05	0.20
s, saturation flow rate [veh/h]	1781	3560	1820	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	168	1183	605	166	1688	932	757	779	980	394	414	352
d1, Uniform Delay [s]	53.12	32.92	32.93	53.41	29.53	27.78	42.18	38.59	27.68	37.48	38.12	45.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	7.62	1.95	3.78	9.67	0.41	0.22	3.55	0.71	0.12	0.69	1.12	30.26
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.56	0.56	0.82	0.28	0.10	0.60	0.23	0.23	0.13	0.21	0.91
d, Delay for Lane Group [s/veh]	60.74	34.87	36.71	63.09	29.94	28.01	45.73	39.30	27.80	38.18	39.24	75.86
Lane Group LOS	E	C	D	E	C	C	D	D	C	D	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.19	8.17	8.67	4.47	3.35	0.99	6.42	2.29	2.27	1.32	2.20	12.32
50th-Percentile Queue Length [ft/ln]	104.65	204.16	216.77	111.79	83.65	24.78	160.38	57.25	56.86	33.09	55.07	308.11
95th-Percentile Queue Length [veh/ln]	7.54	12.85	13.50	7.94	6.02	1.78	10.57	4.12	4.09	2.38	3.97	18.08
95th-Percentile Queue Length [ft/ln]	188.38	321.33	337.50	198.49	150.57	44.60	264.22	103.05	102.35	59.56	99.13	452.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.74	35.43	36.71	63.09	29.94	28.01	45.73	39.30	27.80	38.18	39.24	75.86
Movement LOS	E	D	D	E	C	C	D	D	C	D	D	E
d_A, Approach Delay [s/veh]	38.40			36.15			39.73			64.78		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	42.09											
Intersection LOS	D											
Intersection V/C	0.599											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.972	0.000	0.000	2.726
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.193	1.999	2.456	2.601
Bicycle LOS	B	A	B	B

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access**

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	69	49	5	0	88	3	39	0	236	1	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	1	0	0	1	0	0	83	0	0	0
Total Hourly Volume [veh/h]	69	49	4	0	88	2	39	0	153	1	0	0
Peak Hour 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
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]	17	12	1	0	22	1	10	0	38	0	0	0
Total Analysis Volume [veh/h]	69	49	4	0	88	2	39	0	153	1	0	0
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36	36
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	5	11	11	0	6	6	9	9	0
g / C, Green / Cycle	0.14	0.31	0.31	0.00	0.17	0.17	0.24	0.24	0.00
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.01	0.00	0.02	0.02	0.02	0.10	0.00
s, saturation flow rate [veh/h]	1781	1870	1821	1781	1870	1855	1781	1589	1781
c, Capacity [veh/h]	251	576	561	0	313	311	428	382	5
d1, Uniform Delay [s]	13.70	8.66	8.66	0.00	12.67	12.67	10.53	11.40	17.74
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.59	0.03	0.03	0.00	0.21	0.21	0.09	0.68	15.76
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.05	0.05	0.00	0.14	0.14	0.09	0.40	0.19
d, Delay for Lane Group [s/veh]	14.28	8.69	8.70	0.00	12.88	12.88	10.62	12.08	33.50
Lane Group LOS	B	A	A	A	B	B	B	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.44	0.11	0.11	0.00	0.26	0.26	0.20	0.86	0.03
50th-Percentile Queue Length [ft/ln]	11.09	2.80	2.79	0.00	6.62	6.62	4.88	21.38	0.78
95th-Percentile Queue Length [veh/ln]	0.80	0.20	0.20	0.00	0.48	0.48	0.35	1.54	0.06
95th-Percentile Queue Length [ft/ln]	19.96	5.04	5.02	0.00	11.92	11.91	8.79	38.48	1.41

Movement, Approach, & Intersection Results

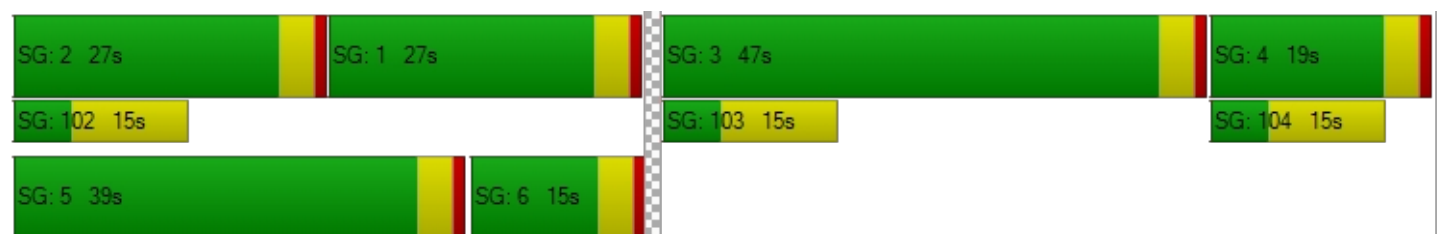
d_M, Delay for Movement [s/veh]	14.28	8.69	8.70	0.00	12.88	12.88	10.62	12.08	12.08	33.50	33.50	33.50
Movement LOS	B	A	A	A	B	B	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	11.86			12.88			11.78			33.50		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	12.10											
Intersection LOS	B											
Intersection V/C	0.241											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	9.92			9.92			9.92			8.49		
I_p,int, Pedestrian LOS Score for Intersection	2.338			2.286			2.120			1.659		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	619			1293			2418			843		
d_b, Bicycle Delay [s]	8.49			2.22			0.78			5.95		
I_b,int, Bicycle LOS Score for Intersection	1.661			1.635			2.013			1.561		
Bicycle LOS	A			A			B			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	77	2	197	10	20	4	0	257	780	912	174	1
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	273	0	0	0
Total Hourly Volume [veh/h]	77	2	197	10	20	3	0	257	507	912	174	1
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	21	1	53	3	5	1	0	69	136	245	47	0
Total Analysis Volume [veh/h]	83	2	212	11	22	3	0	276	545	981	187	1
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	0	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	0	0	17	0	0	0	10	0	12	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	5	5	3	18	28	66	66	66
g / C, Green / Cycle	0.04	0.04	0.03	0.17	0.25	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02	0.15	0.19	0.27	0.27	0.11
s, saturation flow rate [veh/h]	1791	1795	1826	1880	2829	1791	1791	1710
c, Capacity [veh/h]	77	77	49	314	713	1076	1076	1027
d1, Uniform Delay [s]	51.69	51.69	53.25	44.80	38.20	12.10	12.10	9.87
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.03	6.00	19.44	7.91	1.74	1.39	1.39	0.39
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.55	0.74	0.88	0.76	0.46	0.46	0.18
d, Delay for Lane Group [s/veh]	57.73	57.69	72.69	52.71	39.94	13.49	13.49	10.26
Lane Group LOS	E	E	E	D	D	B	B	B
Critical Lane Group	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.28	1.28	1.25	8.00	6.93	6.69	6.69	2.07
50th-Percentile Queue Length [ft/ln]	31.95	31.96	31.27	200.08	173.29	167.19	167.19	51.82
95th-Percentile Queue Length [veh/ln]	2.30	2.30	2.25	12.64	11.25	10.93	10.93	3.73
95th-Percentile Queue Length [ft/ln]	57.50	57.52	56.29	316.06	281.24	273.22	273.22	93.28

Movement, Approach, & Intersection Results

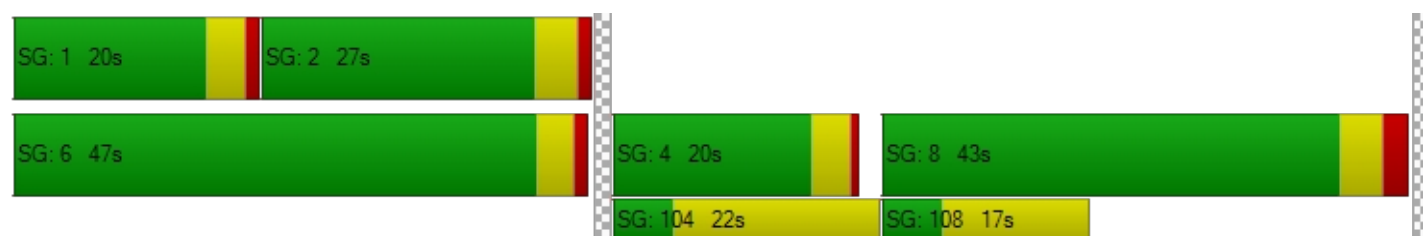
d_M, Delay for Movement [s/veh]	57.71	57.69	0.00	72.69	72.69	72.69	52.71	52.71	39.94	13.49	10.26	10.26
Movement LOS	E	E		E	E	E	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	57.71			72.69			44.23			12.97		
Approach LOS	E			E			D			B		
d_I, Intersection Delay [s/veh]	27.95											
Intersection LOS	C											
Intersection V/C	0.546											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			0.0		
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]	0.00			46.42			46.42			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			1.747			2.966			0.000		
Crosswalk LOS	F			A			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	409			296			287			681		
d_b, Bicycle Delay [s]	34.85			39.98			40.39			23.94		
I_b,int, Bicycle LOS Score for Intersection	1.700			1.621			3.365			2.524		
Bicycle LOS	A			A			C			B		

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	52.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	692	293	19	2	1000	250	50	13	418	104	145	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	4	0	0	88	0	0	418	0	0	1
Total Hourly Volume [veh/h]	692	293	15	2	1000	162	50	13	0	104	145	3
Peak Hour 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
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]	173	73	4	1	250	41	13	3	0	26	36	1
Total Analysis Volume [veh/h]	692	293	15	2	1000	162	50	13	0	104	145	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	27	55	0	14	42	20	0	20	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	23	65	65	0	42	66	20	20	20	19	19
g / C, Green / Cycle	0.19	0.54	0.54	0.00	0.35	0.55	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.20	0.08	0.08	0.00	0.28	0.10	0.02	0.02	0.00	0.06	0.08
s, saturation flow rate [veh/h]	3459	1870	1838	1781	3560	1589	1781	1817	1589	1781	1863
c, Capacity [veh/h]	651	1012	994	5	1230	873	291	296	259	285	298
d1, Uniform Delay [s]	48.79	13.81	13.81	59.83	35.80	13.59	42.85	42.84	0.00	45.04	46.07
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	53.18	0.32	0.33	44.34	1.35	0.10	0.75	0.72	0.00	3.59	5.80
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.06	0.15	0.15	0.40	0.81	0.19	0.11	0.11	0.00	0.37	0.50
d, Delay for Lane Group [s/veh]	101.97	14.13	14.14	104.18	37.15	13.69	43.60	43.56	0.00	48.63	51.87
Lane Group LOS	F	B	B	F	D	B	D	D	A	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.52	2.19	2.16	0.12	13.24	2.17	0.86	0.86	0.00	3.09	4.56
50th-Percentile Queue Length [ft/ln]	362.92	54.86	53.96	3.05	330.99	54.31	21.53	21.60	0.00	77.15	113.98
95th-Percentile Queue Length [veh/ln]	21.43	3.95	3.89	0.22	19.21	3.91	1.55	1.56	0.00	5.55	8.06
95th-Percentile Queue Length [ft/ln]	535.84	98.74	97.13	5.49	480.17	97.76	38.76	38.88	0.00	138.87	201.53

Movement, Approach, & Intersection Results

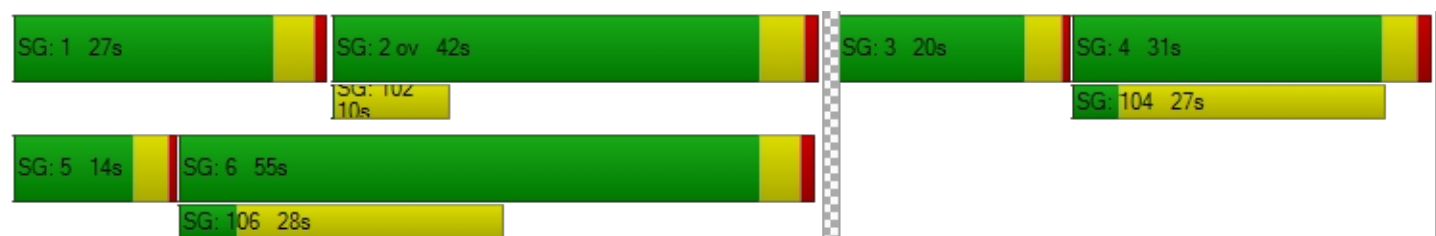
d_M, Delay for Movement [s/veh]	101.97	14.14	14.14	104.18	37.15	13.69	43.58	43.56	0.00	48.63	51.87	51.87
Movement LOS	F	B	B	F	D	B	D	D	A	D	D	D
d_A, Approach Delay [s/veh]	74.92			34.00			43.58			50.53		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	52.43											
Intersection LOS	D											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			8.0			4.0			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]	0.00			52.32			56.12			51.39		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.897			3.219			2.363		
Crosswalk LOS	F			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	839			618			271			448		
d_b, Bicycle Delay [s]	20.23			28.68			44.86			36.16		
I_b,int, Bicycle LOS Score for Intersection	2.388			2.593			2.353			1.977		
Bicycle LOS	B			B			B			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 4: Metro Center Boulevard/EB SR-92 Ramps**

Control Type:	Signalized	Delay (sec / veh):	40.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	49	21	108	4	44	504	257	6	8	101	972
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	15	0	0	1	0	0	340
Total Hourly Volume [veh/h]	2	49	14	108	4	29	504	257	5	8	101	632
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	13	4	28	1	7	130	66	1	2	26	163
Total Analysis Volume [veh/h]	2	51	14	111	4	30	520	265	5	8	104	652
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			Yes	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	3.60	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	0.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	5	40	40	66	21	57	57	1	37	37	37
g / C, Green / Cycle	0.04	0.04	0.33	0.33	0.55	0.18	0.48	0.48	0.01	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.03	0.03	0.01	0.15	0.07	0.07	0.00	0.06	0.20	0.20
s, saturation flow rate [veh/h]	1868	1591	1782	1788	2816	3461	1871	1859	1782	1871	1591	1591
c, Capacity [veh/h]	76	65	590	592	1552	618	891	885	14	572	486	486
d1, Uniform Delay [s]	56.83	55.71	27.76	27.76	12.22	47.65	17.75	17.75	59.34	30.65	36.41	36.41
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	10.83	1.64	0.33	0.33	0.02	3.19	0.36	0.36	31.13	0.70	7.20	7.20
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.22	0.10	0.10	0.02	0.84	0.15	0.15	0.57	0.18	0.67	0.67
d, Delay for Lane Group [s/veh]	67.66	57.35	28.09	28.09	12.24	50.83	18.11	18.11	90.47	31.35	43.60	43.60
Lane Group LOS	E	E	C	C	B	D	B	B	F	C	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.85	0.45	1.19	1.19	0.18	7.70	2.19	2.17	0.36	2.35	9.29	9.29
50th-Percentile Queue Length [ft/ln]	46.33	11.25	29.79	29.84	4.61	192.52	54.69	54.37	9.12	58.63	232.2	232.2
95th-Percentile Queue Length [veh/ln]	3.34	0.81	2.15	2.15	0.33	12.25	3.94	3.91	0.66	4.22	14.29	14.29
95th-Percentile Queue Length [ft/ln]	83.39	20.26	53.63	53.71	8.29	306.29	98.45	97.86	16.41	105.5	357.2	357.2

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.66	67.66	57.35	28.09	28.09	12.24	50.83	18.11	18.11	90.47	31.35	43.60
Movement LOS	E	E	E	C	C	B	D	B	B	F	C	D
d_A, Approach Delay [s/veh]	65.51			24.81			39.65			42.42		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	40.61											
Intersection LOS	D											
Intersection V/C	0.462											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.630			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.682			1.824			2.212			2.470		
Bicycle LOS	A			A			B			B		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	234	547	64	198	615	729	103	130	153	62	118	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	365	0	0	77	0	0	94
Total Hourly Volume [veh/h]	234	547	51	198	615	364	103	130	76	62	118	174
Peak Hour 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
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]	59	137	13	50	154	91	26	33	19	16	30	44
Total Analysis Volume [veh/h]	234	547	51	198	615	364	103	130	76	62	118	174
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	18	40	40	15	38	38	24	24	46	24	24	24
g / C, Green / Cycle	0.15	0.33	0.33	0.13	0.31	0.31	0.20	0.20	0.38	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.11	0.11	0.12	0.13	0.03	0.04	0.03	0.03	0.06	0.11
s, saturation flow rate [veh/h]	1781	3560	1790	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	264	1183	595	228	1590	878	697	718	1082	363	381	324
d1, Uniform Delay [s]	50.13	30.11	30.14	51.32	32.29	32.61	39.42	39.70	23.34	39.39	40.58	42.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	9.71	0.77	1.54	9.74	0.71	1.44	0.45	0.55	0.03	1.02	2.10	6.25
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.34	0.34	0.87	0.39	0.41	0.15	0.18	0.07	0.17	0.31	0.54
d, Delay for Lane Group [s/veh]	59.83	30.88	31.68	61.05	33.00	34.05	39.87	40.25	23.37	40.41	42.68	48.94
Lane Group LOS	E	C	C	E	C	C	D	D	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.52	4.40	4.59	6.40	4.72	4.31	1.29	1.64	0.68	1.64	3.23	5.23
50th-Percentile Queue Length [ft/ln]	188.09	109.96	114.71	159.97	118.01	107.86	32.30	41.06	17.11	40.90	80.73	130.67
95th-Percentile Queue Length [veh/ln]	12.02	7.84	8.10	10.55	8.28	7.72	2.33	2.96	1.23	2.94	5.81	8.98
95th-Percentile Queue Length [ft/ln]	300.55	195.95	202.54	263.68	207.09	193.03	58.14	73.91	30.81	73.62	145.31	224.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.83	31.10	31.68	61.05	33.00	34.05	39.87	40.25	23.37	40.41	42.68	48.94
Movement LOS	E	C	C	E	C	C	D	D	C	D	D	D
d_A, Approach Delay [s/veh]	39.22			38.04			35.97			45.36		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.14											
Intersection LOS	D											
Intersection V/C	0.407											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.900	0.000	0.000	2.585
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.024	2.408	1.878	2.299
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Attachment C

Generated with **PTV VISTRO**

Foster City - Parking Lot

Version 2023 (SP 0-0)

Project Alternative #2 AM





Kimley-Horn

Intersection Level Of Service Report

Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	295	99	9	2	0	48	8	2	0	21	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	2	0	0	10	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	99	7	2	0	38	8	2	0	21	0	0
Peak Hour 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
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]	74	25	2	1	0	10	2	1	0	5	0	0
Total Analysis Volume [veh/h]	295	99	7	2	0	38	8	2	0	21	0	0
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	31	31	31	31	31	31	31	31	31
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	9	12	12	0	3	3	1	1	2
g / C, Green / Cycle	0.30	0.39	0.39	0.00	0.09	0.09	0.03	0.03	0.05
(v / s)_i Volume / Saturation Flow Rate	0.17	0.03	0.03	0.00	0.00	0.02	0.00	0.00	0.01
s, saturation flow rate [veh/h]	1781	1870	1827	1781	1870	1589	1781	1870	1781
c, Capacity [veh/h]	538	733	717	6	175	149	50	53	99
d1, Uniform Delay [s]	8.97	5.84	5.85	15.29	0.00	12.94	14.58	14.53	13.87
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.87	0.04	0.04	30.03	0.00	0.90	1.47	0.29	1.04
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.07	0.07	0.34	0.00	0.26	0.16	0.04	0.21
d, Delay for Lane Group [s/veh]	9.85	5.89	5.89	45.32	0.00	13.83	16.05	14.83	14.91
Lane Group LOS	A	A	A	D	A	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.21	0.13	0.13	0.06	0.00	0.22	0.06	0.02	0.15
50th-Percentile Queue Length [ft/ln]	30.18	3.35	3.31	1.52	0.00	5.62	1.59	0.38	3.81
95th-Percentile Queue Length [veh/ln]	2.17	0.24	0.24	0.11	0.00	0.40	0.11	0.03	0.27
95th-Percentile Queue Length [ft/ln]	54.32	6.04	5.96	2.74	0.00	10.12	2.86	0.68	6.86

Movement, Approach, & Intersection Results

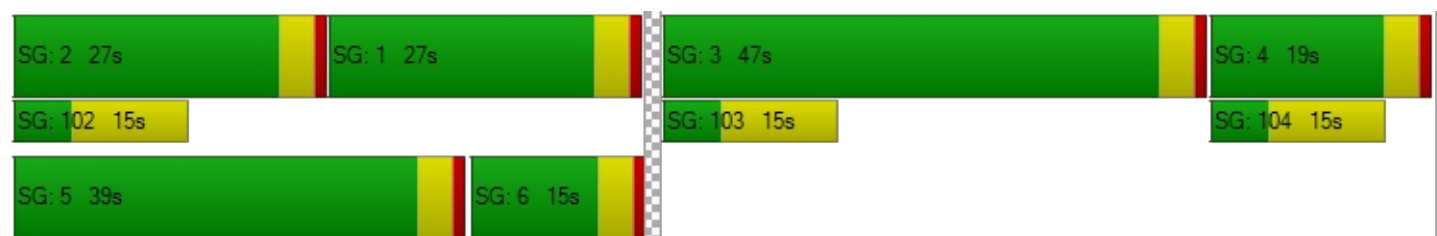
d_M, Delay for Movement [s/veh]	9.85	5.89	5.89	45.32	6.92	13.83	16.05	14.83	14.83	14.91	14.91	14.91
Movement LOS	A	A	A	D	A	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.80			15.41			15.81			14.91		
Approach LOS	A			B			B			B		
d_I, Intersection Delay [s/veh]	9.78											
Intersection LOS	A											
Intersection V/C	0.339											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	7.62			7.62			7.62			6.27		
I_p,int, Pedestrian LOS Score for Intersection	2.324			2.283			1.994			1.654		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	719			1504			2812			981		
d_b, Bicycle Delay [s]	6.27			0.94			2.52			3.97		
I_b,int, Bicycle LOS Score for Intersection	1.892			1.601			1.576			1.594		
Bicycle LOS	A			A			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	389	35	734	2	16	5	1	130	143	708	192	11
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	50	0	0	2
Total Hourly Volume [veh/h]	389	35	734	2	16	4	1	130	93	708	192	9
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	105	9	197	1	4	1	0	35	25	190	52	2
Total Analysis Volume [veh/h]	418	38	789	2	17	4	1	140	100	761	206	10
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	8	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	10	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	55	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	3.5	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	2.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	43	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	12	0	17	0	0	0	10	0	12	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			Yes			Yes	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	3.5	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	17	17	2	10	31	63	63	63
g / C, Green / Cycle	0.15	0.15	0.02	0.09	0.29	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.01	0.08	0.04	0.21	0.21	0.13
s, saturation flow rate [veh/h]	1791	1805	1817	1880	2829	1791	1791	1697
c, Capacity [veh/h]	271	273	35	176	812	1026	1026	972
d1, Uniform Delay [s]	45.45	45.45	53.66	48.91	29.04	12.76	12.76	11.52
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.78	6.73	18.29	8.05	0.07	1.03	1.03	0.53
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.84	0.65	0.80	0.12	0.37	0.37	0.22
d, Delay for Lane Group [s/veh]	52.23	52.18	71.94	56.97	29.11	13.79	13.79	12.05
Lane Group LOS	D	D	E	E	C	B	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.52	6.56	0.81	4.18	0.99	5.19	5.19	2.65
50th-Percentile Queue Length [ft/ln]	162.88	164.07	20.29	104.55	24.75	129.75	129.75	66.27
95th-Percentile Queue Length [veh/ln]	10.70	10.76	1.46	7.53	1.78	8.93	8.93	4.77
95th-Percentile Queue Length [ft/ln]	267.53	269.11	36.52	188.19	44.55	223.16	223.16	119.29

Movement, Approach, & Intersection Results

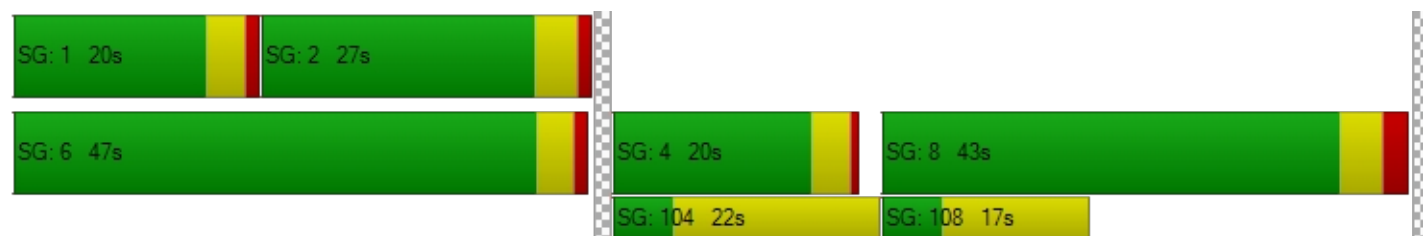
d_M, Delay for Movement [s/veh]	52.21	52.18	0.00	71.94	71.94	71.94	56.97	56.97	29.11	13.79	12.05	12.05
Movement LOS	D	D		E	E	E	E	E	C	B	B	B
d_A, Approach Delay [s/veh]	52.21			71.94			45.41			13.41		
Approach LOS	D			E			D			B		
d_I, Intersection Delay [s/veh]	29.17											
Intersection LOS	C											
Intersection V/C	0.479											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	22.0	9.0	0.0
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]	0.00	35.25	46.42	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	1.753	2.562	0.000
Crosswalk LOS	F	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	409	296	287	681
d_b, Bicycle Delay [s]	34.85	39.98	40.39	23.94
I_b,int, Bicycle LOS Score for Intersection	2.312	1.599	2.040	2.367
Bicycle LOS	B	A	B	B

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	112.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	819	910	194	3	299	67	325	61	480	19	25	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	39	0	0	23	0	0	0	0	0	1
Total Hourly Volume [veh/h]	819	910	155	3	299	44	325	61	480	19	25	3
Peak Hour 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
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]	205	228	39	1	75	11	81	15	120	5	6	1
Total Analysis Volume [veh/h]	819	910	155	3	299	44	325	61	480	19	25	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	31	38	0	8	15	42	0	42	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	27	65	65	0	38	62	20	20	20	19	19
g / C, Green / Cycle	0.22	0.54	0.54	0.00	0.31	0.52	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.30	0.00	0.08	0.03	0.11	0.11	0.30	0.01	0.02
s, saturation flow rate [veh/h]	3459	1870	1778	1781	3560	1589	1781	1808	1589	1781	1835
c, Capacity [veh/h]	766	1012	962	7	1116	821	290	294	258	284	293
d1, Uniform Delay [s]	46.80	17.73	18.05	59.74	30.93	14.43	47.25	47.20	50.33	42.92	43.12
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	52.78	1.97	2.28	38.56	0.13	0.03	11.44	11.01	400.15	0.45	0.65
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.07	0.53	0.55	0.44	0.27	0.05	0.66	0.66	1.86	0.07	0.10
d, Delay for Lane Group [s/veh]	99.58	19.70	20.33	98.30	31.06	14.46	58.68	58.20	450.48	43.37	43.77
Lane Group LOS	F	B	C	F	C	B	E	E	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	16.97	9.84	10.01	0.16	3.25	0.59	6.32	6.33	36.47	0.52	0.77
50th-Percentile Queue Length [ft/ln]	424.28	246.03	250.14	4.09	81.22	14.86	158.11	158.26	911.65	13.08	19.37
95th-Percentile Queue Length [veh/ln]	24.63	14.99	15.19	0.29	5.85	1.07	10.45	10.46	57.46	0.94	1.39
95th-Percentile Queue Length [ft/ln]	615.84	374.64	379.82	7.37	146.19	26.75	261.22	261.42	1436.53	23.55	34.86

Movement, Approach, & Intersection Results

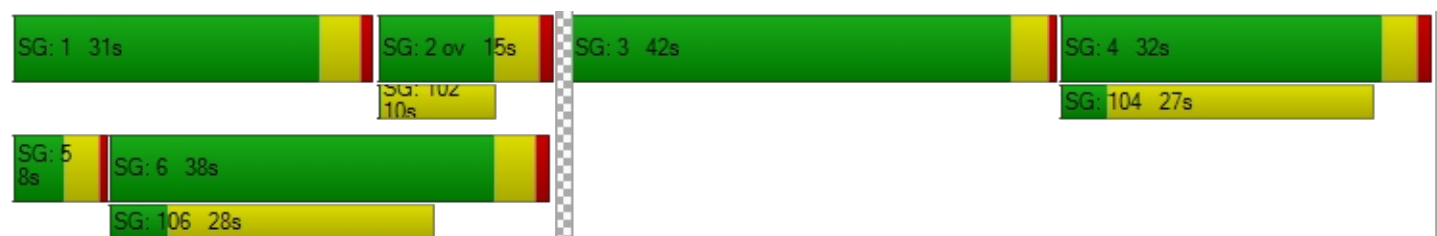
d_M, Delay for Movement [s/veh]	99.58	19.96	20.33	98.30	31.06	14.46	58.49	58.20	450.48	43.37	43.77	43.77
Movement LOS	F	B	C	F	C	B	E	E	F	D	D	D
d_A, Approach Delay [s/veh]	54.60			29.53			275.74			43.61		
Approach LOS	D			C			F			D		
d_I, Intersection Delay [s/veh]	112.61											
Intersection LOS	F											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	8.0	4.0	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]	0.00	52.32	56.12	51.39
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.806	2.665	2.366
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	168	638	465
d_b, Bicycle Delay [s]	31.30	50.38	27.86	35.39
I_b,int, Bicycle LOS Score for Intersection	3.146	1.864	2.989	1.639
Bicycle LOS	C	A	C	A

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 4: Metro Center Boulevard/EB SR-92 Ramps**

Control Type:	Signalized	Delay (sec / veh):	38.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	2	21	957	48	441	61	123	4	37	177	196
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	154	0	0	1	0	0	69
Total Hourly Volume [veh/h]	2	2	14	957	48	287	61	123	3	37	177	127
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	1	4	247	12	74	16	32	1	10	46	33
Total Analysis Volume [veh/h]	2	2	14	987	49	296	63	127	3	38	182	131
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			Yes		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	5.00	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	3.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	2	2	43	43	43	4	55	55	3	54	54	54
g / C, Green / Cycle	0.02	0.02	0.36	0.36	0.36	0.03	0.46	0.46	0.03	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.00	0.01	0.29	0.29	0.11	0.02	0.03	0.03	0.02	0.06	0.06	0.06
s, saturation flow rate [veh/h]	1826	1591	1782	1790	2816	3461	1871	1856	1782	1871	1775	1591
c, Capacity [veh/h]	28	24	635	638	1004	111	855	848	49	846	803	719
d1, Uniform Delay [s]	58.33	58.72	35.04	34.98	27.78	57.28	18.36	18.36	57.99	19.12	19.14	19.20
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	2.34	19.94	11.04	10.78	0.75	4.55	0.17	0.18	22.20	0.31	0.34	0.40
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.58	0.82	0.81	0.29	0.57	0.08	0.08	0.77	0.13	0.13	0.14
d, Delay for Lane Group [s/veh]	60.67	78.65	46.08	45.76	28.52	61.83	18.53	18.54	80.19	19.43	19.48	19.59
Lane Group LOS	E	E	D	D	C	E	B	B	F	B	B	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	0.57	15.32	15.26	3.13	1.01	1.05	1.05	1.45	1.85	1.80	1.70
50th-Percentile Queue Length [ft/ln]	3.52	14.17	383.09	381.55	78.34	25.14	26.37	26.30	36.25	46.36	45.08	42.45
95th-Percentile Queue Length [veh/ln]	0.25	1.02	21.74	21.67	5.64	1.81	1.90	1.89	2.61	3.34	3.25	3.06
95th-Percentile Queue Length [ft/ln]	6.34	25.50	543.59	541.72	141.01	45.25	47.46	47.34	65.24	83.44	81.14	76.41

Movement, Approach, & Intersection Results

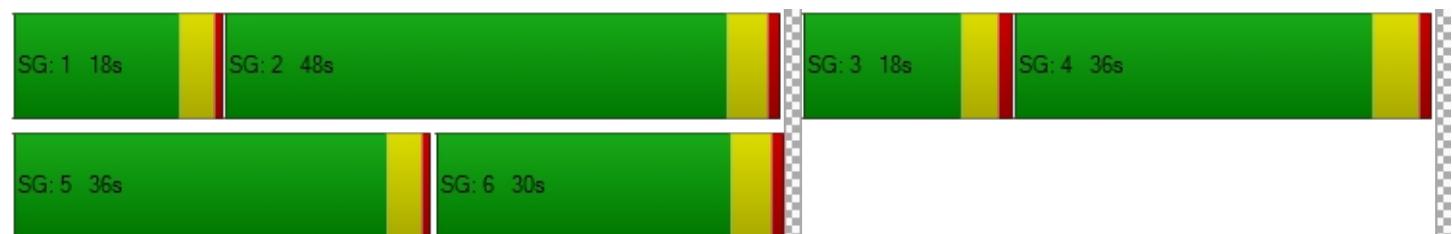
d_M, Delay for Movement [s/veh]	60.67	60.67	78.65	45.93	45.76	28.52	61.83	18.53	18.54	80.19	19.45	19.57
Movement LOS	E	E	E	D	D	C	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	74.66			42.06			32.67			26.07		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	38.45											
Intersection LOS	D											
Intersection V/C	0.422											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.609			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.601			4.012			1.720			1.906		
Bicycle LOS	A			D			A			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	131	957	66	137	467	194	472	183	446	52	85	494
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	97	0	0	223	0	0	173
Total Hourly Volume [veh/h]	131	957	53	137	467	97	472	183	223	52	85	321
Peak Hour 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
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]	33	239	13	34	117	24	118	46	56	13	21	80
Total Analysis Volume [veh/h]	131	957	53	137	467	97	472	183	223	52	85	321
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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	11	40	40	11	40	40	26	26	42	27	27	27
g / C, Green / Cycle	0.09	0.33	0.33	0.09	0.33	0.33	0.22	0.22	0.35	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.19	0.08	0.09	0.03	0.14	0.05	0.08	0.03	0.05	0.20
s, saturation flow rate [veh/h]	1781	3560	1820	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	168	1183	605	166	1688	932	757	779	980	394	414	352
d1, Uniform Delay [s]	53.12	32.94	32.95	53.41	29.53	27.78	42.39	38.59	27.68	37.48	38.12	45.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	7.62	1.96	3.80	9.67	0.41	0.22	3.85	0.71	0.12	0.69	1.12	30.26
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.56	0.57	0.82	0.28	0.10	0.62	0.23	0.23	0.13	0.21	0.91
d, Delay for Lane Group [s/veh]	60.74	34.89	36.75	63.09	29.94	28.01	46.24	39.30	27.80	38.18	39.24	75.86
Lane Group LOS	E	C	D	E	C	C	D	D	C	D	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.19	8.19	8.69	4.47	3.35	0.99	6.68	2.29	2.27	1.32	2.20	12.32
50th-Percentile Queue Length [ft/ln]	104.65	204.67	217.33	111.79	83.65	24.78	166.90	57.25	56.86	33.09	55.07	308.11
95th-Percentile Queue Length [veh/ln]	7.54	12.88	13.53	7.94	6.02	1.78	10.91	4.12	4.09	2.38	3.97	18.08
95th-Percentile Queue Length [ft/ln]	188.38	321.99	338.22	198.49	150.57	44.60	272.84	103.05	102.35	59.56	99.13	452.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.74	35.45	36.75	63.09	29.94	28.01	46.24	39.30	27.80	38.18	39.24	75.86
Movement LOS	E	D	D	E	C	C	D	D	C	D	D	E
d_A, Approach Delay [s/veh]	38.41			36.15			40.11			64.78		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	42.18											
Intersection LOS	D											
Intersection V/C	0.603											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.972	0.000	0.000	2.726
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.194	1.999	2.468	2.601
Bicycle LOS	B	A	B	B

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 1: Vintage Park Drive/Lakeside Drive/Parking Lot Access**

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
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	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	240.00	100.00	100.00	60.00	100.00	100.00	90.00	100.00	100.00	100.00	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			30.00			30.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Vintage Park Drive			Vintage Park Drive			Lakeside Drive			Parking Lot Access		
Base Volume Input [veh/h]	69	49	0	0	88	3	39	0	236	1	0	0
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	1	0	0	83	0	0	0
Total Hourly Volume [veh/h]	69	49	0	0	88	2	39	0	153	1	0	0
Peak Hour 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
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]	17	12	0	0	22	1	10	0	38	0	0	0
Total Analysis Volume [veh/h]	69	49	0	0	88	2	39	0	153	1	0	0
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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	3	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	5	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	15	0	39	27	0	0	47	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36	36
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
g_i, Effective Green Time [s]	5	11	11	0	6	6	9	9	0
g / C, Green / Cycle	0.14	0.31	0.31	0.00	0.17	0.17	0.24	0.24	0.00
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.01	0.00	0.02	0.02	0.02	0.10	0.00
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1855	1781	1589	1781
c, Capacity [veh/h]	251	576	576	0	313	311	428	382	5
d1, Uniform Delay [s]	13.70	8.65	8.65	0.00	12.67	12.67	10.53	11.40	17.74
k, delay calibration	0.11	0.11	0.11	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
d2, Incremental Delay [s]	0.59	0.03	0.03	0.00	0.21	0.21	0.09	0.68	15.76
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.04	0.04	0.00	0.14	0.14	0.09	0.40	0.19
d, Delay for Lane Group [s/veh]	14.28	8.68	8.68	0.00	12.88	12.88	10.62	12.08	33.50
Lane Group LOS	B	A	A	A	B	B	B	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.44	0.10	0.10	0.00	0.26	0.26	0.20	0.86	0.03
50th-Percentile Queue Length [ft/ln]	11.09	2.58	2.58	0.00	6.62	6.62	4.88	21.38	0.78
95th-Percentile Queue Length [veh/ln]	0.80	0.19	0.19	0.00	0.48	0.48	0.35	1.54	0.06
95th-Percentile Queue Length [ft/ln]	19.96	4.64	4.64	0.00	11.92	11.91	8.79	38.48	1.41

Movement, Approach, & Intersection Results

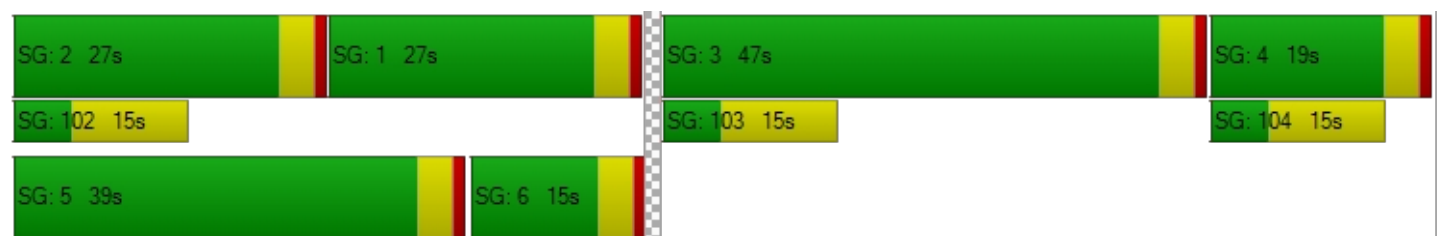
d_M, Delay for Movement [s/veh]	14.28	8.68	8.68	0.00	12.88	12.88	10.62	12.08	12.08	33.50	33.50	33.50
Movement LOS	B	A	A	A	B	B	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	11.96			12.88			11.78			33.50		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	12.13											
Intersection LOS	B											
Intersection V/C	0.241											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			11.0		
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]	9.92			9.92			9.92			8.49		
I_p,int, Pedestrian LOS Score for Intersection	2.336			2.286			2.120			1.658		
Crosswalk LOS	B			B			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	619			1293			2418			843		
d_b, Bicycle Delay [s]	8.49			2.22			0.78			5.95		
I_b,int, Bicycle LOS Score for Intersection	1.657			1.635			2.013			1.561		
Bicycle LOS	A			A			B			A		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Chess Drive/WB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	28.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
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	1	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	480.00	100.00	500.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			No		

Volumes

Name	Route 92 West Ramp			Office driveway			Chess Dr			Chess Dr		
Base Volume Input [veh/h]	77	2	197	10	20	4	0	262	780	927	175	1
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 [%]	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	1	0	0	273	0	0	0
Total Hourly Volume [veh/h]	77	2	197	10	20	3	0	262	507	927	175	1
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
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]	21	1	53	3	5	1	0	70	136	249	47	0
Total Analysis Volume [veh/h]	83	2	212	11	22	3	0	282	545	997	188	1
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 in	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			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	51.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	4	0	0	1	6	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	4	0	0	6	5	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	30	0	55	0
Amber [s]	0.0	3.5	0.0	0.0	3.2	0.0	0.0	3.2	3.1	0.0	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	0.5	0.0	0.0	1.0	1.0	0.0	2.0	0.0
Split [s]	0	27	0	0	20	0	0	20	47	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	0	5	0	5	0
Pedestrian Clearance [s]	0	0	0	0	17	0	0	0	10	0	12	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.5	0.0	0.0	1.7	0.0	0.0	2.2	2.1	0.0	3.5	0.0
Minimum Recall		No			No			No	No		No	
Maximum Recall		No			No			No	No		No	
Pedestrian Recall		No			No			No	No		No	
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
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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.50	4.50	3.70	4.20	4.10	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	1.70	2.20	2.10	3.50	3.50	3.50
g_i, Effective Green Time [s]	5	5	3	19	28	66	66	66
g / C, Green / Cycle	0.04	0.04	0.03	0.17	0.25	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02	0.15	0.19	0.28	0.28	0.11
s, saturation flow rate [veh/h]	1791	1795	1826	1880	2829	1791	1791	1710
c, Capacity [veh/h]	77	77	49	320	722	1070	1070	1022
d1, Uniform Delay [s]	51.69	51.69	53.25	44.62	37.87	12.37	12.37	10.03
k, delay calibration	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.03	6.00	19.44	8.46	1.64	1.46	1.46	0.40
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.55	0.74	0.88	0.76	0.47	0.47	0.18
d, Delay for Lane Group [s/veh]	57.73	57.69	72.69	53.08	39.51	13.82	13.82	10.43
Lane Group LOS	E	E	E	D	D	B	B	B
Critical Lane Group	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.28	1.28	1.25	8.22	6.89	6.91	6.91	2.11
50th-Percentile Queue Length [ft/ln]	31.95	31.96	31.27	205.49	172.26	172.83	172.83	52.67
95th-Percentile Queue Length [veh/ln]	2.30	2.30	2.25	12.92	11.20	11.23	11.23	3.79
95th-Percentile Queue Length [ft/ln]	57.50	57.52	56.29	323.04	279.88	280.63	280.63	94.80

Movement, Approach, & Intersection Results

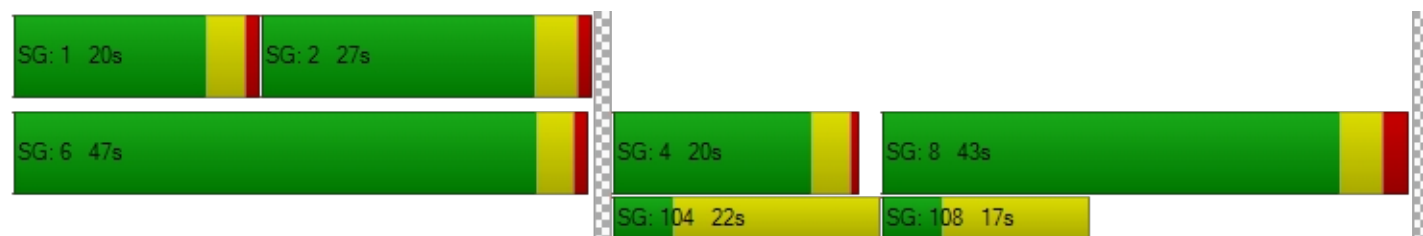
d_M, Delay for Movement [s/veh]	57.71	57.69	0.00	72.69	72.69	72.69	53.08	53.08	39.51	13.82	10.43	10.43
Movement LOS	E	E		E	E	E	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	57.71			72.69			44.14			13.28		
Approach LOS	E			E			D			B		
d_I, Intersection Delay [s/veh]	28.01											
Intersection LOS	C											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			46.42			46.42			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			1.747			2.968			0.000		
Crosswalk LOS	F			A			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	409			296			287			681		
d_b, Bicycle Delay [s]	34.85			39.98			40.39			23.94		
I_b,int, Bicycle LOS Score for Intersection	1.700			1.621			3.375			2.538		
Bicycle LOS	A			A			C			B		

Sequence





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



Intersection Level Of Service Report
Intersection 3: Chess Drive/Foster City Boulevard

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
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	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	510.00	100.00	100.00	80.00	100.00	180.00	95.00	100.00	100.00	100.00	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			35.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Chess Drive			Chess Drive		
Base Volume Input [veh/h]	692	228	19	2	1001	250	38	13	418	108	161	4
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	4	0	0	88	0	0	418	0	0	1
Total Hourly Volume [veh/h]	692	228	15	2	1001	162	38	13	0	108	161	3
Peak Hour 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
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]	173	57	4	1	250	41	10	3	0	27	40	1
Total Analysis Volume [veh/h]	692	228	15	2	1001	162	38	13	0	108	161	3
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	90.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	3	0	3	0	0	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	4	0	4	0	0	4	0
Maximum Green [s]	55	65	0	20	35	30	0	30	0	0	35	0
Amber [s]	3.5	3.6	0.0	3.1	3.9	3.2	0.0	3.2	0.0	0.0	3.1	0.0
All red [s]	1.0	1.0	0.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0
Split [s]	27	55	0	14	42	20	0	20	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	0	0	0	4	0
Pedestrian Clearance [s]	0	23	0	0	10	0	0	0	0	0	23	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]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.6	0.0	1.6	2.9	1.7	0.0	1.7	0.0	0.0	2.1	0.0
Minimum Recall	No	No		No	No	No		No			No	
Maximum Recall	Yes	Yes		No	No	No		No			No	
Pedestrian Recall	No	No		No	No	No		No			No	
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]	40.0	40.0	0.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.50	4.60	4.60	3.60	4.90	3.70	3.70	3.70	3.70	4.10	4.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.60	2.60	1.60	2.90	0.00	1.70	1.70	1.70	2.10	2.10
g_i, Effective Green Time [s]	23	65	65	0	42	66	20	20	20	19	19
g / C, Green / Cycle	0.19	0.54	0.54	0.00	0.35	0.55	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.20	0.07	0.07	0.00	0.28	0.10	0.01	0.01	0.00	0.06	0.09
s, saturation flow rate [veh/h]	3459	1870	1830	1781	3560	1589	1781	1825	1589	1781	1864
c, Capacity [veh/h]	651	1012	990	5	1230	873	291	298	259	285	298
d1, Uniform Delay [s]	48.79	13.56	13.56	59.83	35.81	13.59	42.70	42.69	0.00	45.15	46.50
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	53.18	0.25	0.25	44.34	1.36	0.10	0.59	0.57	0.00	3.80	7.12
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	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	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	1.00

Lane Group Results

X, volume / capacity	1.06	0.12	0.12	0.40	0.81	0.19	0.09	0.09	0.00	0.38	0.55
d, Delay for Lane Group [s/veh]	101.97	13.80	13.81	104.18	37.17	13.69	43.29	43.26	0.00	48.95	53.63
Lane Group LOS	F	B	B	F	D	B	D	D	A	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.52	1.70	1.67	0.12	13.26	2.17	0.69	0.70	0.00	3.22	5.15
50th-Percentile Queue Length [ft/ln]	362.92	42.54	41.66	3.05	331.47	54.31	17.35	17.40	0.00	80.45	128.81
95th-Percentile Queue Length [veh/ln]	21.43	3.06	3.00	0.22	19.23	3.91	1.25	1.25	0.00	5.79	8.87
95th-Percentile Queue Length [ft/ln]	535.84	76.57	74.99	5.49	480.77	97.76	31.23	31.32	0.00	144.81	221.87

Movement, Approach, & Intersection Results

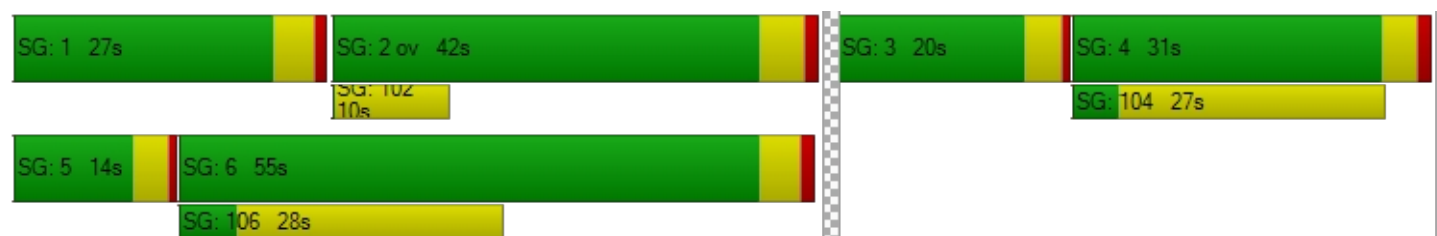
d_M, Delay for Movement [s/veh]	101.97	13.80	13.81	104.18	37.17	13.69	43.28	43.26	0.00	48.95	53.63	53.63
Movement LOS	F	B	B	F	D	B	D	D	A	D	D	D
d_A, Approach Delay [s/veh]	79.06			34.02			43.28			51.77		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	53.59											
Intersection LOS	D											
Intersection V/C	0.588											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			8.0			4.0			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]	0.00			52.32			56.12			51.39		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.883			3.220			2.366		
Crosswalk LOS	F			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	839			618			271			448		
d_b, Bicycle Delay [s]	20.23			28.68			44.86			36.16		
I_b,int, Bicycle LOS Score for Intersection	2.334			2.593			2.333			2.010		
Bicycle LOS	B			B			B			B		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Metro Center Boulevard/EB SR-92 Ramps

Control Type:	Signalized	Delay (sec / veh):	40.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	2	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	600.00	100.00	640.00	290.00	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]	15.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			No		

Volumes

Name	Parking Lot Access			SR-92 Ramps			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	2	49	21	129	4	44	504	257	6	8	101	975
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 [%]	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
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	7	0	0	15	0	0	1	0	0	341
Total Hourly Volume [veh/h]	2	49	14	129	4	29	504	257	5	8	101	634
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	1	13	4	33	1	7	130	66	1	2	26	163
Total Analysis Volume [veh/h]	2	51	14	133	4	30	520	265	5	8	104	654
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 in	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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	5	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	4	0	0	10	4	4	4	0	4	4	0
Maximum Green [s]	0	40	0	0	60	30	30	40	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	4.0	3.1	3.1	3.5	0.0	3.1	3.5	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.5	0.5	1.0	0.0	0.5	1.0	0.0
Split [s]	0	18	0	0	36	36	36	48	0	18	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	5	6	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	10	10	17	0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	3.0	1.6	1.6	2.5	0.0	1.6	2.5	0.0
Minimum Recall		No			No	No	No	No		No	No	
Maximum Recall		No			Yes	No	No	No		No	No	
Pedestrian Recall		No			No	No	No	No		No	No	
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	40.0	0.0	0.0	40.0	40.0	40.0	40.0	0.0	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	L	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.20	4.20	5.00	5.00	3.60	3.60	4.50	4.50	3.60	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	3.00	3.00	0.00	1.60	2.50	2.50	1.60	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	5	40	40	66	21	57	57	1	37	37	37
g / C, Green / Cycle	0.04	0.04	0.33	0.33	0.55	0.18	0.48	0.48	0.01	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.04	0.04	0.01	0.15	0.07	0.07	0.00	0.06	0.21	0.21
s, saturation flow rate [veh/h]	1868	1591	1782	1787	2816	3461	1871	1859	1782	1871	1591	1591
c, Capacity [veh/h]	76	65	590	592	1552	618	891	885	14	572	486	486
d1, Uniform Delay [s]	56.83	55.71	27.94	27.94	12.22	47.65	17.75	17.75	59.34	30.65	36.43	36.43
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	10.83	1.64	0.40	0.40	0.02	3.19	0.36	0.36	31.13	0.70	7.26	7.26
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.22	0.12	0.12	0.02	0.84	0.15	0.15	0.57	0.18	0.67	0.67
d, Delay for Lane Group [s/veh]	67.66	57.35	28.34	28.33	12.24	50.83	18.11	18.11	90.47	31.35	43.69	43.69
Lane Group LOS	E	E	C	C	B	D	B	B	F	C	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.85	0.45	1.43	1.43	0.18	7.70	2.19	2.17	0.36	2.35	9.33	9.33
50th-Percentile Queue Length [ft/ln]	46.33	11.25	35.75	35.80	4.61	192.52	54.69	54.37	9.12	58.63	233.2	233.2
95th-Percentile Queue Length [veh/ln]	3.34	0.81	2.57	2.58	0.33	12.25	3.94	3.91	0.66	4.22	14.34	14.34
95th-Percentile Queue Length [ft/ln]	83.39	20.26	64.34	64.44	8.29	306.29	98.45	97.86	16.41	105.5	358.5	358.5

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.66	67.66	57.35	28.34	28.33	12.24	50.83	18.11	18.11	90.47	31.35	43.69
Movement LOS	E	E	E	C	C	B	D	B	B	F	C	D
d_A, Approach Delay [s/veh]	65.51			25.44			39.65			42.51		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	40.51											
Intersection LOS	D											
Intersection V/C	0.470											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			31.0			0.0		
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]	0.00			0.00			33.01			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.630			0.000		
Crosswalk LOS	F			F			B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	230			517			725			425		
d_b, Bicycle Delay [s]	47.00			33.01			24.39			37.22		
I_b,int, Bicycle LOS Score for Intersection	1.682			1.860			2.212			2.473		
Bicycle LOS	A			A			B			B		

Sequence





Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 5: Metro Center Boulevard/Foster City Boulevard**

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
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	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	210.00	100.00	100.00	150.00	100.00	240.00	50.00	100.00	170.00
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]	35.00			35.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Foster City Boulevard			Foster City Boulevard			Metro Center Boulevard			Metro Center Boulevard		
Base Volume Input [veh/h]	234	547	64	198	617	732	124	130	153	62	118	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	13	0	0	366	0	0	77	0	0	94
Total Hourly Volume [veh/h]	234	547	51	198	617	366	124	130	76	62	118	174
Peak Hour 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
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]	59	137	13	50	154	92	31	33	19	16	30	44
Total Analysis Volume [veh/h]	234	547	51	198	617	366	124	130	76	62	118	174
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	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	43.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Overlap	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	4	1	0	3	0
Auxiliary Signal Groups									1,4			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	4	6	0	4	6	0	0	6	4	0	6	0
Maximum Green [s]	30	40	0	25	40	0	0	40	30	0	30	0
Amber [s]	3.1	3.6	0.0	3.1	3.6	0.0	0.0	3.2	3.1	0.0	3.2	0.0
All red [s]	0.5	1.0	0.0	0.5	1.0	0.0	0.0	1.0	0.5	0.0	0.5	0.0
Split [s]	24	36	0	20	32	0	0	39	24	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	19	0	0	20	0	0	27	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.6	2.6	0.0	1.6	2.6	0.0	0.0	2.2	1.6	0.0	1.7	0.0
Minimum Recall	No	No		No	No			No	No		No	
Maximum Recall	No	Yes		No	Yes			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
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]	40.0	40.0	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

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.60	4.60	4.60	3.60	4.60	4.60	4.20	4.20	3.60	3.70	3.70	3.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.60	2.60	2.60	1.60	2.60	2.60	2.20	2.20	0.00	1.70	1.70	1.70
g_i, Effective Green Time [s]	18	40	40	15	38	38	24	24	46	24	24	24
g / C, Green / Cycle	0.15	0.33	0.33	0.13	0.31	0.31	0.20	0.20	0.38	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.11	0.11	0.12	0.13	0.04	0.04	0.03	0.03	0.06	0.11
s, saturation flow rate [veh/h]	1781	3560	1790	1781	5094	2813	3459	3560	2813	1781	1870	1589
c, Capacity [veh/h]	264	1183	595	228	1590	878	697	718	1082	363	381	324
d1, Uniform Delay [s]	50.13	30.11	30.14	51.32	32.30	32.63	39.67	39.70	23.34	39.39	40.58	42.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.50	0.11	0.50	0.50	0.50
l, 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
d2, Incremental Delay [s]	9.71	0.77	1.54	9.74	0.72	1.46	0.56	0.55	0.03	1.02	2.10	6.25
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	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	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	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.34	0.34	0.87	0.39	0.42	0.18	0.18	0.07	0.17	0.31	0.54
d, Delay for Lane Group [s/veh]	59.83	30.88	31.68	61.05	33.02	34.09	40.23	40.25	23.37	40.41	42.68	48.94
Lane Group LOS	E	C	C	E	C	C	D	D	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.52	4.40	4.59	6.40	4.74	4.34	1.57	1.64	0.68	1.64	3.23	5.23
50th-Percentile Queue Length [ft/ln]	188.09	109.96	114.71	159.97	118.45	108.56	39.17	41.06	17.11	40.90	80.73	130.67
95th-Percentile Queue Length [veh/ln]	12.02	7.84	8.10	10.55	8.31	7.76	2.82	2.96	1.23	2.94	5.81	8.98
95th-Percentile Queue Length [ft/ln]	300.55	195.95	202.54	263.68	207.70	193.99	70.51	73.91	30.81	73.62	145.31	224.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.83	31.10	31.68	61.05	33.02	34.09	40.23	40.25	23.37	40.41	42.68	48.94
Movement LOS	E	C	C	E	C	C	D	D	C	D	D	D
d_A, Approach Delay [s/veh]	39.22			38.05			36.35			45.36		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.16											
Intersection LOS	D											
Intersection V/C	0.407											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	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]	51.34	0.00	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.900	0.000	0.000	2.585
Crosswalk LOS	C	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	523	457	580	355
d_b, Bicycle Delay [s]	32.71	35.73	30.25	40.59
I_b,int, Bicycle LOS Score for Intersection	2.024	2.410	1.895	2.299
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

