Appendix AQ
CalEEMod Emissions

SFO Technology Center

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	239.20	1000sqft	5.49	239,200.00	0
Quality Restaurant	11.90	1000sqft	0.51	11,900.00	0
Strip Mall	8.60	1000sqft	0.20	8,600.00	0
Enclosed Parking Structure	258.46	1000sqft	0.00	258,458.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking is on 1st 3 floors. No separate acreage. 6.2 total acreage.

Construction Phase -

Off-road Equipment -

Grading -

Demolition -

Trips and VMT -

On-road Fugitive Dust -

Vehicle Trips - Adjusted trip rates to match transportation study. Trip rates reflect pass-by trip reduction so zeroed out pass-by trip percentage and boost primary and diverted

Road Dust - County speciic silt loading per CARB Method 7.9

Stationary Sources - Emergency Generators and Fire Pumps -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	5,500.00
tblGrading	MaterialImported	0.00	60.00
tblLandUse	LandUseSquareFeet	258,460.00	258,458.00
tblLandUse	LotAcreage	0.27	0.51
tblLandUse	LotAcreage	5.93	0.00
tblRoadDust	RoadSiltLoading	0.1	0.04
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	402.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	DV_TP	19.00	21.00
tblVehicleTrips	DV_TP	18.00	32.00
tblVehicleTrips	DV_TP	40.00	47.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	77.00	79.00
tblVehicleTrips	PR_TP	38.00	68.00
tblVehicleTrips	PR_TP	45.00	53.00
tblVehicleTrips	ST_TR	2.46	1.82
tblVehicleTrips	ST_TR	94.36	69.60

tblVehicleTrips	ST_TR	42.04	29.92
tblVehicleTrips	SU_TR	1.05	0.77
tblVehicleTrips	SU_TR	72.16	53.22
tblVehicleTrips	SU_TR	20.43	14.54
tblVehicleTrips	WD_TR	11.03	8.14
tblVehicleTrips	WD_TR	89.95	66.34
tblVehicleTrips	WD_TR	44.32	31.54

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3705	3.7507	2.5387	6.1900e-003	0.3839	0.1655	0.5493	0.1378	0.1549	0.2927	0.0000	576.8379	576.8379	0.0899	0.0000	579.0848
2019	1.5670	1.5299	1.2465	3.0000e-003	0.0913	0.0673	0.1586	0.0248	0.0632	0.0881	0.0000	275.8076	275.8076	0.0404	0.0000	276.8185
Maximum	**1.5670**	**3.7507**	**2.5387**	**6.1900e-003**	**0.3839**	**0.1655**	**0.5493**	**0.1378**	**0.1549**	**0.2927**	**0.0000**	**576.8379**	**576.8379**	**0.0899**	**0.0000**	**579.0848**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3705	3.7507	2.5387	6.1900e-003	0.3839	0.1655	0.5493	0.1378	0.1549	0.2927	0.0000	576.8376	576.8376	0.0899	0.0000	579.0845

2019	1.5670	1.5299	1.2465	3.0000e-003	0.0913	0.0673	0.1586	0.0248	0.0632	0.0881	0.0000	275.8075	275.8075	0.0404	0.0000	276.8184
Maximum	**1.5670**	**3.7507**	**2.5387**	**6.1900e-003**	**0.3839**	**0.1655**	**0.5493**	**0.1378**	**0.1549**	**0.2927**	**0.0000**	**576.8376**	**576.8376**	**0.0899**	**0.0000**	**579.0845**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-1-2018**	**6-30-2018**	1.5436	1.5436
2	**7-1-2018**	**9-30-2018**	1.2783	1.2783
3	**10-1-2018**	**12-31-2018**	1.2913	1.2913
4	**1-1-2019**	**3-31-2019**	1.1506	1.1506
5	**4-1-2019**	**6-30-2019**	1.9278	1.9278
		Highest	1.9278	1.9278

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1722	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003
Energy	0.0359	0.3266	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	1,776.7807	1,776.7807	0.0711	0.0198	1,784.4622
Mobile	0.6540	2.0733	7.3349	0.0237	1.0997	0.0260	1.1257	0.3191	0.0244	0.3435	0.0000	2,167.7464	2,167.7464	0.0813	0.0000	2,169.7787
Stationary	0.0165	0.0461	0.0421	8.0000e-005		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	7.6540	7.6540	1.0700e-003	0.0000	7.6809
Waste						0.0000	0.0000		0.0000	0.0000	49.1949	0.0000	49.1949	2.9073	0.0000	121.8782
Water						0.0000	0.0000		0.0000	0.0000	14.8357	100.7738	115.6096	1.5283	0.0369	164.8207

Total	**1.8786**	**2.4460**	**7.6560**	**0.0258**	**1.0997**	**0.0533**	**1.1529**	**0.3191**	**0.0517**	**0.3708**	**64.0306**	**4,052.9642**	**4,116.9948**	**4.5891**	**0.0567**	**4,248.6305**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1722	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003
Energy	0.0359	0.3266	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	1,776.7807	1,776.7807	0.0711	0.0198	1,784.4622
Mobile	0.6540	2.0733	7.3349	0.0237	1.0997	0.0260	1.1257	0.3191	0.0244	0.3435	0.0000	2,167.7464	2,167.7464	0.0813	0.0000	2,169.7787
Stationary	0.0165	0.0461	0.0421	8.0000e-005		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	7.6540	7.6540	1.0700e-003	0.0000	7.6809
Waste						0.0000	0.0000		0.0000	0.0000	49.1949	0.0000	49.1949	2.9073	0.0000	121.8782
Water						0.0000	0.0000		0.0000	0.0000	14.8357	100.7738	115.6096	1.5283	0.0369	164.8207
Total	**1.8786**	**2.4460**	**7.6560**	**0.0258**	**1.0997**	**0.0533**	**1.1529**	**0.3191**	**0.0517**	**0.3708**	**64.0306**	**4,052.9642**	**4,116.9948**	**4.5891**	**0.0567**	**4,248.6305**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2018	4/27/2018	5	20	
2	Site Preparation	Site Preparation	4/28/2018	5/11/2018	5	10	
3	Grading	Grading	5/12/2018	6/8/2018	5	20	

4	Building Construction	Building Construction	6/9/2018	4/26/2019	5	230	
5	Paving	Paving	4/27/2019	5/24/2019	5	20	
6	Architectural Coating	Architectural Coating	5/25/2019	6/21/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 389,550; Non-Residential Outdoor: 129,850; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	193.00	85.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	579.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	695.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0626	0.0000	0.0626	9.4800e-003	0.0000	9.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0372	0.3832	0.2230	3.9000e-004		0.0194	0.0194		0.0181	0.0181	0.0000	35.1241	35.1241	9.6800e-003	0.0000	35.3660
Total	**0.0372**	**0.3832**	**0.2230**	**3.9000e-004**	**0.0626**	**0.0194**	**0.0820**	**9.4800e-003**	**0.0181**	**0.0275**	**0.0000**	**35.1241**	**35.1241**	**9.6800e-003**	**0.0000**	**35.3660**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	3.0800e-003	0.1069	0.0387	2.4000e-004	4.8400e-003	4.4000e-004	5.2800e-003	1.3300e-003	4.2000e-004	1.7500e-003	0.0000	24.8837	24.8837	2.9600e-003	0.0000	24.9577
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.6000e-004	3.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0482	1.0482	2.0000e-005	0.0000	1.0488
Total	**3.5700e-003**	**0.1072**	**0.0423**	**2.5000e-004**	**6.0200e-003**	**4.5000e-004**	**6.4700e-003**	**1.6400e-003**	**4.3000e-004**	**2.0700e-003**	**0.0000**	**25.9319**	**25.9319**	**2.9800e-003**	**0.0000**	**26.0065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0626	0.0000	0.0626	9.4800e-003	0.0000	9.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0372	0.3832	0.2230	3.9000e-004		0.0194	0.0194		0.0181	0.0181	0.0000	35.1240	35.1240	9.6800e-003	0.0000	35.3660
Total	**0.0372**	**0.3832**	**0.2230**	**3.9000e-004**	**0.0626**	**0.0194**	**0.0820**	**9.4800e-003**	**0.0181**	**0.0275**	**0.0000**	**35.1240**	**35.1240**	**9.6800e-003**	**0.0000**	**35.3660**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0800e-003	0.1069	0.0387	2.4000e-004	4.8400e-003	4.4000e-004	5.2800e-003	1.3300e-003	4.2000e-004	1.7500e-003	0.0000	24.8837	24.8837	2.9600e-003	0.0000	24.9577
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.6000e-004	3.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0482	1.0482	2.0000e-005	0.0000	1.0488

Total	**3.5700e-003**	**0.1072**	**0.0423**	**2.5000e-004**	**6.0200e-003**	**4.5000e-004**	**6.4700e-003**	**1.6400e-003**	**4.3000e-004**	**2.0700e-003**	**0.0000**	**25.9319**	**25.9319**	**2.9800e-003**	**0.0000**	**26.0065**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0907	0.0000	0.0907	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0907**	**0.0129**	**0.1035**	**0.0497**	**0.0119**	**0.0616**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-003	0.1283	0.0464	2.9000e-004	5.8100e-003	5.3000e-004	6.3400e-003	1.6000e-003	5.1000e-004	2.1000e-003	0.0000	29.8690	29.8690	3.5500e-003	0.0000	29.9579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.1000e-004	2.1600e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6289	0.6289	1.0000e-005	0.0000	0.6293
Total	**3.9900e-003**	**0.1285**	**0.0486**	**3.0000e-004**	**6.5200e-003**	**5.3000e-004**	**7.0500e-003**	**1.7900e-003**	**5.1000e-004**	**2.2900e-003**	**0.0000**	**30.4980**	**30.4980**	**3.5600e-003**	**0.0000**	**30.5871**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0907	0.0000	0.0907	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0907**	**0.0129**	**0.1035**	**0.0497**	**0.0119**	**0.0616**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-003	0.1283	0.0464	2.9000e-004	5.8100e-003	5.3000e-004	6.3400e-003	1.6000e-003	5.1000e-004	2.1000e-003	0.0000	29.8690	29.8690	3.5500e-003	0.0000	29.9579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.1000e-004	2.1600e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6289	0.6289	1.0000e-005	0.0000	0.6293
Total	**3.9900e-003**	**0.1285**	**0.0486**	**3.0000e-004**	**6.5200e-003**	**5.3000e-004**	**7.0500e-003**	**1.7900e-003**	**5.1000e-004**	**2.2900e-003**	**0.0000**	**30.4980**	**30.4980**	**3.5600e-003**	**0.0000**	**30.5871**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0277	0.3067	0.1658	3.0000e-004		0.0155	0.0155		0.0143	0.0143	0.0000	27.1069	27.1069	8.4400e-003	0.0000	27.3178
Total	**0.0277**	**0.3067**	**0.1658**	**3.0000e-004**	**0.0655**	**0.0155**	**0.0810**	**0.0337**	**0.0143**	**0.0479**	**0.0000**	**27.1069**	**27.1069**	**8.4400e-003**	**0.0000**	**27.3178**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.6000e-004	3.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0482	1.0482	2.0000e-005	0.0000	1.0488
Total	**4.9000e-004**	**3.6000e-004**	**3.6000e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0482**	**1.0482**	**2.0000e-005**	**0.0000**	**1.0488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0277	0.3067	0.1658	3.0000e-004		0.0155	0.0155		0.0143	0.0143	0.0000	27.1068	27.1068	8.4400e-003	0.0000	27.3178
Total	**0.0277**	**0.3067**	**0.1658**	**3.0000e-004**	**0.0655**	**0.0155**	**0.0810**	**0.0337**	**0.0143**	**0.0479**	**0.0000**	**27.1068**	**27.1068**	**8.4400e-003**	**0.0000**	**27.3178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.6000e-004	3.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0482	1.0482	2.0000e-005	0.0000	1.0488
Total	**4.9000e-004**	**3.6000e-004**	**3.6000e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0482**	**1.0482**	**2.0000e-005**	**0.0000**	**1.0488**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1956	1.7075	1.2834	1.9600e-003		0.1095	0.1095		0.1029	0.1029	0.0000	173.5701	173.5701	0.0425	0.0000	174.6332
Total	**0.1956**	**1.7075**	**1.2834**	**1.9600e-003**		**0.1095**	**0.1095**		**0.1029**	**0.1029**	**0.0000**	**173.5701**	**173.5701**	**0.0425**	**0.0000**	**174.6332**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0331	0.8429	0.3216	1.6900e-003	0.0404	6.4700e-003	0.0469	0.0117	6.1900e-003	0.0179	0.0000	167.7269	167.7269	0.0149	0.0000	168.1002
Worker	0.0460	0.0334	0.3382	1.0900e-003	0.1109	7.2000e-004	0.1116	0.0295	6.6000e-004	0.0302	0.0000	98.4520	98.4520	2.3200e-003	0.0000	98.5100
Total	**0.0791**	**0.8763**	**0.6598**	**2.7800e-003**	**0.1514**	**7.1900e-003**	**0.1585**	**0.0412**	**6.8500e-003**	**0.0481**	**0.0000**	**266.1789**	**266.1789**	**0.0173**	**0.0000**	**266.6101**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1956	1.7075	1.2834	1.9600e-003		0.1095	0.1095		0.1029	0.1029	0.0000	173.5699	173.5699	0.0425	0.0000	174.6330
Total	**0.1956**	**1.7075**	**1.2834**	**1.9600e-003**		**0.1095**	**0.1095**		**0.1029**	**0.1029**	**0.0000**	**173.5699**	**173.5699**	**0.0425**	**0.0000**	**174.6330**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0331	0.8429	0.3216	1.6900e-003	0.0404	6.4700e-003	0.0469	0.0117	6.1900e-003	0.0179	0.0000	167.7269	167.7269	0.0149	0.0000	168.1002
Worker	0.0460	0.0334	0.3382	1.0900e-003	0.1109	7.2000e-004	0.1116	0.0295	6.6000e-004	0.0302	0.0000	98.4520	98.4520	2.3200e-003	0.0000	98.5100

Total	**0.0791**	**0.8763**	**0.6598**	**2.7800e-003**	**0.1514**	**7.1900e-003**	**0.1585**	**0.0412**	**6.8500e-003**	**0.0481**	**0.0000**	**266.1789**	**266.1789**	**0.0173**	**0.0000**	**266.6101**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0992	0.8853	0.7209	1.1300e-003		0.0542	0.0542		0.0509	0.0509	0.0000	98.7438	98.7438	0.0241	0.0000	99.3451
Total	**0.0992**	**0.8853**	**0.7209**	**1.1300e-003**		**0.0542**	**0.0542**		**0.0509**	**0.0509**	**0.0000**	**98.7438**	**98.7438**	**0.0241**	**0.0000**	**99.3451**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0170	0.4558	0.1751	9.6000e-004	0.0233	3.1500e-003	0.0264	6.7300e-003	3.0100e-003	9.7400e-003	0.0000	95.4992	95.4992	8.4300e-003	0.0000	95.7101
Worker	0.0240	0.0169	0.1739	6.1000e-004	0.0638	4.1000e-004	0.0642	0.0170	3.8000e-004	0.0174	0.0000	54.8802	54.8802	1.1700e-003	0.0000	54.9096
Total	**0.0409**	**0.4727**	**0.3490**	**1.5700e-003**	**0.0871**	**3.5600e-003**	**0.0906**	**0.0237**	**3.3900e-003**	**0.0271**	**0.0000**	**150.3795**	**150.3795**	**9.6000e-003**	**0.0000**	**150.6197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0992	0.8853	0.7209	1.1300e-003		0.0542	0.0542		0.0509	0.0509	0.0000	98.7437	98.7437	0.0241	0.0000	99.3450
Total	**0.0992**	**0.8853**	**0.7209**	**1.1300e-003**		**0.0542**	**0.0542**		**0.0509**	**0.0509**	**0.0000**	**98.7437**	**98.7437**	**0.0241**	**0.0000**	**99.3450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0170	0.4558	0.1751	9.6000e-004	0.0233	3.1500e-003	0.0264	6.7300e-003	3.0100e-003	9.7400e-003	0.0000	95.4992	95.4992	8.4300e-003	0.0000	95.7101
Worker	0.0240	0.0169	0.1739	6.1000e-004	0.0638	4.1000e-004	0.0642	0.0170	3.8000e-004	0.0174	0.0000	54.8802	54.8802	1.1700e-003	0.0000	54.9096
Total	**0.0409**	**0.4727**	**0.3490**	**1.5700e-003**	**0.0871**	**3.5600e-003**	**0.0906**	**0.0237**	**3.3900e-003**	**0.0271**	**0.0000**	**150.3795**	**150.3795**	**9.6000e-003**	**0.0000**	**150.6197**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1524**	**0.1467**	**2.3000e-004**		**8.2500e-003**	**8.2500e-003**		**7.5900e-003**	**7.5900e-003**	**0.0000**	**20.4752**	**20.4752**	**6.4800e-003**	**0.0000**	**20.6371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1524**	**0.1467**	**2.3000e-004**		**8.2500e-003**	**8.2500e-003**		**7.5900e-003**	**7.5900e-003**	**0.0000**	**20.4752**	**20.4752**	**6.4800e-003**	**0.0000**	**20.6371**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5587
Total	**1.4107**	**0.0184**	**0.0184**	**3.0000e-005**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**2.5533**	**2.5533**	**2.2000e-004**	**0.0000**	**2.5587**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1500e-003	8.1000e-004	8.3700e-003	3.0000e-005	3.0700e-003	2.0000e-005	3.0900e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.6404	2.6404	6.0000e-005	0.0000	2.6418
Total	**1.1500e-003**	**8.1000e-004**	**8.3700e-003**	**3.0000e-005**	**3.0700e-003**	**2.0000e-005**	**3.0900e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.6404**	**2.6404**	**6.0000e-005**	**0.0000**	**2.6418**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5586
Total	**1.4107**	**0.0184**	**0.0184**	**3.0000e-005**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**2.5533**	**2.5533**	**2.2000e-004**	**0.0000**	**2.5586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1500e-003	8.1000e-004	8.3700e-003	3.0000e-005	3.0700e-003	2.0000e-005	3.0900e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.6404	2.6404	6.0000e-005	0.0000	2.6418

Total	**1.1500e-003**	**8.1000e-004**	**8.3700e-003**	**3.0000e-005**	**3.0700e-003**	**2.0000e-005**	**3.0900e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.6404**	**2.6404**	**6.0000e-005**	**0.0000**	**2.6418**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6540	2.0733	7.3349	0.0237	1.0997	0.0260	1.1257	0.3191	0.0244	0.3435	0.0000	2,167.7464	2,167.7464	0.0813	0.0000	2,169.7787
Unmitigated	0.6540	2.0733	7.3349	0.0237	1.0997	0.0260	1.1257	0.3191	0.0244	0.3435	0.0000	2,167.7464	2,167.7464	0.0813	0.0000	2,169.7787

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	1,947.09	435.34	184.18	3,641,004	3,641,004
Quality Restaurant	789.45	828.24	633.32	1,616,845	1,616,845
Strip Mall	271.24	257.31	125.04	448,704	448,704
Total	3,007.78	1,520.90	942.55	5,706,554	5,706,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	79	21	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	68	32	0

Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	53	47	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
General Office Building	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Quality Restaurant	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Strip Mall	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,421.2954	1,421.2954	0.0643	0.0133	1,426.8644
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,421.2954	1,421.2954	0.0643	0.0133	1,426.8644
NaturalGas Mitigated	0.0359	0.3266	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	355.4854	355.4854	6.8100e-003	6.5200e-003	357.5978
NaturalGas Unmitigated	0.0359	0.3266	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	355.4854	355.4854	6.8100e-003	6.5200e-003	357.5978

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	4.62374e+006	0.0249	0.2267	0.1904	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	246.7402	246.7402	4.7300e-003	4.5200e-003	248.2064
Quality Restaurant	1.99825e+006	0.0108	0.0980	0.0823	5.9000e-004		7.4400e-003	7.4400e-003		7.4400e-003	7.4400e-003	0.0000	106.6341	106.6341	2.0400e-003	1.9500e-003	107.2678
Strip Mall	39560	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1111	2.1111	4.0000e-005	4.0000e-005	2.1236
Total		**0.0359**	**0.3265**	**0.2743**	**1.9600e-003**		**0.0248**	**0.0248**		**0.0248**	**0.0248**	**0.0000**	**355.4854**	**355.4854**	**6.8100e-003**	**6.5100e-003**	**357.5978**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	4.62374e+006	0.0249	0.2267	0.1904	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	246.7402	246.7402	4.7300e-003	4.5200e-003	248.2064
Quality Restaurant	1.99825e+006	0.0108	0.0980	0.0823	5.9000e-004		7.4400e-003	7.4400e-003		7.4400e-003	7.4400e-003	0.0000	106.6341	106.6341	2.0400e-003	1.9500e-003	107.2678
Strip Mall	39560	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1111	2.1111	4.0000e-005	4.0000e-005	2.1236
Total		**0.0359**	**0.3265**	**0.2743**	**1.9600e-003**		**0.0248**	**0.0248**		**0.0248**	**0.0248**	**0.0000**	**355.4854**	**355.4854**	**6.8100e-003**	**6.5100e-003**	**357.5978**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	1.46546e+006	426.3182	0.0193	3.9900e-003	427.9887
General Office Building	2.98522e+006	868.4336	0.0393	8.1200e-003	871.8364
Quality Restaurant	344862	100.3243	4.5400e-003	9.4000e-004	100.7174
Strip Mall	90128	26.2193	1.1900e-003	2.5000e-004	26.3220
Total		**1,421.2953**	**0.0643**	**0.0133**	**1,426.8644**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	1.46546e+006	426.3182	0.0193	3.9900e-003	427.9887
General Office Building	2.98522e+006	868.4336	0.0393	8.1200e-003	871.8364
Quality Restaurant	344862	100.3243	4.5400e-003	9.4000e-004	100.7174
Strip Mall	90128	26.2193	1.1900e-003	2.5000e-004	26.3220
Total		**1,421.2953**	**0.0643**	**0.0133**	**1,426.8644**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1722	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003
Unmitigated	1.1722	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1408					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.5000e-004	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003
Total	**1.1722**	**4.0000e-005**	**4.7900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2600e-003**	**9.2600e-003**	**2.0000e-005**	**0.0000**	**9.8800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1408					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Landscaping	4.5000e-004	4.0000e-005	4.7900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2600e-003	9.2600e-003	2.0000e-005	0.0000	9.8800e-003
Total	**1.1722**	**4.0000e-005**	**4.7900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2600e-003**	**9.2600e-003**	**2.0000e-005**	**0.0000**	**9.8800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	115.6096	1.5283	0.0369	164.8207
Unmitigated	115.6096	1.5283	0.0369	164.8207

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	42.5139 / 26.0569	106.9407	1.3895	0.0336	151.6874
Quality Restaurant	3.61205 / 0.230556	7.0665	0.1180	2.8300e-003	10.8603
Strip Mall	0.637024 / 0.390434	1.6024	0.0208	5.0000e-004	2.2729

Total		**115.6096**	**1.5283**	**0.0369**	**164.8207**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	42.5139 / 26.0569	106.9407	1.3895	0.0336	151.6874
Quality Restaurant	3.61205 / 0.230556	7.0665	0.1180	2.8300e-003	10.8603
Strip Mall	0.637024 / 0.390434	1.6024	0.0208	5.0000e-004	2.2729
Total		**115.6096**	**1.5283**	**0.0369**	**164.8207**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	49.1949	2.9073	0.0000	121.8782
Unmitigated	49.1949	2.9073	0.0000	121.8782

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	222.46	45.1574	2.6687	0.0000	111.8755
Quality Restaurant	10.86	2.2045	0.1303	0.0000	5.4615
Strip Mall	9.03	1.8330	0.1083	0.0000	4.5412
Total		**49.1949**	**2.9073**	**0.0000**	**121.8782**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	222.46	45.1574	2.6687	0.0000	111.8755
Quality Restaurant	10.86	2.2045	0.1303	0.0000	5.4615
Strip Mall	9.03	1.8330	0.1083	0.0000	4.5412
Total		**49.1949**	**2.9073**	**0.0000**	**121.8782**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	402	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0165	0.0461	0.0421	8.0000e-005		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	7.6540	7.6540	1.0700e-003	0.0000	7.6809
Total	**0.0165**	**0.0461**	**0.0421**	**8.0000e-005**		**2.4300e-003**	**2.4300e-003**		**2.4300e-003**	**2.4300e-003**	**0.0000**	**7.6540**	**7.6540**	**1.0700e-003**	**0.0000**	**7.6809**

11.0 Vegetation

SFO Technology Existing - San Mateo County, Annual

SFO Technology Existing

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	100.00	1000sqft	2.30	100,000.00	0
High Turnover (Sit Down Restaurant)	27.00	1000sqft	0.62	27,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Energy Use - Use 2008 Ttitle 24 assumtons for enmergy demand from existing uses.

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	5.34	6.45
tblEnergyUse	LightingElect	3.58	4.34
tblEnergyUse	T24E	2.67	3.42
tblEnergyUse	T24E	4.10	5.42

tblEnergyUse	T24NG	39.90	42.87
tblEnergyUse	T24NG	18.32	22.58

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3449	2.6712	1.9537	3.6900e-003	0.0700	0.1449	0.2149	0.0234	0.1383	0.1618	0.0000	324.1103	324.1103	0.0586	0.0000	325.5751
2019	0.7036	0.3324	0.2775	5.2000e-004	6.6500e-003	0.0176	0.0243	1.8100e-003	0.0168	0.0186	0.0000	45.4150	45.4150	8.4900e-003	0.0000	45.6272
Maximum	**0.7036**	**2.6712**	**1.9537**	**3.6900e-003**	**0.0700**	**0.1449**	**0.2149**	**0.0234**	**0.1383**	**0.1618**	**0.0000**	**324.1103**	**324.1103**	**0.0586**	**0.0000**	**325.5751**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3449	2.6712	1.9537	3.6900e-003	0.0700	0.1449	0.2149	0.0234	0.1383	0.1618	0.0000	324.1100	324.1100	0.0586	0.0000	325.5749
2019	0.7036	0.3324	0.2775	5.2000e-004	6.6500e-003	0.0176	0.0243	1.8100e-003	0.0168	0.0186	0.0000	45.4150	45.4150	8.4900e-003	0.0000	45.6272
Maximum	**0.7036**	**2.6712**	**1.9537**	**3.6900e-003**	**0.0700**	**0.1449**	**0.2149**	**0.0234**	**0.1383**	**0.1618**	**0.0000**	**324.1100**	**324.1100**	**0.0586**	**0.0000**	**325.5749**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-20-2018**	**5-19-2018**	0.8504	0.8504
2	**5-20-2018**	**8-19-2018**	0.8795	0.8795
3	**8-20-2018**	**11-19-2018**	0.8811	0.8811
4	**11-20-2018**	**2-19-2019**	0.9446	0.9446
5	**2-20-2019**	**5-19-2019**	0.4807	0.4807
		Highest	0.9446	0.9446

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6434	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003
Energy	0.0376	0.3418	0.2871	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	1,037.9107	1,037.9107	0.0372	0.0131	1,042.7308
Mobile	3.6147	7.7893	39.0381	0.0584	2.2818	0.1492	2.4310	0.6137	0.1414	0.7551	0.0000	2,789.1944	2,789.1944	0.3365	0.0000	2,797.6061
Waste						0.0000	0.0000		0.0000	0.0000	84.0992	0.0000	84.0992	4.9701	0.0000	208.3521
Water						0.0000	0.0000		0.0000	0.0000	8.2387	52.5022	60.7409	0.8486	0.0205	88.0556
Total	**4.2956**	**8.1311**	**39.3268**	**0.0604**	**2.2818**	**0.1752**	**2.4570**	**0.6137**	**0.1674**	**0.7811**	**92.3379**	**3,879.6095**	**3,971.9474**	**6.1924**	**0.0335**	**4,136.7471**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Area	0.6434	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003
Energy	0.0376	0.3418	0.2871	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	1,037.9107	1,037.9107	0.0372	0.0131	1,042.7308
Mobile	3.6147	7.7893	39.0381	0.0584	2.2818	0.1492	2.4310	0.6137	0.1414	0.7551	0.0000	2,789.1944	2,789.1944	0.3365	0.0000	2,797.6061
Waste						0.0000	0.0000		0.0000	0.0000	84.0992	0.0000	84.0992	4.9701	0.0000	208.3521
Water						0.0000	0.0000		0.0000	0.0000	8.2387	52.5022	60.7409	0.8486	0.0205	88.0556
Total	**4.2956**	**8.1311**	**39.3268**	**0.0604**	**2.2818**	**0.1752**	**2.4570**	**0.6137**	**0.1674**	**0.7811**	**92.3379**	**3,879.6095**	**3,971.9474**	**6.1924**	**0.0335**	**4,136.7471**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	2/16/2019	3/1/2019	5	10	
2	Building Construction	Building Construction	3/31/2018	2/1/2019	5	220	
3	Demolition	Demolition	2/20/2018	3/19/2018	5	20	
4	Grading	Grading	3/23/2018	3/30/2018	5	6	
5	Paving	Paving	2/2/2019	2/15/2019	5	10	
6	Site Preparation	Site Preparation	3/20/2018	3/22/2018	5	3	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	43.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6622					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
Total	**0.6636**	**9.1800e-003**	**9.2100e-003**	**1.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.1000e-004**	**0.0000**	**1.2793**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	9.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3047	0.3047	1.0000e-005	0.0000	0.3048
Total	**1.3000e-004**	**9.0000e-005**	**9.7000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3047**	**0.3047**	**1.0000e-005**	**0.0000**	**0.3048**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6622					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
Total	**0.6636**	**9.1800e-003**	**9.2100e-003**	**1.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.1000e-004**	**0.0000**	**1.2793**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	9.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3047	0.3047	1.0000e-005	0.0000	0.3048
Total	**1.3000e-004**	**9.0000e-005**	**9.7000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3047**	**0.3047**	**1.0000e-005**	**0.0000**	**0.3048**

3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.2855	2.0294	1.5404	2.4500e-003		0.1232	0.1232		0.1181	0.1181	0.0000	207.1266	207.1266	0.0446	0.0000	208.2422
Total	**0.2855**	**2.0294**	**1.5404**	**2.4500e-003**		**0.1232**	**0.1232**		**0.1181**	**0.1181**	**0.0000**	**207.1266**	**207.1266**	**0.0446**	**0.0000**	**208.2422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2796	0.1067	5.6000e-004	0.0134	2.1500e-003	0.0156	3.8800e-003	2.0500e-003	5.9300e-003	0.0000	55.6297	55.6297	4.9500e-003	0.0000	55.7535
Worker	0.0138	9.9900e-003	0.1012	3.3000e-004	0.0332	2.1000e-004	0.0334	8.8300e-003	2.0000e-004	9.0300e-003	0.0000	29.4469	29.4469	6.9000e-004	0.0000	29.4642
Total	**0.0247**	**0.2895**	**0.2078**	**8.9000e-004**	**0.0466**	**2.3600e-003**	**0.0490**	**0.0127**	**2.2500e-003**	**0.0150**	**0.0000**	**85.0765**	**85.0765**	**5.6400e-003**	**0.0000**	**85.2176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2855	2.0294	1.5404	2.4500e-003		0.1232	0.1232		0.1181	0.1181	0.0000	207.1264	207.1264	0.0446	0.0000	208.2419
Total	**0.2855**	**2.0294**	**1.5404**	**2.4500e-003**		**0.1232**	**0.1232**		**0.1181**	**0.1181**	**0.0000**	**207.1264**	**207.1264**	**0.0446**	**0.0000**	**208.2419**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2796	0.1067	5.6000e-004	0.0134	2.1500e-003	0.0156	3.8800e-003	2.0500e-003	5.9300e-003	0.0000	55.6297	55.6297	4.9500e-003	0.0000	55.7535
Worker	0.0138	9.9900e-003	0.1012	3.3000e-004	0.0332	2.1000e-004	0.0334	8.8300e-003	2.0000e-004	9.0300e-003	0.0000	29.4469	29.4469	6.9000e-004	0.0000	29.4642
Total	**0.0247**	**0.2895**	**0.2078**	**8.9000e-004**	**0.0466**	**2.3600e-003**	**0.0490**	**0.0127**	**2.2500e-003**	**0.0150**	**0.0000**	**85.0765**	**85.0765**	**5.6400e-003**	**0.0000**	**85.2176**

3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0307	0.2269	0.1831	3.0000e-004		0.0131	0.0131		0.0125	0.0125	0.0000	25.1705	25.1705	5.2400e-003	0.0000	25.3014
Total	**0.0307**	**0.2269**	**0.1831**	**3.0000e-004**		**0.0131**	**0.0131**		**0.0125**	**0.0125**	**0.0000**	**25.1705**	**25.1705**	**5.2400e-003**	**0.0000**	**25.3014**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-003	0.0322	0.0124	7.0000e-005	1.6400e-003	2.2000e-004	1.8600e-003	4.8000e-004	2.1000e-004	6.9000e-004	0.0000	6.7411	6.7411	6.0000e-004	0.0000	6.7560
Worker	1.5300e-003	1.0700e-003	0.0111	4.0000e-005	4.0600e-003	3.0000e-005	4.0900e-003	1.0800e-003	2.0000e-005	1.1000e-003	0.0000	3.4935	3.4935	7.0000e-005	0.0000	3.4954
Total	**2.7300e-003**	**0.0333**	**0.0234**	**1.1000e-004**	**5.7000e-003**	**2.5000e-004**	**5.9500e-003**	**1.5600e-003**	**2.3000e-004**	**1.7900e-003**	**0.0000**	**10.2346**	**10.2346**	**6.7000e-004**	**0.0000**	**10.2514**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0307	0.2269	0.1831	3.0000e-004		0.0131	0.0131		0.0125	0.0125	0.0000	25.1705	25.1705	5.2400e-003	0.0000	25.3014
Total	**0.0307**	**0.2269**	**0.1831**	**3.0000e-004**		**0.0131**	**0.0131**		**0.0125**	**0.0125**	**0.0000**	**25.1705**	**25.1705**	**5.2400e-003**	**0.0000**	**25.3014**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-003	0.0322	0.0124	7.0000e-005	1.6400e-003	2.2000e-004	1.8600e-003	4.8000e-004	2.1000e-004	6.9000e-004	0.0000	6.7411	6.7411	6.0000e-004	0.0000	6.7560
Worker	1.5300e-003	1.0700e-003	0.0111	4.0000e-005	4.0600e-003	3.0000e-005	4.0900e-003	1.0800e-003	2.0000e-005	1.1000e-003	0.0000	3.4935	3.4935	7.0000e-005	0.0000	3.4954
Total	**2.7300e-003**	**0.0333**	**0.0234**	**1.1000e-004**	**5.7000e-003**	**2.5000e-004**	**5.9500e-003**	**1.5600e-003**	**2.3000e-004**	**1.7900e-003**	**0.0000**	**10.2346**	**10.2346**	**6.7000e-004**	**0.0000**	**10.2514**

3.4 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0248	0.2436	0.1511	2.4000e-004		0.0144	0.0144		0.0134	0.0134	0.0000	21.6923	21.6923	5.5000e-003	0.0000	21.8297
Total	**0.0248**	**0.2436**	**0.1511**	**2.4000e-004**		**0.0144**	**0.0144**		**0.0134**	**0.0134**	**0.0000**	**21.6923**	**21.6923**	**5.5000e-003**	**0.0000**	**21.8297**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.1000e-004	3.1200e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9084	0.9084	2.0000e-005	0.0000	0.9090
Total	**4.2000e-004**	**3.1000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0200e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9084**	**0.9084**	**2.0000e-005**	**0.0000**	**0.9090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0248	0.2436	0.1511	2.4000e-004		0.0144	0.0144		0.0134	0.0134	0.0000	21.6923	21.6923	5.5000e-003	0.0000	21.8297
Total	**0.0248**	**0.2436**	**0.1511**	**2.4000e-004**		**0.0144**	**0.0144**		**0.0134**	**0.0134**	**0.0000**	**21.6923**	**21.6923**	**5.5000e-003**	**0.0000**	**21.8297**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.1000e-004	3.1200e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9084	0.9084	2.0000e-005	0.0000	0.9090
Total	**4.2000e-004**	**3.1000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0200e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9084**	**0.9084**	**2.0000e-005**	**0.0000**	**0.9090**

3.5 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4500e-003	0.0729	0.0311	6.0000e-005		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	5.6539	5.6539	1.7600e-003	0.0000	5.6979
Total	**6.4500e-003**	**0.0729**	**0.0311**	**6.0000e-005**	**0.0197**	**3.5000e-003**	**0.0232**	**0.0101**	**3.2200e-003**	**0.0133**	**0.0000**	**5.6539**	**5.6539**	**1.7600e-003**	**0.0000**	**5.6979**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.2000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2096	0.2096	0.0000	0.0000	0.2098
Total	**1.0000e-004**	**7.0000e-005**	**7.2000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.0000**	**0.2098**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	6.4500e-003	0.0729	0.0311	6.0000e-005		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	5.6539	5.6539	1.7600e-003	0.0000	5.6979
Total	**6.4500e-003**	**0.0729**	**0.0311**	**6.0000e-005**	**0.0197**	**3.5000e-003**	**0.0232**	**0.0101**	**3.2200e-003**	**0.0133**	**0.0000**	**5.6539**	**5.6539**	**1.7600e-003**	**0.0000**	**5.6979**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.2000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2096	0.2096	0.0000	0.0000	0.2098
Total	**1.0000e-004**	**7.0000e-005**	**7.2000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.0000**	**0.2098**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2300e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.6100e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5078	0.5078	1.0000e-005	0.0000	0.5081
Total	**2.2000e-004**	**1.6000e-004**	**1.6100e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5078**	**0.5078**	**1.0000e-005**	**0.0000**	**0.5081**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2300e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.6100e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5078	0.5078	1.0000e-005	0.0000	0.5081
Total	**2.2000e-004**	**1.6000e-004**	**1.6100e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5078**	**0.5078**	**1.0000e-005**	**0.0000**	**0.5081**

3.7 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8500e-003	0.0354	0.0191	4.0000e-005		1.4300e-003	1.4300e-003		1.3200e-003	1.3200e-003	0.0000	3.3590	3.3590	1.0500e-003	0.0000	3.3851
Total	**2.8500e-003**	**0.0354**	**0.0191**	**4.0000e-005**	**2.3900e-003**	**1.4300e-003**	**3.8200e-003**	**2.6000e-004**	**1.3200e-003**	**1.5800e-003**	**0.0000**	**3.3590**	**3.3590**	**1.0500e-003**	**0.0000**	**3.3851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0839	0.0839	0.0000	0.0000	0.0839
Total	**4.0000e-005**	**3.0000e-005**	**2.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0839**	**0.0839**	**0.0000**	**0.0000**	**0.0839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8500e-003	0.0354	0.0191	4.0000e-005		1.4300e-003	1.4300e-003		1.3200e-003	1.3200e-003	0.0000	3.3590	3.3590	1.0500e-003	0.0000	3.3851
Total	**2.8500e-003**	**0.0354**	**0.0191**	**4.0000e-005**	**2.3900e-003**	**1.4300e-003**	**3.8200e-003**	**2.6000e-004**	**1.3200e-003**	**1.5800e-003**	**0.0000**	**3.3590**	**3.3590**	**1.0500e-003**	**0.0000**	**3.3851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0839	0.0839	0.0000	0.0000	0.0839
Total	**4.0000e-005**	**3.0000e-005**	**2.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0839**	**0.0839**	**0.0000**	**0.0000**	**0.0839**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6147	7.7893	39.0381	0.0584	2.2818	0.1492	2.4310	0.6137	0.1414	0.7551	0.0000	2,789.1944	2,789.1944	0.3365	0.0000	2,797.6061
Unmitigated	3.6147	7.7893	39.0381	0.0584	2.2818	0.1492	2.4310	0.6137	0.1414	0.7551	0.0000	2,789.1944	2,789.1944	0.3365	0.0000	2,797.6061

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	3,433.05	4,275.99	3559.68	4,143,954	4,143,954
General Office Building	1,103.00	246.00	105.00	2,002,613	2,002,613
Total	4,536.05	4,521.99	3,664.68	6,146,567	6,146,567

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.591681	0.053807	0.177681	0.108929	0.026974	0.004161	0.017480	0.005828	0.002958	0.003798	0.005637	0.000294	0.000772
General Office Building	0.591681	0.053807	0.177681	0.108929	0.026974	0.004161	0.017480	0.005828	0.002958	0.003798	0.005637	0.000294	0.000772

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	665.8033	665.8033	0.0301	6.2300e-003	668.4121
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	665.8033	665.8033	0.0301	6.2300e-003	668.4121
NaturalGas Mitigated	0.0376	0.3418	0.2871	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	372.1074	372.1074	7.1300e-003	6.8200e-003	374.3187
NaturalGas Unmitigated	0.0376	0.3418	0.2871	2.0500e-003		0.0260	0.0260		0.0260	0.0260	0.0000	372.1074	372.1074	7.1300e-003	6.8200e-003	374.3187

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	2.359e+006	0.0127	0.1156	0.0971	6.9000e-004		8.7900e-003	8.7900e-003		8.7900e-003	8.7900e-003	0.0000	125.8852	125.8852	2.4100e-003	2.3100e-003	126.6333
High Turnover (Sit Down Restaurant)	4.61403e+006	0.0249	0.2262	0.1900	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	246.2222	246.2222	4.7200e-003	4.5100e-003	247.6854
Total		**0.0376**	**0.3418**	**0.2871**	**2.0500e-003**		**0.0260**	**0.0260**		**0.0260**	**0.0260**	**0.0000**	**372.1074**	**372.1074**	**7.1300e-003**	**6.8200e-003**	**374.3187**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	2.359e+006	0.0127	0.1156	0.0971	6.9000e-004		8.7900e-003	8.7900e-003		8.7900e-003	8.7900e-003	0.0000	125.8852	125.8852	2.4100e-003	2.3100e-003	126.6333
High Turnover (Sit Down Restaurant)	4.61403e+006	0.0249	0.2262	0.1900	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	246.2222	246.2222	4.7200e-003	4.5100e-003	247.6854
Total		**0.0376**	**0.3418**	**0.2871**	**2.0500e-003**		**0.0260**	**0.0260**		**0.0260**	**0.0260**	**0.0000**	**372.1074**	**372.1074**	**7.1300e-003**	**6.8200e-003**	**374.3187**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	1.456e+006	423.5671	0.0192	3.9600e-003	425.2268
High Turnover (Sit Down Restaurant)	832680	242.2362	0.0110	2.2700e-003	243.1853
Total		**665.8033**	**0.0301**	**6.2300e-003**	**668.4121**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	1.456e+006	423.5671	0.0192	3.9600e-003	425.2268
High Turnover (Sit Down Restaurant)	832680	242.2362	0.0110	2.2700e-003	243.1853

Total		**665.8033**	**0.0301**	**6.2300e-003**	**668.4121**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6434	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003
Unmitigated	0.6434	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9000e-004	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003
Total	**0.6434**	**2.0000e-005**	**1.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.2700e-003**	**2.2700e-003**	**1.0000e-005**	**0.0000**	**2.5300e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9000e-004	2.0000e-005	1.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2700e-003	2.2700e-003	1.0000e-005	0.0000	2.5300e-003
Total	**0.6434**	**2.0000e-005**	**1.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.2700e-003**	**2.2700e-003**	**1.0000e-005**	**0.0000**	**2.5300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	60.7409	0.8486	0.0205	88.0556
Unmitigated	60.7409	0.8486	0.0205	88.0556

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	17.7734 / 10.8934	44.7076	0.5809	0.0140	63.4145
High Turnover (Sit Down Restaurant)	8.19541 / 0.523111	16.0332	0.2677	6.4300e-003	24.6411
Total		**60.7409**	**0.8486**	**0.0205**	**88.0556**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	17.7734 / 10.8934	44.7076	0.5809	0.0140	63.4145
High Turnover (Sit Down Restaurant)	8.19541 / 0.523111	16.0332	0.2677	6.4300e-003	24.6411
Total		**60.7409**	**0.8486**	**0.0205**	**88.0556**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	84.0992	4.9701	0.0000	208.3521
Unmitigated	84.0992	4.9701	0.0000	208.3521

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	93	18.8782	1.1157	0.0000	46.7698
High Turnover (Sit Down Restaurant)	321.3	65.2210	3.8545	0.0000	161.5823
Total		**84.0992**	**4.9701**	**0.0000**	**208.3521**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	93	18.8782	1.1157	0.0000	46.7698
High Turnover (Sit Down Restaurant)	321.3	65.2210	3.8545	0.0000	161.5823

Total		**84.0992**	**4.9701**	**0.0000**	**208.3521**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Averaging of Construction Emissions

Annual Emission from CalEEMOd:

ROG	Nox	PM10	PM2.5	
1.567	3.7507	0.1655	0.1549	tons/year

Days of Construction = (from CalEEMod input file)

	Days
Demolition =	20
Site Preparation =	10
Grading =	20
Building Construction =	230
Paving =	20
Architectural Coating =	20
Total =	320

Average daily Emissions =

ROG	Nox	PM10	PM2.5	
9.79	23.44	1.03	0.97	pound/day

Weekend Vehicle Trip Calculations - SFO Technology Center

Per Hexagon Project Trip Generation for weekday =

			Size	
Office	2638	trips	239.2	ksf
Retail	368	trips	8.61	ksf
Restaurant	1069	trips	11.89	ksf
Total =	4075	trips		

Post Adjustment Total = 3007 trips This is weekday

Reallocate adjusted trips to land use =

				Rate	
Office	1946.617	trips	Weekday	8.138033	trip/ksf
Retail	271.5524	trips	Weekday	31.53919	trip/ksf
Restaurant	788.8302	trips	Weekday	66.344	trip/ksf
Total =	3007				

CalEEMod Weekday and Weekend default rates from ITE =

	Weekday	Saturday	Sunday
Office	11.03	2.46	1.05
Retail	44.32	42.04	20.43
Restaurant	89.95	94.36	72.16

Calculate weekend trips based on Project specific Trip demand from Fehr & Peers

	Saturday		Rate		Sunday		Rate	
Office	434	trips	1.81501	trip/ksf	185	trips	0.774699	trip/ksf
Retail	258	trips	29.91668	trip/ksf	125	trips	14.53848	trip/ksf
Restaurant	828	trips	69.59667	trip/ksf	633	trips	53.22271	trip/ksf
	1519	trips			943	trips		

Appendix BIO
Special-Status Species Considered

This page intentionally left blank

TABLE BIO-1
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES				
Plants				
San Mateo thorn-mint *Acanthomintha duttonii*	FE/CE/1B.1	Chaparral and valley grassland. Affinity for serpentine soil. 30 – 260m.	**Absent.** No suitable habitat is present in the project study area. Serpentine soils not found in the project study area.	April – June
Franciscan manzanita *Arctostaphylos franciscana*	FE/--/1B.1	Open, rocky, serpentine outcrops in chaparral. 20 – 130m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	February – April
San Bruno Mountain manzanita *Arctostaphylos imbricata*	--/CE/1B.1	Chaparral and coastal scrub, usually on sandstone outcrops. 170 – 480m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	February – May
Presidio manzanita *Arctostaphylos montana* ssp*. ravenii*	FE/CE/1B.1	Open, rocky, serpentine slopes in chaparral, coastal scrub, and coastal prairie.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	February – March
Pacific manzanita *Arctostaphylos pacifica*	--/CE/1B.2	Coastal scrub and chaparral. 20 – 110m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	February – April
Robust spineflower *Chorizanthe robusta v*ar. *robusta*	FE/--/1B.1	Cismontane woodland, coastal dunes, coastal scrub, sandy or gravelly terraces and bluffs or in loose sand. 3-120 m.	**Absent.** No suitable habitat is present in the project study area.	April – September
Crystal Springs fountain thistle *Cirsium fontinale* var. *fontinale*	FE/CE/1B.1	Chaparral, valley grassland, wetland riparian communities and in seeps. Occurs almost always under natural conditions in wetlands. Affinity to serpentine soil.	**Absent.** No suitable freshwater habitat is present in the project study area. Serpentine soils not found in the project study area.	March – October
San Mateo woolly sunflower *Eriophyllum latilobum*	FE/CE/1B.1	Foothill woodland. Affinity to serpentine soil. 20 – 630m.	**Absent.** Suitable habitat is not present in the project study area. Serpentine soils not found in the project study area.	March – June
Marin western flax *Hesperolinon congestum*	FT/CT/1B.1	Chaparral and valley/foothill grassland; serpentine soils. 4 – 420m.	**Absent.** Suitable habitat is not present in the project study area. Serpentine soils not found in the project study area.	April – July

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES (cont.)				
Plants (cont.)				
Beach layia *Layia carnosa*	FE/CE/1B.1	On sparsely vegetated, semi-stabilized coastal dunes and coastal scrub. 0 – 60m.	**Absent.** No suitable habitat is present in the project study area.	March – July
coast yellow leptosiphon *Leptosiphon croceus*	--/CCE/1B.1	Coastal bluff scrub and coastal prairie. 8 – 240m.	**Absent.** Suitable habitat is not present in the project study area.	April - May
San Francisco lessingia *Lessingia germanorum*	FE/CE/1B.1	Coastal scrub, sandy soils free of competing species. 7 – 790m.	**Absent.** Suitable habitat is not present in the project study area.	July – November
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE/CE/1B.1	Open, dry, rocky slopes and grassy areas, usually on serpentine. 35 – 620m.	**Absent.** Suitable habitat is not present in the project study area.	March – May
Hickman's cinquefoil *Potentilla hickmanii*	FE/CE/1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps. 19 – 100m.	**Absent.** Suitable habitat is not present in the project study area.	April – August
Adobe sanicle *Sanicula maritima*	--/CR/1B.1	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Found on moist clay or ultramafic soils. 30 – 240m.	**Absent.** Suitable habitat is not present in the project study area.	February – May
California seablite *Suaeda californica*	FE/--/1B.1	High margins of coastal salt marshes and swamps in sandy soil. 0 – 5m.	**Low.** Marginal high salt marsh habitat is present in the Easton Creek channel within the project site. No occurrences documented within 5 miles of the project site.	July – October
two fork (=showy rancheria) clover *Trifolium amoenum*	FE/--/1B.1	Valley grassland and wetland-riparian areas. Usually occurs in wetlands, but occasionally not wetlands. 8 – 160m.	**Absent.** Suitable freshwater habitat is not present in the project study area.	April – June
Invertebrates				
Western bumble bee (*Bombus occidentalis*)	--/CCE	Found in any area with sufficient flowers for nutrition, and underground burrows for nest for the queen.	**Low.** Historical occurrences from the City of Burlingame, Millbrae, and Hillsborough date from 1910 to 1958; from areas that are presently developed. Habitat is limited on the site. Suitable foraging habitat may be present on the waterfront; however, given that the Project site is mostly developed and this species has not been identified locally for over 60 years, its likelihood on site is considered low.	March-November

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES (cont.)				
Invertebrates (cont.)				
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE/--/--	Coastal scrub and bunchgrass grassland habitats, with larval foodplant, broadleaf stonecrop (*Sedum spathulifolium*); adults nectar on bladder parsnip (*Lomatium utriculatum*), common yarrow (*Achillea millefolium*), coast rock cress (*Arabis blepharophylla*), San Francisco wallflower (*Erysimum franciscanum*), California buttercup (*Ranunculus californicus*), and wood strawberry (*Fragaria vesca*).	**Absent.** Suitable habitat for this species is not found in the project study area and supportive host plant and nectar plants not observed during reconnaissance survey.	March – April
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT/*/--	Native grasslands on serpentine soils in San Francisco Bay area. Host plants: foothill plantain (*Plantago erecta)* (primary); denseflower Indian paintbrush (*Castilleja densiflora*) and owl's clover (*C. exserta*).	**Absent.** Suitable habitat for this species is not found in the project study area and supportive host plants not observed during reconnaissance survey. Critical habitat for this species is designated approximately 5 miles southwest and 5.5 miles northwest of the project site.	March – May
Mission blue butterfly *Plebejus icarioides missionensis*	FE/--/--	Grassland of the San Francisco peninsula with silver bush lupine (*Lupinus albifrons*), western lupine (*L. formosus*), and varied lupine (*L. variicolor*).	**Absent.** Suitable habitat for this species is not found in the project study area and supportive host plants not observed during reconnaissance survey.	March – July
Callippe silverspot butterfly *Speyeria callippe callippe*	FE/--/--	Found in native grasslands with California golden violet (*Viola pedunculata*) as larval food plant.	**Absent.** Suitable habitat for this species is not found in the project study area and supportive host plant not observed during reconnaissance survey.	mid-May – late July
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	FE/*/--	Coastal dune and prairie communities with host plants including gumweed (*Grindelia hirsutula*), sand verbena (*Abronia latifolia*), Monardella (*Monardella* spp.), bull thistle (*Cirsium vulgare*), and seaside daisy (*Erigeron glaucus*) where found on the San Francisco and Marin peninsulas.	**Absent.** Extirpated from San Mateo County.	late June – early September

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES (cont.)				
Fish (cont.)				
Green sturgeon, southern DPS *Acipenser medirostris*	FT/--/--	Spends majority of life in ocean waters near shore, estuaries, and bays, spawns in fresh water rivers.	**Low.** Spawns upstream in Sacramento River, but is not known to spawn in San Francisco Bay. Travels through San Pablo Bay and northern San Francisco Bay, but thought to be an infrequent visitor to southern San Francisco bay. Critical habitat for green sturgeon is designated within San Francisco Bay and south Bay tidal sloughs, which includes Easton Creek.	Spawn March – July, present year round.
tidewater goby *Eucyclogobius newberryi*	FE/CSC/--	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	**Absent.** Species considered extirpated from San Francisco Bay.	--
delta smelt *Hypomesus transpacificus*	FT/CE/--	Endemic to the Sacramento-San Joaquin Delta distributed from Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, and Solano Counties. Spawning occurs in brackish-water river channels and sloughs of the Delta.	**Absent.** The project study area is outside of the species range.	--
Steelhead – Central CA Coast DPS *Oncorhynchus mykiss*	FT/--/--	Spawns and rears in coastal streams between the Russian River and Aptos Creek, as well as drainages tributary to San Francisco Bay, where gravelly substrate and shaded riparian habitat occurs.[c]	**Low.** While several streams on the peninsula (San Francisquito creek, Steven's Creek) support spawning steelhead and juveniles are known to spend time in San Francisco Bay, Easton Creek is not included in the species' designated critical habitat and no spawning habitat exists in Easton Creek or immediate vicinity.	Year-round
longfin smelt *Spirinchus thaleichthys*	FC/ CT, CSC /--	Found throughout the nearshore coastal waters and open waters of San Francisco Bay-Delta including the river channels and sloughs of the Delta. Spawns in the Delta.	**Low.** Somewhat rare in the south and central Bay, this species could occur in suitable open water habitat adjacent to the project site in the late summer.	late summer
green sea turtle *Chelonia mydas*	FT/*/--	Range in the eastern North Pacific Ocean from Baja California to Alaska, most commonly from San Diego South. When in nearshore foraging grounds, turtles feed on seagrasses and algae.	**Absent.** Suitable habitat for this species is not found in the project study area.	--

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES (cont.)				
Reptiles				
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE/CE/--	Most often observed in the vicinity of standing water; ponds, lakes, marshes, and sloughs. Temporary ponds and seasonal bodies of water are also used. Banks with emergent and bankside vegetation are preferred and used for cover.	**Low.** No substantial grassland area, standing freshwater, or freshwater emergent vegetation in or around the project area.	March–November
Amphibians				
California tiger salamander *Ambystoma californiense*	FT/CT/--	Vernal or temporary pools in annual grasslands, or open stages of woodlands. Typically adults use mammal burrows.	**Absent.** Suitable habitat for this species is not present within the project study area.	Year-round
California red-legged frog *Rana draytonii*	FT/CSC/--	Streams, freshwater pools, and ponds with overhanging vegetation. Also found in woods adjacent to streams. Requires permanent or ephemeral water sources such as reservoirs and slow moving streams and needs pools of >0.5 m depth for breeding.	**Low.** Suitable freshwater habitat for this species is not present within the project study area. May occur upstream of the project site in Easton Creek beyond tidal influence. Critical habitat for this species is designated approximately 2.5 miles west of the project site, west of the I-280 highway.	Year-round
Birds				
marbled murrelet *Brachyramphus marmoratus*	FT/CE/--	Breeds in coniferous forests near the coast and prefers old growth, mature stands. Nests on large horizontal branches high in the trees. Winters at sea.	**Absent (no potential to nest).** Suitable mature coniferous forest habitat is not present in the project study area. Critical habitat for this species is designated approximately 4 miles southwest of the project site.	late March – July
western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC/--	Sandy coastal beaches, salt pans, coastal dredged spoils sites, dry salt ponds, salt pond levees, and gravel bars. Nests in sandy substrate and forages in sandy marine and estuarine bodies.	**Low (no potential to nest).** Snowy plovers nest abundantly in dry south bay salt ponds and on levees associated with them, but are not typically found outside these habitats. Crystallizer ponds south of the project area in redwood City could support nesting snowy plovers, but no habitat exists in the project area.	Year-round
American peregrine falcon *Falco peregrinus anatum*	FD/CD, CFP /--	Nests near wetlands, lakes, rivers, or other water on cliffs, banks, human structures. Feeds on birds taken in flight.	**Moderate (potential to nest).** Foraging habitat includes tidal marshes and flats around project study area, but could nest on man-made structures in and around project site.	Year-round

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
FEDERAL OR STATE LISTED SPECIES (cont.)				
Birds (cont.)				
California black rail *Laterallus jamaicensis coturniculus*	--/CT/--	Salt marshes along large bays, also freshwater marshes.	**Low (no potential to nest).** Only occurs in densely-vegetated tidal marsh habitat or freshwater marsh. Tidal marsh within the project site is isolated and not extensive enough to support black rail. No occurrences documented within 5 miles of the project site.	Year-round
Ridgway's rail *Rallus obsoletus obsoletus*	FE/CE/--	Salt-water and brackish marshes with tidal sloughs.	**Low (no potential to nest).** Only occurs in densely-vegetated tidal marsh habitat. Tidal marsh within the project site is limited and isolated.	Year-round
Bank swallow (nesting) *Riparia riparia*	--/CT/--	Vertical banks and cliffs with sandy soil, near water. Nests in holes dug in cliffs and river banks.	**Absent (no potential to nest).** Suitable nesting habitat for this species is not found in the project study area.	March – October (migration)
California least tern *Sterna antillarum*	FE/CE/--	Feeds in relatively shallow, near-shore waters, coastal freshwater ponds, channels, and lakes occupied by small fish. Colonial nesters on sand, gravel, or shell beaches where visibility is good.	**Moderate (unlikely to nest).** No nesting colonies are known to occur in the project study area. Shallower open water habitats of the study area are foraging habitat for California least tern.	April – August
Mammals				
Saltmarsh harvest mouse *Reithrodontomys raviventris*	FE/CE/--	Salt marsh habitat dominated by pickleweed.	**Low.** Tidal marsh habitat within the project site is limited, isolated, and unlikely to support this species. No occurrences documented within 5 miles of the project site.	Year-round
OTHER SPECIAL STATUS SPECIES				
Plants				
Anderson's manzanita *Arctostaphylos andersonii*	--/--/1B.2	Chaparral, mixed evergreen forest, and redwood forests in openings and along edges. 80 – 820m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	November – March
Montara manzanita *Arctostaphylos montaraensis*	--/--/1B.2	Slopes and ridges in chaparral and coastal scrub. 140 – 590m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	January – March

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Plants (cont.)				
King's Mountain manzanita *Arctostaphylos regismontana*	--/--/1B.2	Chaparral, mixed evergreen forest, and north coastal coniferous forest. 200 – 660m.	**Absent.** No manzanita shrubs were observed during the reconnaissance survey of the project site and the supportive vegetation community for this species is not found within the study area.	January – April
Blasdale's bent grass *Agrostis blasdalei*	--/--/1B.2	Coastal strand, coastal prairie, northern coastal scrub and dunes. 5 – 350m.	**Absent.** No suitable habitat is present in the project study area..	May – July
Franciscan onion *Allium peninsulare* var. *franciscanum*	--/--/1B.2	Clay, volcanic, or serpentine substrate in valley and foothill grassland and cismontane woodland. 20 – 740m.	**Absent.** No suitable habitat is present in the project study area.	May – June
bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B.2	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland. 30 – 680m.	**Absent.** No suitable habitat is present in the project study area.	March – June
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	--/--/1B.2	Coastal dunes, coastal scrub, streamside and coastal marshes or swamps. 0 – 330m.	**Low.** Suitable habitat is present in the project study area. No occurrences documented within 5 miles of the project site.	April – October
Alkali milk-vetch *Astragalus tener* var. *tener*	--/--/1B.2	Playas, valley foothill grasslands, vernal pools/alkaline habitats. 1 – 170m.	**Absent.** No suitable habitat is present in the project study area.	March – June
Bristly sedge *Carex comosa*	--/--/2B.1	Lake margins, marshes, swamps, coastal prairie, and valley and foothill grasslands. 270 – 1030m.	**Absent.** No suitable freshwater habitat is present in the project study area.	May – September
Cogdon's tarplant *Centromadia parryi* ssp. *cogdonii*	--/--/1B.2	Valley and foothill grasslands/alkaline habitats, low water tolerance. 0 – 260m.	**Absent.** No suitable habitat is present in the project study area.	May – October, uncommon in November
Pappose tarplant *Centromadia parryi* ssp. *parryi*	--/--/1B.2	Vernally mesic, often alkaline microhabitats in valley and foothill grassland, coastal salt marsh, meadows and seeps, coastal prairie. 10-410m.	**Low.** Suitable habitat is present in the project study area. No occurrences documented within 5 miles of the project site. Nearest occurrence at Cooley's Landing and historic.	May – November
Point Reyes bird's-beak *Chloropyron maritimum* ssp. *palustris*	--/--/1B.2	Coastal salt marshes and swamps. 0 – 220m.	**Low.** Suitable habitat is present in the project study area. Regional records documented in Marin County. No occurrences documented within 5 miles of the project site.	June – October
San Francisco spineflower *Chorizanthe cuspidata* var. *cuspidata*	--/--/1B.2	Sandy terraces and slopes of coastal bluff scrub, coastal dunes, coastal prairie and coastal scrub. 11 – 180m.	**Absent.** No suitable habitat is present in the project study area.	April – July

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Plants (cont.)				
Franciscan thistle *Cirsium andrewsii*	--/--/1B.2	Mixed evergreen forest, northern coastal scrub and wetland, riparian areas along the coast. Affinity to serpentine soil. 13 – 1950m.	**Absent.** No suitable freshwater habitat is present in the project study area.	March – July
Compact cobwebby thistle *Cirsium occidentale* var. *compactum*	--/--/1B.2	Coastal scrub, grassland, and dunes; often associated with seeps. 0-260m.	**Absent.** No suitable habitat is present in the project study area.	April – June
lost thistle *Cirsium praeteriens*	--/--/1A	Presumed extinct; habitat unknown. Species has low water tolerance.	**Absent.** Species presumed extinct.	June – July
round-headed Chinese houses *Collinsia corymbosa*	--/--/1B.2	Coastal strand and dunes. 9 – 100m.	**Absent.** No suitable habitat is present in the project study area.	April – June
San Francisco collinsia *Collinsia multicolor*	--/--/1B.2	Closed-cone coniferous forests, coastal scrub, sometimes on serpentinite derived soils.10 – 430m.	**Absent.** No suitable habitat is present in the project study area.	March – May
western leatherwood *Dirca occidentalis*	--/--/1B.2	Chaparral, foothill woodland, mixed evergreen forest, broadleaved upland forest, closed-cone pine forest, north coastal coniferous forest, and wetland-riparian areas. Equally likely to occur in wetlands and non-wetlands. 12 – 560m.	**Absent.** No suitable habitat is present in the project study area.	January – March
Hoover's button-celery *Eryngium aristulatum* var. *hooveri*	--/--/1B.1	Found in alkaline depressions, vernal pools, roadside ditches and other freshwater wet places near the coast. 3 – 45m.	**Absent.** No suitable freshwater habitat is present in the project study area.	July
Jepson's coyote thistle *Eryngium jepsonii*	--/--/1B.2	Valley and foothill grasslands and vernal pools. 6 – 110m.	**Absent.** No suitable habitat is present in the project study area.	April – August
Hillsborough chocolate lily *Fritillaria biflora* var. *ineziana*	--/--/1B.1	Cismontane woodland, valley and foothill grassland; most recently found on serpentine soils.	**Absent.** No suitable habitat is present in the project study area.	March – April
fragrant fritillary *Fritillaria liliacea*	--/--/1B.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland; clayey soils, often serpentinite. 6 – 370m	**Absent.** No suitable habitat is present in the project study area.	February – April
Blue coast gilia *Gilia capitata* ssp. *chamissonis*	--/--/1B.2	Coastal dunes and scrub. 0 – 580m.	**Absent.** No suitable habitat is present in the project study area.	April – July
dark-eyed gilia *Gilia millefoliata*	--/--/1B.2	Coastal dunes or strand. 5 – 610m.	**Absent.** No suitable habitat is present in the project study area.	April – July

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Plants (cont.)				
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	--/--/3.2	Coastal scrub and grasslands. 19 – 200m.	**Absent.** No suitable habitat is present in the project study area.	June – September
Diablo helianthella *Helianthella castanea*	--/--/1B.2	On rocky soils in broadleaf upland forest, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. 20 – 960m.	**Absent.** No suitable habitat is present in the project study area.	March – June
White seaside (=congested-headed hayfield) tarplant *Hemizonia congesta* ssp. *congesta*	--/--/1B.2	Grassy valleys and hills, often on fallow fields in coastal scrub. 30 – 1060m.	**Absent.** No suitable habitat is present in the project study area.	April – November
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	--/--/1B.2	Sandy bluffs and flats in coastal scrub and coastal dunes. 4 – 250m.	**Absent.** No suitable habitat is present in the project study area.	March – June
Water star-grass *Heteranthera dubia*	--/--/2B.2	Marshes and swamps (alkaline, still or slow-moving water).	**Absent.** No suitable habitat is present in the project study area.	July – October
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	--/--/1B.1	Coastal scrub, dunes, and openings of closed-cone coniferous forests. 0 – 1690m.	**Absent.** No suitable habitat is present in the project study area.	February – July
Point Reyes horkelia *Horkelia marinensis*	--/--/1B.2	Coastal Strand, Coastal Prairie, Northern Coastal Scrub, and dunes. 14 – 600m.	**Absent.** No suitable habitat is present in the project study area.	May – September
perennial goldfields *Lasthenia californica* ssp. *macrantha*	--/--/1B.2	Coastal bluff scrub, coastal dunes, and coastal scrub. 5 – 520m.	**Absent.** No suitable habitat is present in the project study area.	January – November
rose leptosiphon *Leptosiphon rosaceus*	--/--/1B.1	Coastal bluff scrub. Species has a low water tolerance.	**Absent.** No suitable habitat is present in the project study area.	April – July
Crystal Springs lessingia *Lessingia arachnoidea*	--/--/1B.2	Valley grassland, foothill woodlands and northern coastal scrub in disturbed areas. 70 – 210m.	**Absent.** No suitable habitat is present in the project study area.	July – October
Ornduff's meadowfoam *Limnanthes douglasii* ssp. *ornduffii*	--/--/1B.1	Meadows and seeps, agricultural fields. 10 – 20m.	**Absent.** No suitable habitat is present in the project study area.	November – May
arcuate bush-mallow *Malacothamnus arcuatus*	--/--/1B.2	Gravelly alluvium in chaparral and cismontane woodland. 15 – 355m.	**Absent.** No suitable habitat is present in the project study area.	April – September
Northern curly-leaved Monardella *Monardella sinuata* ssp. *nigrescens*	--/--/1B.2	Coastal dunes and scrub, chaparral, lower montane coniferous forest. 0 – 300m.	**Absent.** No suitable habitat is present in the project study area.	April – September

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Plants (cont.)				
woodland woollythreads *Monolopia gracilens*	--/--/1B.2	Mixed evergreen forest, broadleaved upland forest, redwood forest, and chaparral, and valley and foothill grasslands. Affinity to serpentine soil. 60 – 1360m.	**Absent.** No suitable habitat is present in the project study area.	March – July
Marin knotweed *Polygonum marinense*	--/--/3.1	Coastal (brackish) marshes and swamps. 0 – 10m.	**Low.** Suitable habitat is present in the project study area. Regional records documented in Marin County. No occurrences documented within 5 miles of the project site.	April – October
Choris' popcornflower *Plagiobothrys chorisianus* var. *chorisianus*	--/--/1B.2	Mesic sites in chaparral, coastal scrub, and coastal prairie. 4 – 300m.	**Absent.** No suitable habitat is present in the project study area.	March – June
Oregon polemonium *Polemonium carneum*	--/--/2B.2	Northern coastal scrub, coastal prairie and yellow pine forest.	**Absent.** No suitable habitat is present in the project study area.	April – September
San Francisco campion *Silene verecunda* ssp. *verecunda*	--/--/1B.2	Mudstone, shale, or serpentine substrates in coastal scrub, coastal prairie, chaparral and valley and foothill grassland.	**Absent.** No suitable habitat is present in the project study area.	March – June
slender-leaved pondweed *Stuckenia filiformis* ssp. *alpina*	--/--/2B.2	Marshes and swamps, in shallow, clear water of lakes and drainage channels. 15 – 2310m.	**Absent.** No suitable freshwater habitat is present in the project study area.	May – July
Saline clover *Trifolium depauperatum* var.	--/--/1B.2	Marshes and swamps, valley and foothill grasslands, vernal pools. 0 – 300m.	**Absent.** No suitable freshwater habitat is present in the project study area.	April – June
San Francisco owl's-clover *Triphysaria floribunda*	--/--/1B.2	Coastal prairie, coastal scrub, valley and foothill grasslands. Affinity to serpentine soils. 10 – 160m.	**Absent.** No suitable habitat is present in the project study area.	April – June
coastal triquetrella *Triquetrella californica*	--/--/1B.3	Coastal bluff scrub and coastal scrub. 10 – 100m.	**Absent.** No suitable habitat is present in the project study area.	Year-round
Methuselah's beard lichen *Usnea longissima*	--/--/4.2	Found on tree branches in old growth hardwood or coniferous forests, broadleaf upland forests, and north coast coniferous forests. 50 – 1460m.	**Absent.** Supportive vegetation community for this species not found within the project study area.	Year-round
Invertebrates				
Monarch butterfly *Danaus plexippus* (wintering sites)	--/*/--	Eucalyptus groves (winter sites).	**Absent.** Few eucalyptus occur in the project study area. No wintering sites documented within 5 miles of the project site.	Winter

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Invertebrates (cont.)				
California brackishwater snail *Tryonia imitator*	--/*/--	Found in permanently submerged areas in coastal lagoons, estuaries, and salt marshes.	**Low.** Suitable habitat is present in the project study area.	Year-round
Fish				
Pacific herring *Clupea pallasii*	CDFG regulated fishery	S.F. Bay has been a major spawning ground for species. Preferred spawning substrate is eelgrass and algae but will also use pier pilings, riprap, and other rigid, smooth structures within Bay waters.	**Low.** Foraging habitat does exist, and herring have been documented migrating further south than the project area. Spawning and deep water habitats may exist along project area shoreline but herring are not known to spawn in southern San Francisco Bay (H.T. Harvey and Associates, 2005).	November-August
hardhead *Mylopharodon conocephalus*	--/CSC/--	Relatively undisturbed habitats of larger streams of high water quality at low to mid-elevations. Prefers pools and runs with deep (>80cm), clear water, slow velocities and sand-gravel-boulder substrates. Their range extends from the Pit River (Modoc County) in the north to the Kern River (Kern County) in the south. Historically occurred in the San Francisco Bay and South Bay estuaries.	**Absent.** Suitable habitat is not present in the project study area which is located outside of known species range.	--
Chinook salmon Central Valley ESU—fall/late fall run *Oncorhynchus tshawytscha*	--/CSC/--	Spawning and rearing restricted to Sacramento River basin, migrate through San Francisco Bay and Sacramento-San Joaquin Delta, require clean, cold water and gravel beds for spawning.	**Low.** Several streams in southern San Francisco Bay have supported small numbers of the species, and it may use tidal marsh channels as transit habitat (H.T. Harvey and Associates, 2005).	October-March
Amphibians				
California giant salamander *Dicamptodon ensatus*	--/*/--	Wet coastal forests in or near cold, permanent and semi-permanent streams and seepages.	**Absent.** Suitable habitat is not present in the project study area	Winter (rainy season)
Reptiles				
Western pond turtle *Actinemys marmorata*	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	**Absent.** No suitable freshwater habitat is present in the project study area.	Year-round

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Birds				
Great egret *Ardea alba*	--/*/-- Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low (unlikely to nest).** Likely to forage in salt marsh habitats of Easton Creek and along the Bay shoreline in the project study area. Dense stands of mature trees for rookeries are not present in the project study area.	Year-round
Great blue heron *Ardea herodias*	--/*/-- Rookeries only	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**Low (unlikely to nest).** Likely to forage in salt marsh habitats of Easton Creek and along the Bay shoreline in the project study area. Dense stands of mature trees for rookeries are not present in the project study area.	Year-round
Short-eared owl *Asio flammeus*	--/CSC/--	Nests in ground depressions concealed by dense vegetation, often in saline or freshwater marshes. Forages from small mounds or fence posts in treeless areas.	**Low (no potential to nest).** Limited and isolated tidal marsh habitat is present in the project study area. May flyover on a transient basis. Dense development in the project study area would discourage regular presence in the area.	September - April
Burrowing owl *Athene cunicularia*	--/CSC/--	Present in open annual grasslands with abundance of small mammal burrows for nesting.	**Absent (no potential to nest).** Suitable habitat is not present in the project study area	Year-round
Northern harrier *Circus cyaneus*	--/CSC/--	Mostly nests in emergent vegetation, wet meadows or near rivers and lakes, but may nest in grasslands away from water.	**Low (no potential to nest).** Limited and isolated tidal marsh habitat is present in the project study area. May flyover on a transient basis. Dense development in the project study area would discourage regular presence in the area.	Year-round
White-tailed kite *Elanus leucurus*	--/FP/--	Dense-topped trees for nesting and perching; open grasslands, meadows, or marshes for foraging.	**Low (unlikely to nest).** Limited nesting and foraging habitat is present in the study area. Dense development in the project study area would discourage regular presence in the area.	Year-round
Snowy egret *Egretta thula*	--/*/-- Rookeries only	Nest on the ground in dense marsh areas or in large trees 1.5-3 meters from the ground.	**Low (unlikely to nest).** Likely to forage in salt marsh habitats of Easton Creek and along the Bay shoreline in the project study area. Dense stands of mature trees for rookeries are not present in the project study area.	Year-round
Merlin (wintering) *Falco columbarius*	--/WL/--	Found in grasslands, open forests, and coastal areas during migration or while wintering along the Pacific coast.	**Low (no potential to nest).** Marginal wintering habitat is present in the project study area. Dense development in the project study area would discourage regular presence in the area.	Winter

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Birds (cont.)				
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	--/CSC/--	Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting. Resident of San Francisco Bay region salt and fresh water marshes.	**Low (unlikely to nest).** Limited and isolated foraging and nesting habitat is present in the project study area. May occur on a transient basis.	Year-round
Bald eagle *Haliaeetus leucocephalus*	BCC, FD /CE,FP /--	Nests and forages on inland lakes, reservoirs, and rivers.	**Low (no potential to nest).** May occur overhead in transit to Lower Crystal Springs Reservoir.	Winter
Alameda song sparrow *Melospiza melodia pusillula*	--/CSC/--	Salt marshes of central San Francisco Bay. Nests occur in salt marsh areas hidden by dense vegetation.	**Low (potential to nest).** Limited and isolated foraging and nesting habitat is present in the project study area.	Year-round
Black-crowned night heron *Nycticorax nycticorax*	--/*/-- Rookeries only	Nest colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low (unlikely to nest).** Likely to forage in salt marsh habitats of Easton Creek within the project study area. Dense stands of mature trees for rookeries are not present in the project study area.	Year-round
Double-crested cormorant *Phalacrocorax auritus*	--/*/-- Rookeries only	Colonial nester on coastal cliffs, islands, and large trees near water bodies.	**Moderate (unlikely to nest).** May dive and forage for fish in open shallow waters of the Bay adjacent to the project site. No nesting habitat is present in the project study area.	Year-round
Mammals				
Pallid bat *Antrozous pallidus*	--/CSC/--	Day roosts in caves, crevices, mines, and hollow trees and buildings. Night roosts can occur in more open areas, like porches and open buildings.	**Moderate.** Potential roosting habitat exists in buildings of the project site.	Year-round
Townsend's big-eared bat *Corynorhinus townsendii*	--/CSC/ WBWG-High	Inhabits caves and mines, but may also use bridges, buildings, rock crevices and tree hollows in coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters.	**Low.** Marginal roosting and foraging habitat for this species is present in the project study area. Species has sensitivity to human disturbance and is unlikely to take up roosts in the highly developed project vicinity.	Year-round
Santa Cruz kangaroo rat *Dipodomys venustus venustus*	--/--/*	Pine forest with chaparral habitat in the low foothills of the Santa Cruz Mountains in areas with sandy or loamy soils.	**Absent.** Suitable habitat not found in the study area and the project study area is outside of the species known range.	Year-round

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE
1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

Common Name *Scientific Name*	Listing Status USFWS/ CDFW/Other[b]	Habitat Requirements	Potential to Occur in Project Area	Period of Identification / Flowering Period
OTHER SPECIAL STATUS SPECIES (cont.)				
Mammals (cont.)				
Hoary bat *Lasiurus cinereus*	--/--*	Typically roosts in large trees hidden from above with ground cover below. Also known to roost in buildings.	**Moderate.** Potential roosting habitat exists in buildings of the project site.	Year-round
fringed myotis *Myotis thysanodes*	--/*/ WBWG-High	Inhabits a variety of habitats including pinyon-juniper woodland, valley-foothill hardwood, hardwood-conifer forests, and desert scrub from sea level to 9,000 feet. Cluster in groups of up to 300 to roost in caves, mines, rock crevices, and buildings.	**Low.** Marginal roosting and foraging habitat for this species is present in the project study area.	Year-round
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	--/CSC/--	Forests with moderate canopy cover and brushy understory.	**Absent.** Suitable habitat is not found in the project study area.	Year-round
Salt marsh wandering shrew *Sorex vagrans halicoetes*	--/CSC	Salt marshes of the south arm of San Francisco Bay. Found at medium to high marsh 6-8 ft above sea level. Often in band of marsh daily inundated by tides, or at slightly higher elevations with driftwood or other debris for cover among pickleweed.	**Low.** Tidal marsh habitat within the project site is limited, isolated, and unlikely to support this species.	Year-round
American badger *Taxidea taxus*	--/CSC/--	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents.	**Absent.** Suitable habitat is not found in the project study area.	Year-round

NOTES:

[a] Abbreviations are as follows: ssp. = subspecies; var. = variety.

[b] Listing status codes are as follows:

FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered (in danger of extinction) by the Federal Government
FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
FC = Candidate for listing as Threatened or Endangered by the Federal Government
FD = Delisted by the Federal Government

STATE: (California Department of Fish and Game)
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CR = Listed as Rare by the State of California (plants only)
CD = Delisted by the State of California
CFP = Fully Protected by the State of California
CCE = Candidate for listing as Endangered by the State of California
CSC = California Species of Special Concern
* = CDFG Special animal—identified on CDFW's Special Animals List.

TABLE BIO-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE 1300 OLD BAYSHORE HIGHWAY SFO@TECHNOLOGY CENTER PROJECT AREA

NOTES (continue):

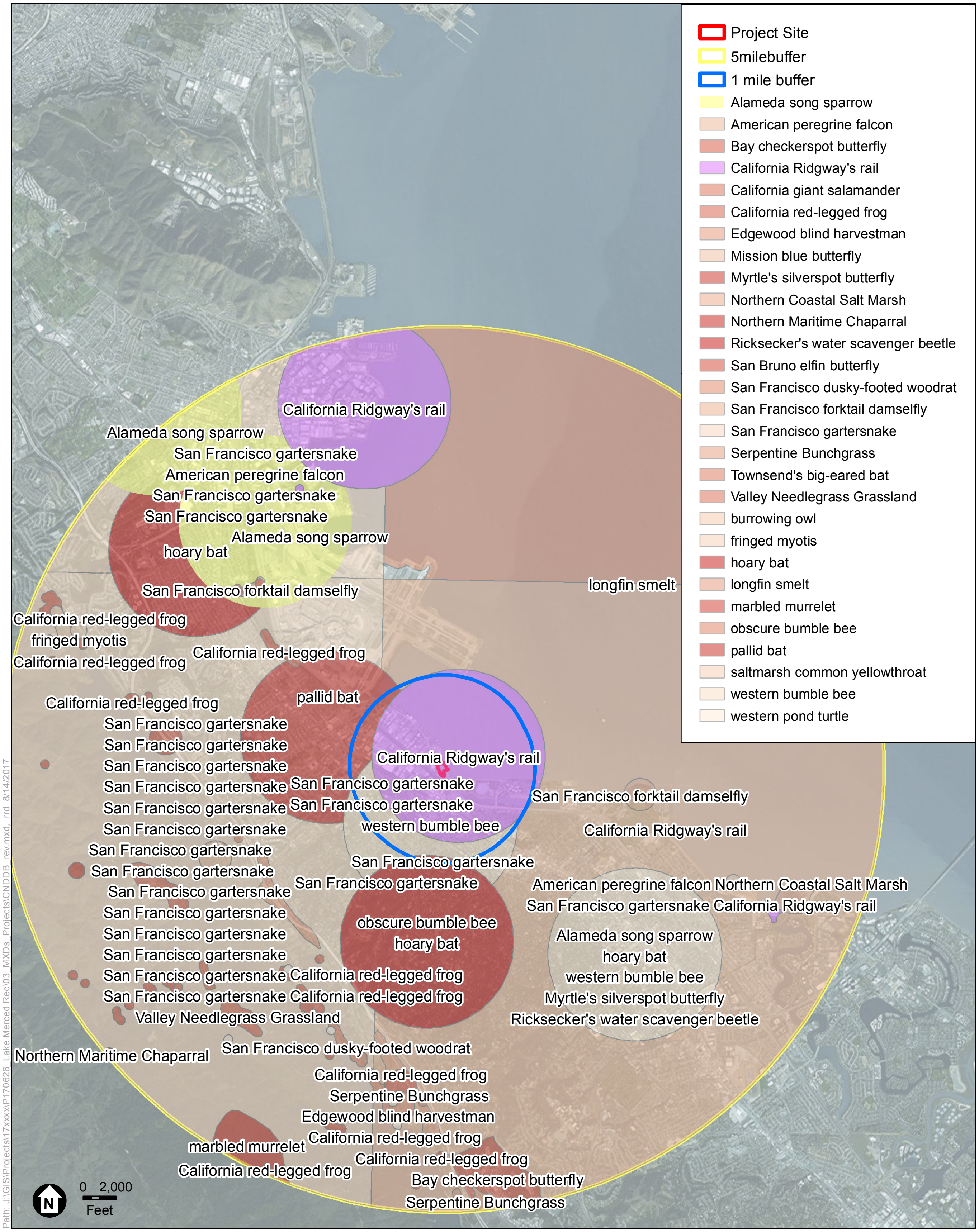
California Native Plant Society
List 1A=Plants presumed extinct in California
List 1B=Plants rare, Threatened, or Endangered in California and elsewhere
List 2= Plants rare, Threatened, or Endangered in California but more common elsewhere
List 3= Plants about which more information is needed
An extension reflecting the level of threat to each species is appended to each rarity category as follows:
.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

WBWG = Western Bat Working Group:
Low = Stable population
Medium = Need more information about the species, possible threats, and protective actions to implement.
High= Imperiled or at high risk of imperilment.

[c] Although the southern limits of the federal listing for central California coast coho are at the San Lorenzo River, the State listing covers this species 'south of San Francisco Bay' as well.

SOURCE: USFWS, 2019; CDFW, 2019; CNPS, 2019; HT Harvey, 2005.

This page intentionally left blank



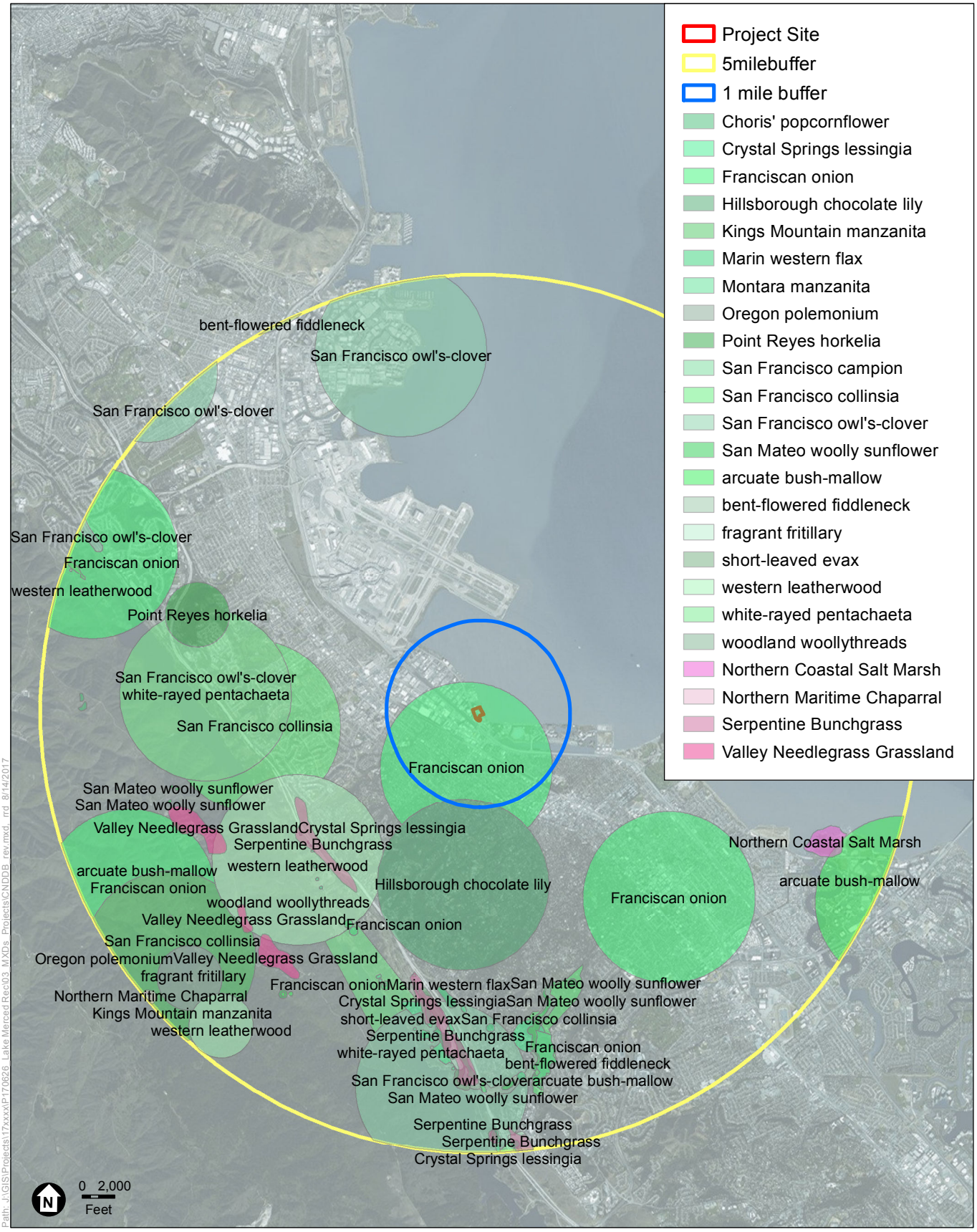
Path: J:\GIS\Projects\17xxxx\P170626_Lake Merced Rec\03_MXDs_Projects\CNDDB_rev.mxd, rrd 8/14/2017

SOURCE: CDFW, 2019

1300 Old Bayshore Highway SFO@Technology Center

Figure BIO-1
CNDDB Occurrences within 5 miles of the Project Site
Special-Status Animals

ESA



SOURCE: CDFW, 2019

1300 Old Bayshore HIghway SFO@Technology Center

Figure BIO-2
CNDDB Occurrences within 5 miles of the Project Site
Special-Status Plants

ESA

Appendix TIA
Transportation Impact Analysis

This page intentionally left blank

HEXAGON TRANSPORTATION CONSULTANTS, INC.

SFO Technology Center at 1300 Old Bayshore Highway

Final Transportation Impact Analysis

Prepared for:

Ömer Tamtürk

January 16, 2019

Hexagon Transportation Consultants, Inc.
Hexagon Office: 4 North Second Street, Suite 400
San Jose, CA 95113
Hexagon Job Number: 17GB09
Phone: 408.971.6100
Client Name: Ömer Tamtürk

San Jose · Gilroy · Pleasanton · Phoenix www.hextrans.com

Areawide Circulation Plans **Corridor Studies** Pavement Delineation Plans **Traffic Handling Plans** Impact Fees **Interchange Analysis** Parking **Transportation Planning** Traffic Calming **Traffic Control Plans** Traffic Simulation **Traffic Impact Analysis** Traffic Signal Design **Travel Demand Forecasting**

Table of Contents

Executive Summary i
1. Introduction 1
2. Existing Conditions 8
3. Background Conditions 19
4. Project Conditions 22
5. Cumulative Conditions 33
6. Freeway Segment Analysis and CMP Compliance 36
7. Other Transportation Issues 40
8. Conclusions 58

Appendices

Appendix A Traffic Counts
Appendix B Level of Service Calculations
Appendix C Signal Warrant Analysis
Appendix D Valet Parking Proposal

List of Tables

Table ES-1 Intersection Level of Service Summary iii

Table 1 Signalized Intersection Level of Service Definitions Based on Control Delay 5
Table 2 Freeway Level of Service Based on Travel Speed 7
Table 3 Existing Transit Services 11
Table 4 Existing Intersection Levels of Service 17
Table 5 Background Intersection Levels of Service 21
Table 6 Project Trip Generation Estimates 24
Table 7 Existing Plus Project Intersection Levels of Service 29
Table 8 Project Conditions Intersection Levels of Service 31
Table 9 Cumulative Level of Service Summary 35
Table 10 Freeway Segment Capacity Evaluation 36
Table 11 Proposed TDM Measures 38
Table 12 Summary of C/CAG Trip Credits 39
Table 13 Queuing Analysis Summary 41
Table 14 Additional Green Time Comparison 43
Table 15 Project Driveway with Traffic Signal Level of Service Summary 45
Table 16 Bay Area Office Tandem Parking Regulations 48
Table 17 Project Required Parking Summary 49
Table 18 Project Parking Supply Summary 50

List of Figures

Figure 1 Site Location and Study Intersections 2
Figure 2 Project Site Plan 3
Figure 3 Existing Bicycle Facilities 10
Figure 4 Existing Transit Services 13
Figure 5 Existing Lane Configurations 15
Figure 6 Existing Traffic Volumes 16
Figure 7 Background Traffic Volumes 20
Figure 8 Project Office Trip Distribution and Assigment 25
Figure 9 Project Restaurant and Retail Trip Distribution and Assigment 26
Figure 10 Existing Use Trip Distribution and Assigment 27
Figure 11 Net Project Trip Assignment 28
Figure 12 Existing Plus Project Traffic Volumes 30
Figure 13 Background Plus Project Traffic Volumes 32
Figure 14 Cumulative with Project Traffic Volumes 34
Figure 15 Surface Lot Parking Layout 52
Figure 16 Parking Garages: Level 2 Parking Layout 53
Figure 17 Parking Garages: Level 3 Parking Layout 54
Figure 18 Parking Garages: Level 4 Parking Layout 55

Executive Summary

This report presents the results of the Transportation Impact Analysis (TIA) conducted for the proposed SFO Technology Center project at 1300 Old Bayshore Highway in Burlingame, California. The project proposes to redevelop the former Hyatt Cinema site and adjacent properties with a mixed-use office and commercial complex. The project would consist of 239,201 square feet of office space, 11,887 square feet of restaurant space, and 8,610 square feet of retail space. Currently the site contains a vacant theater, a restaurant, an office building, a church, a community center, and a commercial building. Access to the project site would be provided via two full-access driveways on Old Bayshore Highway, replacing nine existing driveways. Parking would be provided via an at-grade surface lot and parking garages comprising the first four floors of the two buildings.

Project Impacts

This study was conducted for the purpose of identifying the potential traffic impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame and the City/County Association of Governments (C/CAG) of San Mateo County Congestion Management Program (CMP).

The City of Burlingame does not have a Council-adopted level of service threshold, thus significance standards (such as LOS D or better) that has typically been applied in traffic studies and EIRs, were used. The results of the intersection level of service analysis determined that under all scenarios with and without the project, most of the study intersections would operate at an acceptable LOS D or better during both the AM and PM peak hours. While the California Drive/Broadway intersection would operate at unacceptable levels of service (LOS E or worse) during both the AM and PM peak hours under background and cumulative conditions, the addition of project-generated traffic would be considered a less than significant impact, adding only 3.5 seconds of average delay. In addition, the City of Burlingame's planned grade separation of the Caltrain tracks would eliminate the gate downtime at the Broadway and California Drive intersection, improving the intersection level of service during peak hours under cumulative conditions.

Signal Warrant Analysis

Signal warrant checks (California *MUTCD 2014 Edition, Section 4, Warrant 3*) were performed for the intersection of Old Bayshore Highway and the south project driveway. The analysis showed that the projected peak-hour traffic volumes would warrant signalization at the south project driveway during the PM peak hour.

Under project conditions with the installation of a new traffic signal, the level of service analysis results show that the south project driveway would operate at an acceptable LOS C or better during both the AM and PM peak hours.

Other Transportation Issues

Based on a review of the project site plan, there would be no issues regarding site access along Old Bayshore Highway; and no issues are expected to arise regarding on-site circulation. The proposed vehicle parking supply would meet the minimum parking requirements set forth by the City of Burlingame Zoning Code. However, tandem parking is proposed, which is not addressed in the City's parking code. Hexagon makes the following recommendations resulting from the vehicle site access and circulation, as well as the transit, pedestrian, and bicycle access analysis.

- Sign all surface parking areas not comprised of tandem parking spaces for two-hour parking. This will help with parking turnover and keep spaces available for customers and visitors.

- Designate some of the surface parking spaces near the Bay Trail for public use in accordance with the San Francisco Bay Conservation and Development Commission requirements.

- Provide designated parking spaces for retail and restaurant employees to allow them to park for more than two hours.
- Contract with a valet parking service to operate the ground level tandem parking and to operate the tandem parking in the office garages. An initial estimate is that 7 attendants will be required. Adjustments in the number of attendants should be made as operations warrant.

- Design both access driveways on Old Bayshore Highway to be between 26 feet and 30 feet wide. The proposed driveway width of 18 feet is too narrow to be located on an arterial, and a driveway width of 38 feet is too wide, as it interferes with pedestrian circulation.

- Design the sidewalk along the project frontage on Old Bayshore Highway to be between 10 feet and 12 feet wide. The proposed width of 5 feet is too narrow for a street with the volume and speed of Old Bayshore Highway.

- Install a traffic signal at the south project driveway, across from the Hyatt Hotel access driveway.

Table ES-1
Intersection Level of Service Summary

Study Number	Intersection	Peak Hour	Count Date	Existing				Background					Cumulative				
				No Project		with Project		No Project		with Project			No Project		with Project		
				Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Incr. In Avg. Delay	Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS	Incr. In Avg. Delay
1	Old Bayshore Highway and Mahler Road *	AM	5/31/17	7.4	A	7.3	A	7.4	A	7.3	A	-0.1	7.8	A	7.7	A	-0.1
		PM	5/31/17	8.0	A	7.8	A	8.0	A	7.8	A	-0.2	8.3	A	8.2	A	-0.1
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	6/20/17	34.4	C	34.5	C	36.8	D	37.1	D	0.3	39.1	D	39.4	D	0.3
		PM	6/20/17	38.3	D	40.8	D	42.4	D	45.0	D	2.6	45.4	D	48.2	D	2.8
3	California Drive and Broadway	AM	5/23/17	**61.2**	**E**	**63.8**	**E**	**69.9**	**E**	**71.9**	**E**	**2.0**	**87.1**	**F**	**90.6**	**F**	**3.5**
		PM	5/23/17	45.0	D	45.8	D	**65.8**	**E**	**67.4**	**E**	**1.6**	**72.8**	**E**	**74.6**	**E**	**1.8**
4	Carolan Avenue and Broadway	AM	5/23/17	25.9	C	26.1	C	27.3	C	27.5	C	0.2	28.0	C	28.4	C	0.4
		PM	5/23/17	24.8	C	24.9	C	29.0	C	29.3	C	0.3	30.5	C	31.0	C	0.5
5	Rollins Road and Broadway	AM	6/20/17	33.2	C	33.7	C	35.7	D	36.3	D	0.6	38.2	D	39.0	D	0.8
		PM	6/20/17	33.9	C	34.1	C	38.6	D	39.0	D	0.4	42.1	D	42.6	D	0.5
6	US 101 Southbound Ramps and Broadway *	AM	6/20/17	26.5	C	27.5	C	28.1	C	29.2	C	1.1	29.6	C	31.0	C	1.4
		PM	6/20/17	17.7	B	18.4	B	19.4	B	20.5	C	1.1	21.2	C	22.6	C	1.4
7	Old Bayshore Highway and Airport Boulevard *	AM	6/20/17	18.2	B	18.6	B	18.4	B	19.4	B	1.0	19.0	B	19.8	B	0.8
		PM	6/20/17	18.6	B	18.6	B	19.4	B	19.5	B	0.1	20.1	C	20.2	C	0.1
8	Airport Boulevard and Anza Boulevard *	AM	5/23/17	14.9	B	14.8	B	14.9	B	14.8	B	-0.1	15.3	B	15.2	B	-0.1
		PM	5/23/17	23.2	C	22.9	C	23.2	C	22.9	C	-0.3	24.3	C	24.1	C	-0.2
9	Old Bayshore Highway and Project Driveway *	AM	5/20/15	N/A	N/A	7.8	A	N/A	N/A	7.8	A	7.8	N/A	N/A	7.9	A	7.9
		PM	5/20/15	N/A	N/A	22.7	C	N/A	N/A	24.3	C	24.3	N/A	N/A	25.5	C	25.5

Note:
* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.
Bold indicates a substandard level of service.

1. Introduction

This report presents the results of the Transportation Impact Analysis (TIA) conducted for the proposed SFO Technology Center project at 1300 Old Bayshore Highway in Burlingame, California. The project proposes to redevelop the former Hyatt Cinema site and adjacent properties with a mixed-use office and commercial complex (see Figure 1). The project would consist of 239,201 square feet of office space, 11,887 square feet of restaurant space, and 8,610 square feet of retail space (see Figure 2). Currently the site contains a vacant theater, a restaurant, an office building, a church, a community center, and a commercial building. Access to the project site would be provided via two full-access driveways on Old Bayshore Highway, replacing nine existing driveways. Parking would be provided via an at-grade surface lot and parking garages comprising the first four floors of the two buildings.

Scope of Study

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame and the City/County Association of Governments (C/CAG) of San Mateo County. The C/CAG administers the San Mateo County Congestion Management Plan (CMP). Given that the project is expected to add more than 100 peak hour trips to CMP roadways (US 101), a C/CAG trip reduction analysis was prepared. The traffic study includes an analysis of AM and PM peak hour traffic conditions for eight (8) signalized intersections and two (2) freeway segments in the vicinity of the project site. The study also includes an analysis of transit, bicycle, and pedestrian access.

Study Intersections

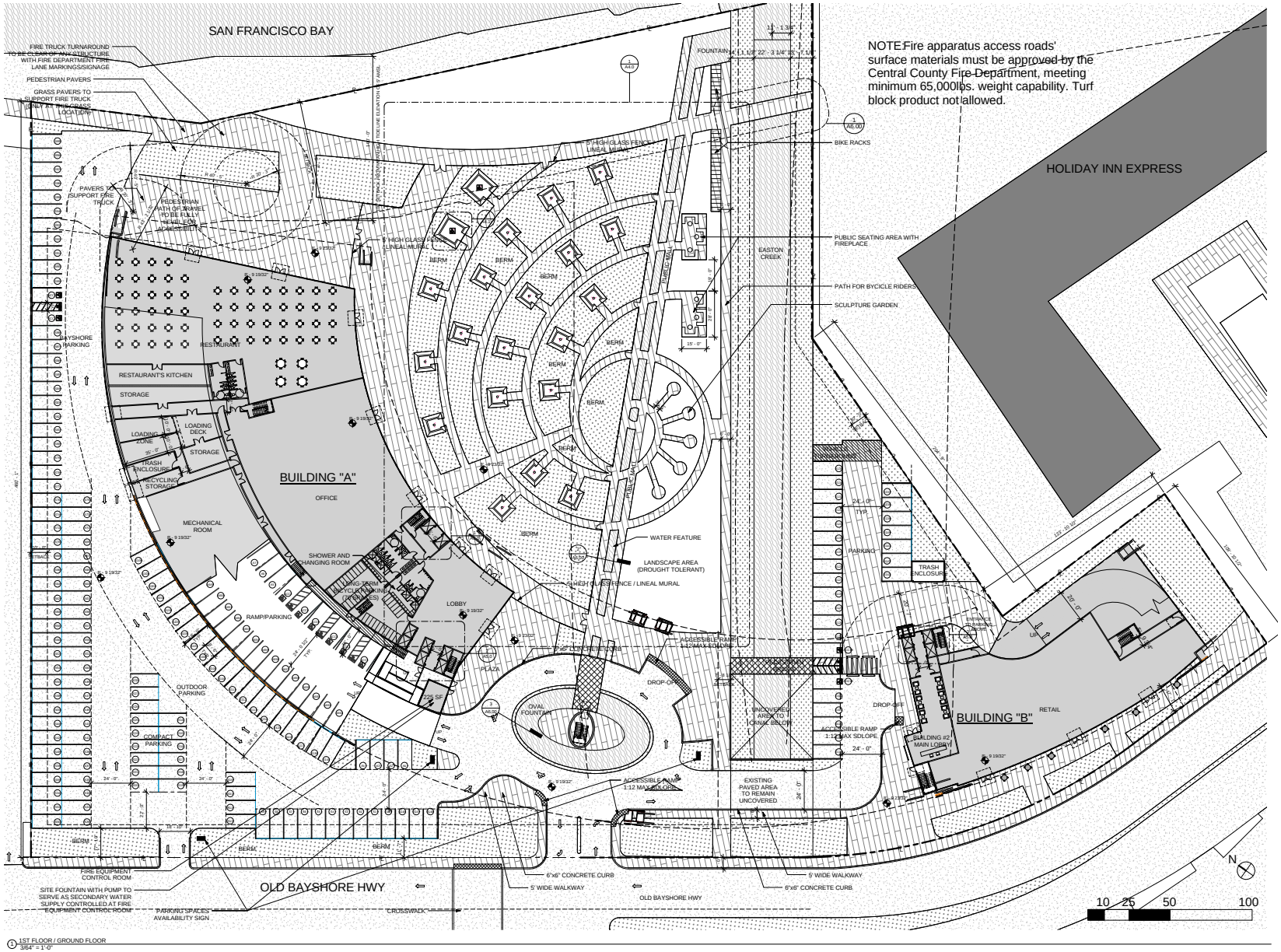
1. Old Bayshore Highway and Mahler Road
2. Old Bayshore Highway and US 101 Northbound Ramps
3. California Drive and Broadway
4. Carolan Avenue and Broadway
5. Rollins Road and Broadway
6. US 101 Southbound Ramps and Broadway
7. Old Bayshore Highway and Airport Boulevard
8. Airport Boulevard and Anza Boulevard

Study Freeway Segments

1. US 101, North of Broadway
2. US 101, South of Broadway



Figure 1
Site Location and Study Intersections



1 1ST FLOOR / GROUND FLOOR
3/64" = 1'-0"

Figure 2
Project Site Plan

NORTH
Not to Scale

Analysis Time Periods

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most traffic congestion occurs on the roadways.

Analysis Scenarios

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes at study intersections were based on traffic counts conducted in May and June 2017. The study intersections were evaluated with a level of service analysis using Synchro software in accordance with the *2010 Highway Capacity Manual* methodology. Study freeway segments were analyzed in accordance with San Mateo CMP methods.

Scenario 2: *Background Conditions.* Background traffic volumes reflect traffic added by projected volumes from approved but not yet completed developments in the project area. The approved project trips and/or approved project information was obtained from recent traffic studies in the City of Burlingame.

Scenario 3: *Existing plus Project Conditions.* Existing traffic volumes with the project were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.

Scenario 4: *Project Conditions.* Background traffic volumes with the project (hereafter called project traffic volumes) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project Conditions were evaluated relative to background conditions to determine potential project impacts.

Scenario 5: *Cumulative Conditions.* Cumulative traffic volumes represent traffic growth through the year 2028. Cumulative traffic volumes were estimated by applying an annual growth factor of 1.0 percent to the existing volumes, then adding trips from approved developments, as well as project-generated traffic. Cumulative plus project conditions were evaluated relative to cumulative conditions to determine potential project impacts.

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, the City of Burlingame, local traffic studies and EIRs, and field observations. The following data were collected from these sources:

- existing peak-hour intersection turning-movement volumes
- lane configurations
- intersection signal timing and phasing

- approved project trips

Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

City of Burlingame Signalized Intersections

The City of Burlingame level of service standards were used to evaluate the signalized study intersections. The City of Burlingame evaluates intersection level of service based on the *Highway Capacity Manual* (HCM) *2010* method using Synchro software[1]. The 2010 HCM method evaluates signalized intersection operations based on average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. While the City of Burlingame does not have a Council-adopted level of service threshold, a standard of LOS D or better has typically been applied in local traffic studies and EIRs. The correlation between delay and level of service is shown in Table 1.

Table 1
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Source: Transportation Research Board, *2010 Highway Capacity Manual,* (Washington, D.C., 2010).

[1] The *2010 Highway Capacity Manual (HCM)* does not support turning movements with shared and exclusive lanes, and intersections with more than four approaches. Intersections with these features were analyzed using the *2000 HCM*.

Intersection Operations

The analysis of intersection level of service was supplemented with an analysis of traffic operations for intersections where the project would add a significant number of left turns. The operations analysis is based on vehicle queuing for high demand left-turn movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average # of vehicles in the queue per lane (vehicles per hr. per lane/signal cycles per hr.)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at signalized intersections.

The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Therefore, left-turn storage pocket designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95th percentile queue length is also known as the "design queue length."

CMP Freeway Segments

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on the average vehicle travel speed. The CMP evaluates freeway level of service based on the *Highway Capacity Manual* (HCM) *1994* method. The 1994 HCM method evaluates freeway segment operations based on average travel speed for all vehicles on the freeway segment. This average speed can then be correlated to a level of service. A freeway segment is considered to operate at an acceptable level of service if the segment operates at or better than the level of service standard identified for that segment by the County congestion management agency. C/CAG's level of service standards for the study freeway segments is LOS E for US 101, between Peninsula Avenue and Millbrae Avenue. The correlation between average vehicle travel speed and level of service on freeway segments is shown in Table 2.

Table 2
Freeway Level of Service Based on Travel Speed

Level of Service	Description	Average Travel Speed [1]
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≥ 65 mph
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	≥ 65 mph
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	≥ 64.5 mph
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	≥ 62 mph
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	≥ 52 mph
F	Vehicular flow breakdowns occurs. Large queues form behind breakdown points.	< 52 mph

[1] Based on free-flow speed of 65 mph.
Source: Transportation Research Board, *Highway Capacity Manual* (1994, Washington, D.C.).

Report Organization

The remainder of this report is divided into seven chapters. Chapter 2 describes the existing roadway network, transit services, and pedestrian facilities. Chapter 3 presents the intersection operations under the background scenario conditions, including the approved projects in the City of Burlingame. Chapter 4 describes the methods used to estimate project traffic and its impact on the transportation system. Chapter 5 includes the analysis of freeway segment operations under project conditions, and impacts associated with them. Chapter 6 describes cumulative traffic conditions. Chapter 7 presents the analysis of other transportation issues including site access and circulation, transit services, bicycle and pedestrian facilities, and vehicle queuing. Chapter 8 includes a summary of project impacts, any proposed mitigation measures, and recommended improvements.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, pedestrian and bicycle facilities, and transit services.

Existing Roadway Network

Regional access to the project site is provided via US 101. Local access to the site is provided on Old Bayshore Highway, Broadway, California Drive, Carolan Avenue, Rollins Road, Airport Boulevard, Mahler Road, and Anza Boulevard. These roadways are described below.

US 101 is a north/south, eight-lane freeway in the vicinity of the site. US 101 extends northward through San Francisco and southward through San Jose. Access to and from the project study area is provided via a full-interchange at Broadway.

Old Bayshore Highway is a north/south four-lane arterial that parallels the edge of the San Francisco Bay, extending from just north of Millbrae Avenue at the southern edge of the SFO Airport to its intersection with Broadway and Airport Boulevard. According to the City's General Plan, arterial roadways are two- to six-lane streets that provide connections between residential areas, shopping areas, places of employment, and recreational areas to the regional roadway network. Old Bayshore Highway provides direct access to the project site.

Broadway is an east/west, two- to four-lane arterial that extends from west of Vancouver Avenue to Old Bayshore Highway, where it transitions into Airport Boulevard. Broadway operates as one of the main gateways into the city with high volumes and access to other parts to the city. Access to the project site from Broadway is provided via Old Bayshore Highway.

California Drive is a north/south roadway that extends from Millbrae Avenue in the City of Millbrae to Peninsula Avenue in San Mateo to the south, at which point it becomes North San Mateo Drive. California Drive consists of two lanes between Millbrae Avenue and Broadway, and four lanes south of Broadway. Access to the project site from California Drive is provided via Broadway and Old Bayshore Highway.

Carolan Avenue is a north/south, two- to four-lane street that extends between Edwards Road and Burlingame Avenue. On-street parking is permitted along both sides of Carolan Avenue. Access to the project site from Carolan Avenue is provided via Broadway and Old Bayshore Highway.

Rollins Road is a north/south, two- to four-lane arterial that extends from Millbrae Avenue in the City of Millbrae to Peninsula Avenue in the City of San Mateo, where it transitions into Amphlett Boulevard. Rollins Road provides access to the project site via Broadway and Old Bayshore Highway.

Airport Boulevard is a north/south, two- to four-lane arterial that extends from Old Bayshore Highway to Coyote Point Drive in San Mateo. Airport Boulevard provides access to the project site via Old Bayshore Highway.

Mahler Road is an east/west, two-lane street that extends from Old Bayshore Highway west where it transitions into Gilbreth Road. On-street parking is permitted along both sides of Mahler Road. Access to the project site from Mahler Road is provided via Old Bayshore Highway.

Anza Boulevard is an east/west, two- to four-lane roadway that extends from US 101 east past Airport Boulevard. Anza Boulevard provides access to the project site via Airport Boulevard and Old Bayshore Highway.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the project site, sidewalks exist along both sides of Old Bayshore Highway, Broadway/Airport Boulevard, Rollins Road, Carolan Avenue, California Drive, and Anza Boulevard, providing pedestrian access to and from the project site. Marked crosswalks with pedestrian signal heads and push buttons are provided on all approaches of the California Drive/Broadway, Old Bayshore Highway/Broadway, and Airport Boulevard/Anza Boulevard intersections. The following signalized study intersections partially provide crosswalks:

- West and south legs of the Old Bayshore Highway/Mahler Road Street intersection
- South leg of the Old Bayshore Highway/US 101 northbound ramps intersection
- South and east legs of the Carolan Avenue/Broadway intersection
- North, south, and west legs of the Rollins Road/Broadway intersection
- North leg of the US 101 southbound ramps/Broadway intersection

Although some crosswalk connections are missing on Old Bayshore Highway and Broadway/Airport Boulevard, the overall network of sidewalks and crosswalks in the study area has good connectivity and provides pedestrians with safe routes to transit services and other points of interest in the vicinity of the project site.

There are several bicycle facilities in the vicinity of the project site. The existing bicycle facilities within the study area are described below and are shown on Figure 3.

Class I Bikeway/Trail is an off-street path with exclusive right-of-way for non-motorized transportation used for commuting as well as recreation. The San Francisco Bay Trail is a 500-mile Class I facility that provides a multi-use path around the entire San Francisco Bay running through all nine Bay Area counties, 47 cities, and across the region's seven toll bridges. Within the project vicinity, the San Francisco Bay Trail is accessible via Airport Boulevard and an access point located at the northeast corner of the project site.

Class II Bike Lanes are preferential use areas within a roadway designated for bicycles. Within the project vicinity, a Class II bike lane is present on the west side of Rollins Road between Broderick Road and Carolan Avenue Road, where it transitions into a Class III bike route.

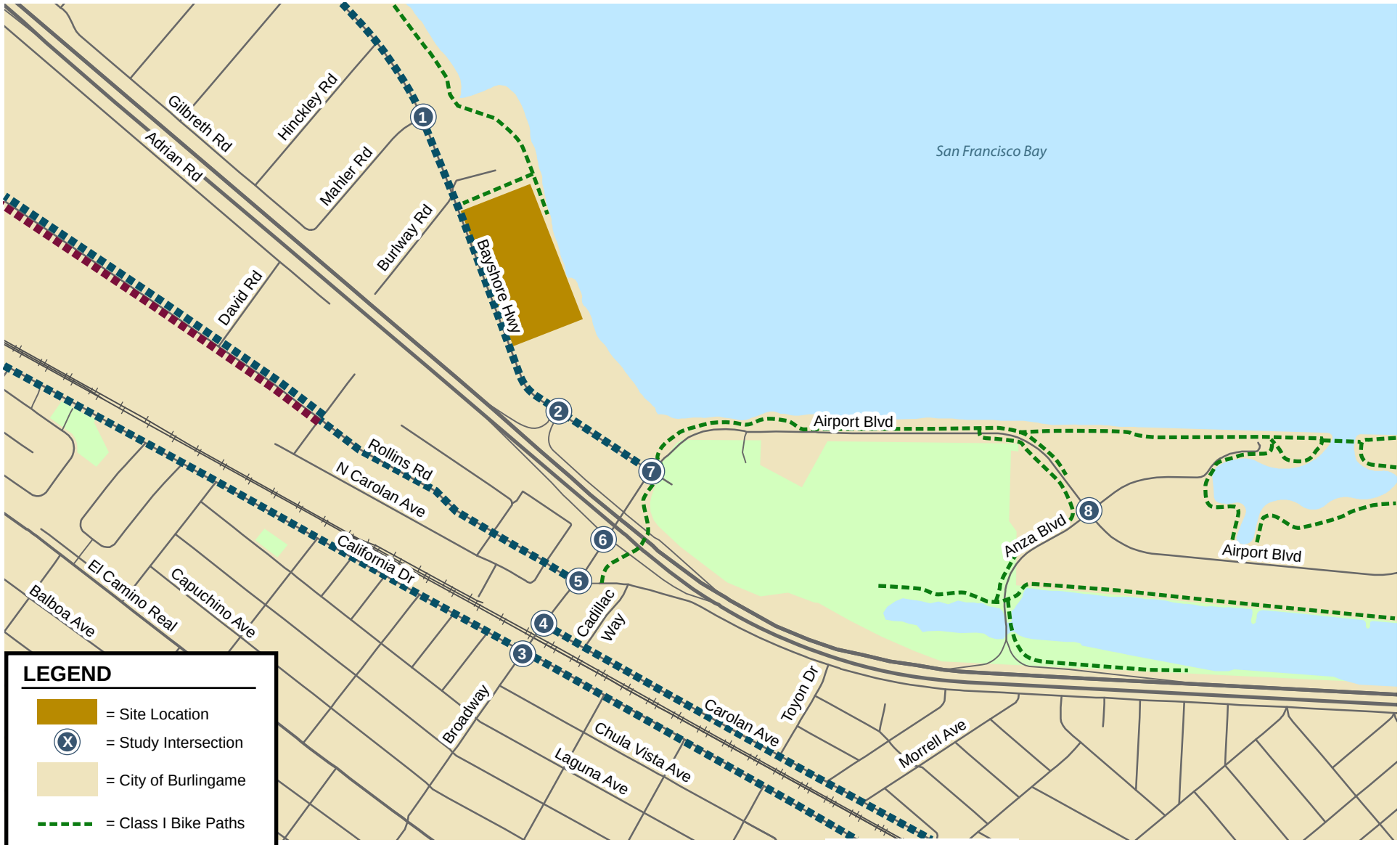


Figure 3
Existing Bicycle Facilities

NORTH
Not to Scale

Class III Bike Routes are signed bike routes that provide a connection to Class I and Class II facilities. Bike routes serve as transportation routes within neighborhoods to parks, schools, and other community amenities. The following roadway segments are designated Class III bike routes in the vicinity of the project site:

- California Drive, between Millbrae Avenue and Burlingame Avenue
- Carolan Avenue, between Broadway and Howard Avenue
- Rollins Road, between Millbrae Avenue and Broadway
- Old Bayshore Highway, between Millbrae Avenue and Airport Boulevard
- Broadway/Airport Boulevard, between California Drive and Peninsula Avenue

Existing Transit Service

Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans), the San Mateo County's Transportation Demand Management Agency, and the Burlingame Trolley (See Figure 4). The study area is served directly by one express bus route and two shuttle routes. The transit service routes that run through the study area are listed in Table 3, including their route description and commute hour headways.

Table 3
Existing Transit Services

Transit Route	Route Description	Headway [1]
Express Route 292	Hillsdale Shopping Center to Transbay Transit Center	30 mins
Burlingame-Bayside Shuttle Service	Millbrae Transit Station to Airport Boulevard/Bay View Place Intersection	20 - 30 mins
Burlingame Trolley Service	Burlingame Caltrain Station to San Francisco Airport Marriott Hotel	45 mins

Notes:
[1] Approximate headways during peak commute periods.

SamTrans Bus Service

Express Route 292 operates on Old Bayshore Highway in the vicinity of the project. The closest bus stops are located adjacent to the project site, approximately 600 feet walking distance on both sides of Old Bayshore Highway. Route 292 operates between the Hillsdale Shopping Center in San Mateo and the Transbay Transit Center in downtown San Francisco. Weekday service is from approximately 3:55 AM to 2:30 AM (next day) with about 30-minute headways during commute hours.

Caltrain Service

Caltrain provides frequent passenger train service between San Jose and San Francisco seven days a week. During commute hours, Caltrain provides extended service to Morgan Hill and Gilroy. The closest Caltrain station is the Broadway Station (approximately a half-mile from the project site); however, the Broadway Station only provides weekend service. The closest Caltrain stations with weekday service are the Burlingame Station and the Millbrae Station, which are described below.
As part of the Caltrain Modernization Program, the rail service will be electrified. The electrified Caltrain system will provide increased service, including reopening the Broadway Station for weekday service.

Electrification is also expected to help accommodate the increase in system ridership through much improved system operations.

Burlingame Caltrain Station

The Burlingame Station is served by local and limited Caltrain trains. Located approximately 1.7 miles south of the project site, the Burlingame Station is connected to the project site via the Burlingame Trolley Service. Trains that stop at the Burlingame Station operate at approximately 25-minute headways in both directions during the commute hours, with somewhat less frequent service midday. Service operates between about 5:30 AM and 11:35 PM in the northbound direction and between 5:20 AM and 12:35 AM (next day) in the southbound direction.

Burlingame Trolley Service

The Burlingame Trolley service provides weekday peak-hour service between the Burlingame Caltrain Station and the San Francisco Airport Marriott Hotel. The Burlingame Trolley primarily connects the hotels east of Highway 101 with downtown Burlingame. The trolley service only operates between 11:50 AM and 9:45 PM, with approximately 45-minute headways. Therefore, the trolley would not serve morning commuters to the proposed offices. The nearest trolley stop is located adjacent to the project site at the Hyatt Regency Hotel, approximately 600 feet walking distance from the project site. Based on a traffic engineering standard walking speed of 3.5 feet per second, the walking time to the nearest trolley stop would equate to about three minutes.

Millbrae Transit Station

The Millbrae Station is served by local, limited, and Baby Bullet Caltrain trains, as well as by Bay Area Rapid Transit (BART). Located approximately 1.8 miles north of the project site, the Millbrae Station is connected to the project site via the BART/Caltrain Shuttle Service. Caltrain trains that stop at the Millbrae Station operate at approximately 20-minute headways in the northbound direction and 23-minute headways in the southbound direction during the commute hours. Service operates between about 5:35 AM and 11:40 PM in the northbound direction and between 5:20 AM and 12:30 AM (next day) in the southbound direction.

BART operates regional rail service in the Bay Area, connecting between San Francisco International Airport, San Francisco to the north, and cities in the East Bay. The Millbrae Station is the southern terminus of the Richmond-Millbrae Line on weekdays before 9:00 PM and the Pittsburg/Bay Point-SFO Airport-Millbrae Line after 9:00 PM on weekdays. BART provides service from 4:00 AM to 12:00 AM (next day) on weekdays, with headways of 15 minutes on the Richmond-Millbrae Line serving the station during peak and mid-day hours, and 20-minute headways on the Pittsburg/Bay Point-SFO Airport-Millbrae Line.

Burlingame-Bayside BART/Caltrain Shuttle Service

The Burlingame-Bayside BART/Caltrain Shuttle Service is one of San Mateo County's free public shuttle services. It travels between the Millbrae Transit Station and the Airport Boulevard/Bay View Place intersection in Burlingame. The shuttle stops curbside along Rollins Road, Old Bayshore Highway, and Airport Boulevard. The nearest shuttle stops are located adjacent to the project site, approximately 600 feet walking distance on both sides of Old Bayshore Highway, which would equate to about a three-minute walking time. Shuttle service is provided during commute hours (7-9 AM and 4-6 PM) Monday through Friday and is coordinated with the Caltrain and BART schedules, with approximately 20- to 30-minute headways. Therefore, it is expected that most project office employees would use the Millbrae transit station as opposed to the Burlingame station.



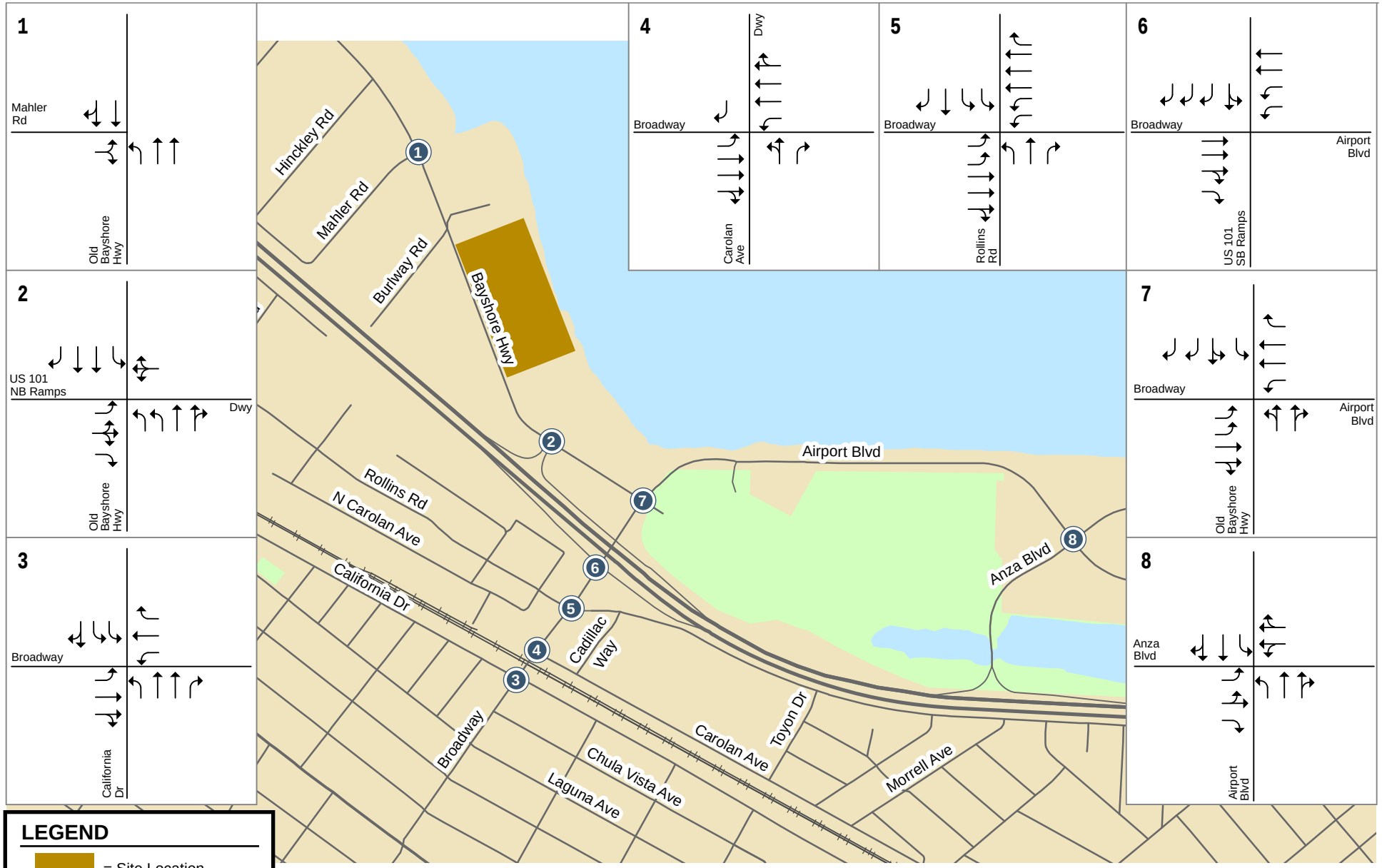
Figure 4
Existing Transit Services

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 5.

Existing Traffic Volumes

Existing traffic volumes were obtained from peak hour counts collected on May 31st and June 20th, 2017. Although traffic counts are typically conducted when schools are in session, Hexagon wanted to wait until the completion of the Broadway interchange. In addition, there are no schools located in the vicinity of the project site. The existing peak-hour intersection volumes are shown in Figure 6. Intersection turning-movement counts conducted for this analysis are presented in Appendix A.



LEGEND

= Site Location

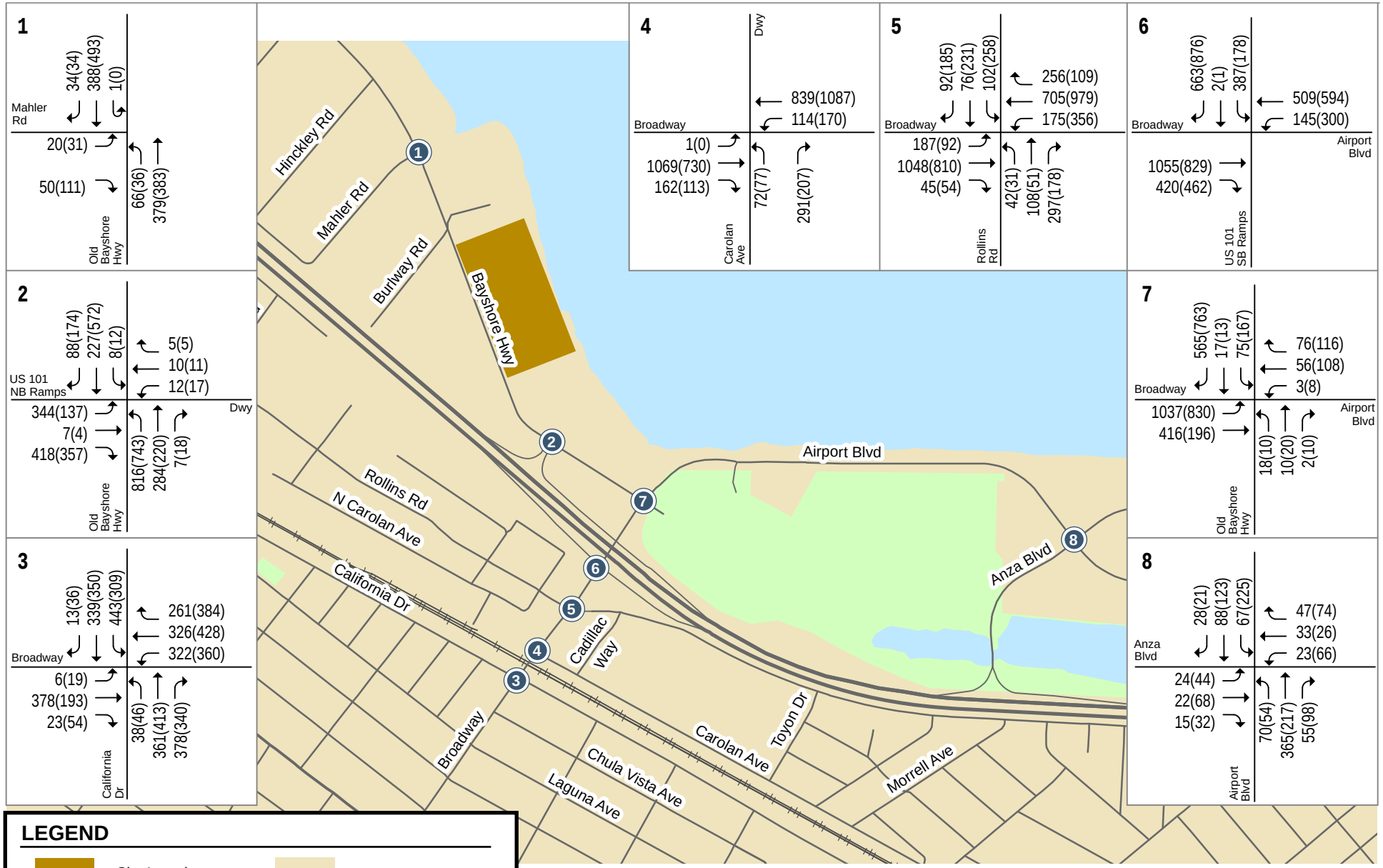
= Study Intersection

= City of Burlingame

Figure 5
Existing Lane Configurations

HEXAGON

NORTH
Not to Scale



LEGEND

= Site Location
= City of Burlingame
X = Study Intersection
XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 6
Existing Traffic Volumes

HEXAGON

NORTH
Not to Scale

Existing Intersection Levels of Service

The results of the analysis show that most of the signalized study intersections currently operate at LOS D or better during the AM and PM peak hours (see Table 4). The intersection of California Drive and Broadway operates at a substandard LOS E during the AM peak hour. The unacceptable level of service at this intersection is attributed to the high traffic volume on Broadway, as well as the Caltrain railroad gate down-times on Broadway, between California Drive and Carolan Avenue. The intersection levels of service calculation sheets are included in Appendix B.

Table 4
Existing Intersection Levels of Service

Study Number	Intersection	Peak Hour	Count Date	Existing Conditions Avg Delay (sec.)	Existing Conditions LOS
1	Old Bayshore Highway and Mahler Road *	AM	5/31/17	7.4	A
		PM	5/31/17	8.0	A
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	6/20/17	34.4	C
		PM	6/20/17	38.3	D
3	California Drive and Broadway	AM	5/23/17	**61.2**	**E**
		PM	5/23/17	45.0	D
4	Carolan Avenue and Broadway	AM	5/23/17	25.9	C
		PM	5/23/17	24.8	C
5	Rollins Road and Broadway	AM	6/20/17	33.2	C
		PM	6/20/17	33.9	C
6	US 101 Southbound Ramps and Broadway *	AM	6/20/17	26.5	C
		PM	6/20/17	17.7	B
7	Old Bayshore Highway and Airport Boulevard *	AM	6/20/17	18.2	B
		PM	6/20/17	18.6	B
8	Airport Boulevard and Anza Boulevard *	AM	5/23/17	14.9	B
		PM	5/23/17	23.2	C

Notes:

* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

Bold indicates a substandard level of service.

Bold indicates a significant project impact.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated intersection levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect existing traffic conditions.

Overall, most study intersections operated adequately during both the AM and PM peak hours of traffic, and the level of service analysis appears to accurately reflect actual existing traffic conditions.

However, field observations showed that some operational problems currently occur during the AM and PM peak commute hours. These issues are described below.

The study intersections nearest to the project site operate adequately during the AM and PM peak hours of traffic, and the level of service analysis accurately reflects actual existing traffic conditions. The study intersections along Broadway carry relatively large traffic volume to and from US 101. The close spacing of the intersections result in spill backs, vehicles not clearing in one signal cycle, and turning vehicles occasionally blocking through lanes. Although Broadway experiences long vehicular queues on the eastbound and westbound approaches at California Drive, particularly due to the frequent Caltrain railroad gate down-times, the other movements at this intersection have relatively moderate back-ups. The eastbound through volume on Broadway frequently backs up past the Caltrain tracks to the California Drive intersection, resulting in extended wait times for vehicles turning on to Broadway from California Drive. However, movements such as the southbound left-turn only occasionally require more than one signal cycle to clear the intersection.

3. Background Conditions

This chapter describes background traffic conditions. Background conditions are defined as conditions within the next 3-5 years (a horizon year of 2021-2023) just prior to completion/occupation of the proposed development. Traffic volumes for background conditions comprise existing traffic volumes plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

Background Roadway Network

Under background conditions, the Carolan Avenue Complete Streets Project would be completed. Carolan Avenue would be modified between Broadway and Oak Grove Avenue from a four-lane roadway with a Class III bicycle route, into a two-lane roadway with a third center turn-lane and new Class II bike lanes. It is also assumed that the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, would be completed (projected to be operational between 2020 and 2021). According to Fehr & Peers's *Caltrain Peninsula Corridor Electrification Project Transportation Analysis* (2014), weekday service at the Broadway Station is expected to be restored with the implementation of the PCEP. The PCEP is expected to increase service by up to six Caltrain trains per peak hour per direction by 2020. The remainder of the transportation network is assumed to be the same under background conditions as that of the existing transportation network.

Background Traffic Volumes

Background peak hour traffic volumes were obtained from the Year 2020 scenario in the Carolan Avenue and Rollins Road Residential traffic study. Traffic volumes for background conditions include the completion of approved major developments in the vicinity of the project site, such as the Carolan Avenue residential project and the 300 Airport Boulevard project. Background peak hour traffic volumes are shown on Figure 7.

Background Intersection Levels of Service

Table 5 shows that most of the study intersections would continue to operate at acceptable levels of service (LOS D or better) during both the AM and PM peak hours under background conditions. The intersection of California Drive and Broadway would operate at an unacceptable LOS E during both peak hours, due to train interruptions. The intersection level of service calculation sheets are provided in Appendix B.

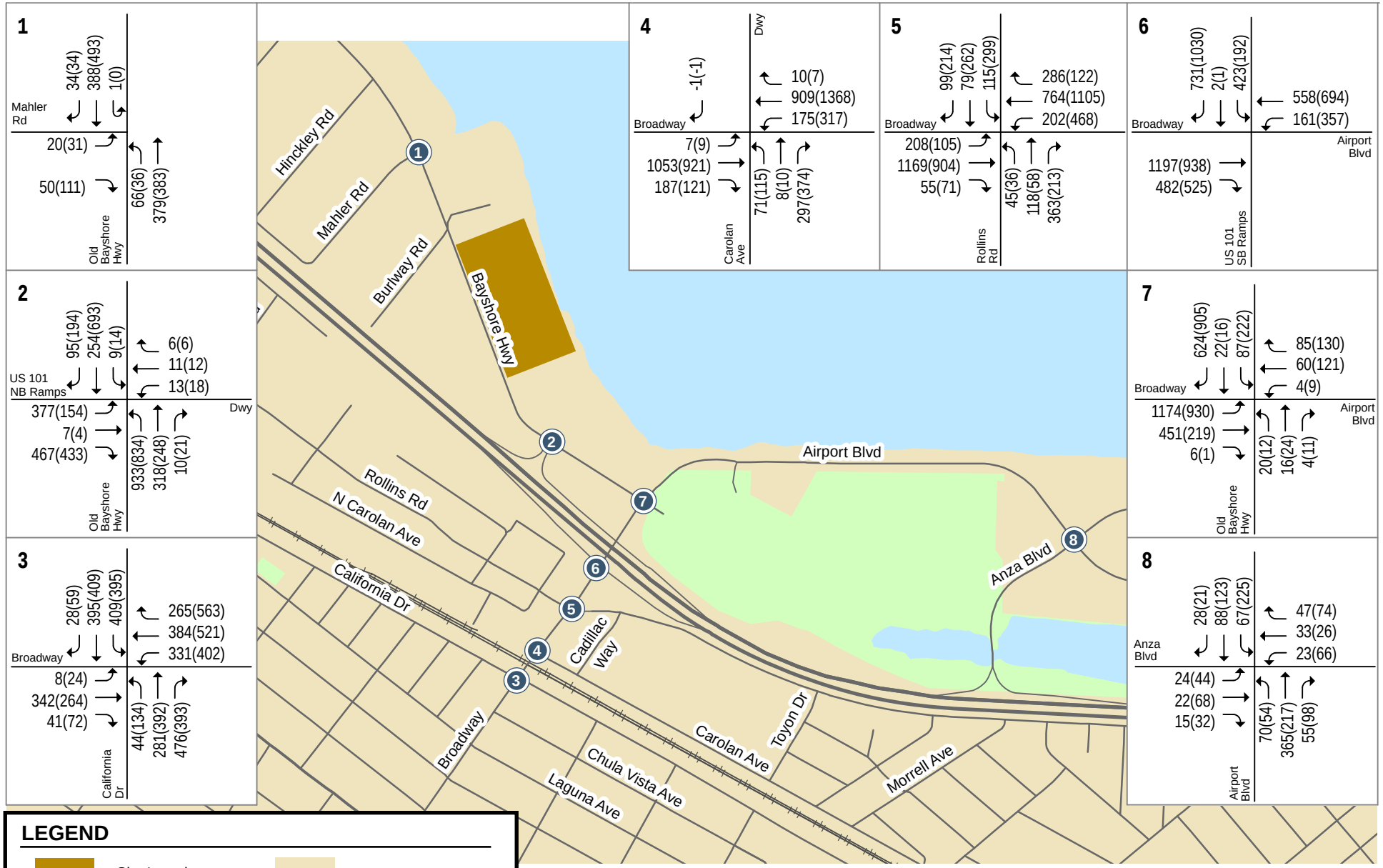


Figure 7
Background Traffic Volumes

HEXAGON

NORTH
Not to Scale

Table 5
Background Intersection Levels of Service

Study Number	Intersection	Peak Hour	Background Avg Delay (sec.)	Background LOS
1	Old Bayshore Highway and Mahler Road *	AM	7.4	A
		PM	8.0	A
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	36.8	D
		PM	42.4	D
3	California Drive and Broadway	AM	**69.9**	**E**
		PM	**65.8**	**E**
4	Carolan Avenue and Broadway	AM	27.3	C
		PM	29.0	C
5	Rollins Road and Broadway	AM	35.7	D
		PM	38.6	D
6	US 101 Southbound Ramps and Broadway *	AM	28.1	C
		PM	19.4	B
7	Old Bayshore Highway and Airport Boulevard *	AM	18.4	B
		PM	19.4	B
8	Airport Boulevard and Anza Boulevard *	AM	14.9	B
		PM	23.2	C

Notes:

* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

Bold indicates a substandard level of service.

Bold indicates a significant project impact.

4. Project Conditions

This chapter describes traffic conditions with the project. It begins with a description of the transportation system under project conditions and the method by which project traffic is estimated. A summary of levels of service under existing plus project traffic conditions, as well as project traffic conditions is presented in this chapter. Existing plus project traffic conditions could potentially occur if the project were to be occupied prior to the other approved projects in the area. Project conditions are represented by background traffic conditions with the addition of traffic generated by the project.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts on signalized intersections are based on City of Burlingame Level of Service standards.

Definition of Significant Intersection Impacts

The City of Burlingame does not have any Council-adopted definitions of significant traffic impacts. The following standards typically have been used in traffic studies and EIRs. The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of Burlingame if for any peak-hour:

1. The level of service at the intersection degrades from an acceptable LOS D under background conditions to an unacceptable LOS E or F under project conditions, or
2. The level of service at the intersection is an unacceptable LOS D, E, or F under background conditions and the addition of project trips causes the average delay at the intersection to increase by five (5) or more seconds.

A significant impact is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

Transportation Network under Project Conditions

It is assumed in this analysis that the transportation network under project conditions would be the same as the background transportation network.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip

assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed mixed-use office project was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that indicate the amount of traffic that can be expected to be generated by common land uses. The standard trip generation rates can be applied to help predict the future traffic increases that would result from a new development. The standard trip generation rates come from the publication titled Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition.*

Project trip generation was estimated by applying to the size and uses of the development by the appropriate trip generation rates obtained from the ITE *Trip Generation Manual, 9th Edition* (2012). The average trip generation rates for Office (Land Use 710), Quality Restaurant (Land Use 931), and Shopping Center (ITE Land Use 820) were applied to the project. The ITE rates for Shopping Center are typically used for projects such as this (i.e., projects that include a general retail component) if the specific land uses are not known at the time the traffic study is being prepared, since shopping centers commonly contain a wide range of retail land uses. Based on the project description and ITE rates for Office, Quality Restaurant, and Shopping Center, the proposed development would generate a total of 4,075 gross daily vehicle trips, with 402 gross trips (348 inbound and 53 outbound) occurring during the AM peak hour and 467 gross trips (134 inbound and 332 outbound) occurring during the PM peak hour (see Table 6).

Trip Reductions

Since the project would consist of a mix of office and retail uses, a 15 percent trip reduction was applied (to the smaller trip generator) to account for the internalization of trips between the two land use components of the project. In addition, a retail pass-by trip reduction of 25 percent was also applied to the net peak hour trip generation estimates for the proposed retail space. Pass-by-trips are trips that would already be on the adjacent roadways (and so are already counted in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that such retail traffic is not actually generated by the retail development but is already part of the ambient traffic levels.

Existing Use Credit

Trips that are generated by existing occupied uses can be subtracted from the gross project trip generation estimates. Accordingly, trip credits were applied to account for the existing uses currently occupying the project site (i.e. a restaurant, an office building, a church, a community center, and a commercial building) that will be removed as part of the project. The trip generation for the existing buildings was based on driveway counts conducted at the existing nine (9) driveways along Old Bayshore Highway. Based on the trip generation counts, the existing uses were found to be generating a total of 75 trips during the AM peak hour and 77 trips during the PM peak hour.

Net Project Trips

After applying the appropriate trip reductions, the project would generate 3,007 new daily vehicle trips, with 327 new trips (280 inbound and 46 outbound) during the AM peak hour and 329 new trips (67 inbound and 261 outbound) during the PM peak hour (See Table 6).

Table 6
Project Trip Generation Estimates

Land Use	Size	Daily Rate	Daily Trips [7]	AM Peak Hour Rate	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Rate	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Proposed Use											
Office [1]	239,201 s.f.	11.03	2,638	0.62	338	46	384	0.69	59	287	346
Internal Trips [2]			(90)		0	0	0		(11)	(7)	(18)
Subtotal			2,548		338	46	384		48	280	328
Restaurant [3]	11,887 s.f.	89.95	1,069	0.81	5	4	10	7.49	60	29	89
Retail [4]	8,610 s.f.	42.70	368	0.96	5	3	8	3.71	15	16	32
Internal Trips [2]			(90)		0	0	0		(11)	(7)	(18)
Pass by Trips [5]			(129)		0	0	0		(16)	(10)	(26)
Subtotal			1,218		10	7	18		48	29	77
Total Project Trips			**3,767**		**348**	**53**	**402**		**96**	**309**	**406**
Existing Use [6]			(760)		(68)	(7)	(75)		(29)	(48)	(77)
Net Project Trips			3,007		280	46	327		67	261	329

Notes:

[1] General Office (Land Use 710) based on ITE's *Trip Generation Manual, 9th Edition* , fitted curve equation.

[2] Internal trips for the office land use is assumed to be the same as the restuarant/retail land uses. Internal trips were assumed to be 15% of the primary trips for the PM Peak hour.

[3] Quality Restuarant (Land Use 931) based on ITE's *Trip Generation Manual, 9th Edition* , average rates.

[4] Shopping Center (Land Use 820) based on ITE's *Trip Generation Manual, 9th Edition* , average rates.

[5] Pass by trips for the restaurant and retail land uses were assumed to be 25% of the primary trips for the PM Peak hour, based on the trip reduction factors published in the ITE *Trip Generation Manual* , 9th Edition (2012).

[6] Based on driveway counts conducted on June 6, 2017.

[7] Daily trip reductions are the average of the AM and PM peak hour rate multiplied by 10.

Trip Distribution and Trip Assignment

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern. Figures 8, 9, and 10 show the trip distribution pattern and trip assignment for the office, restaurant and retail components of the project, as well as the trip credits for the existing buildings, respectively. Figure 11 shows the net trip assignment of project traffic on the local transportation network.

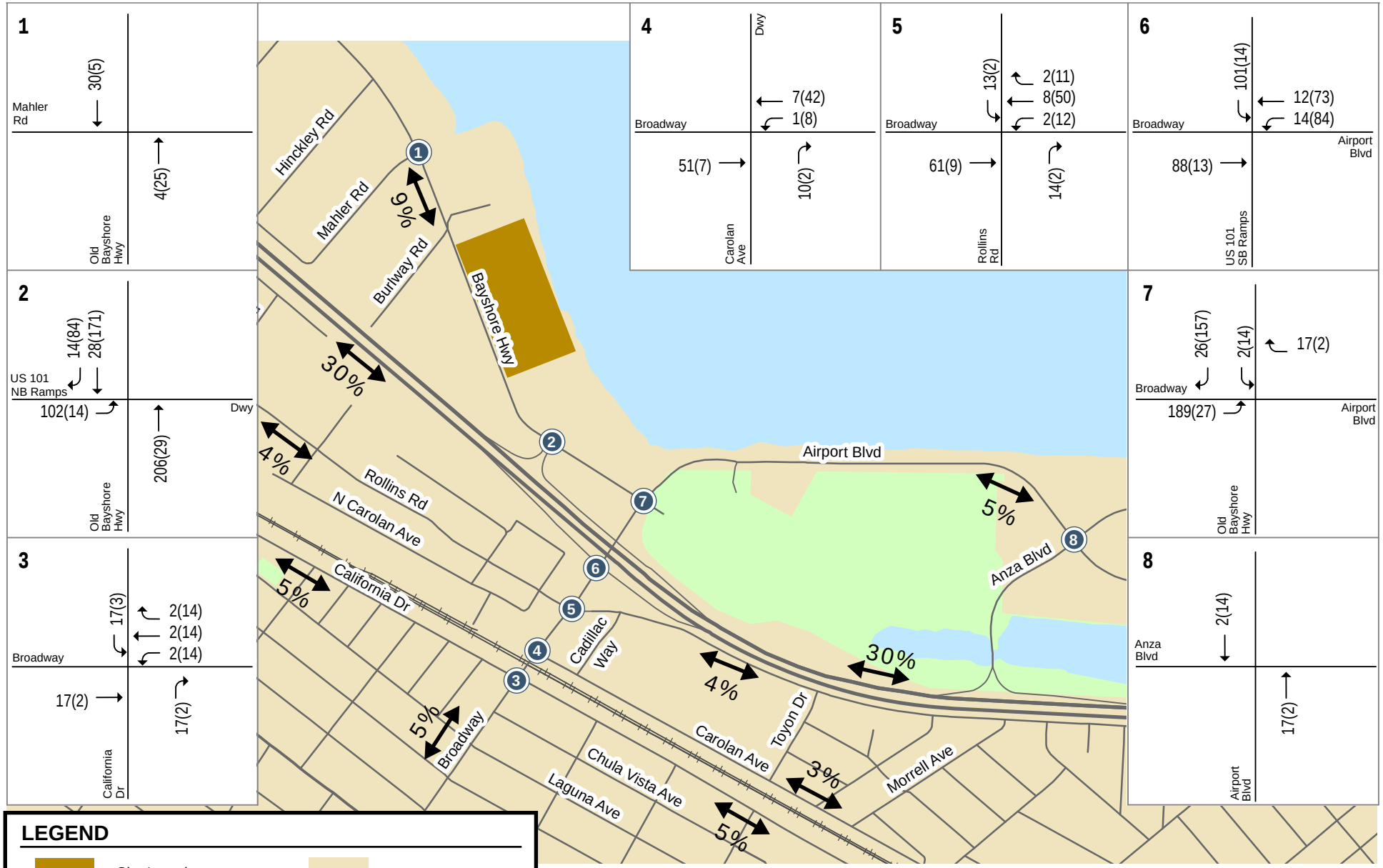
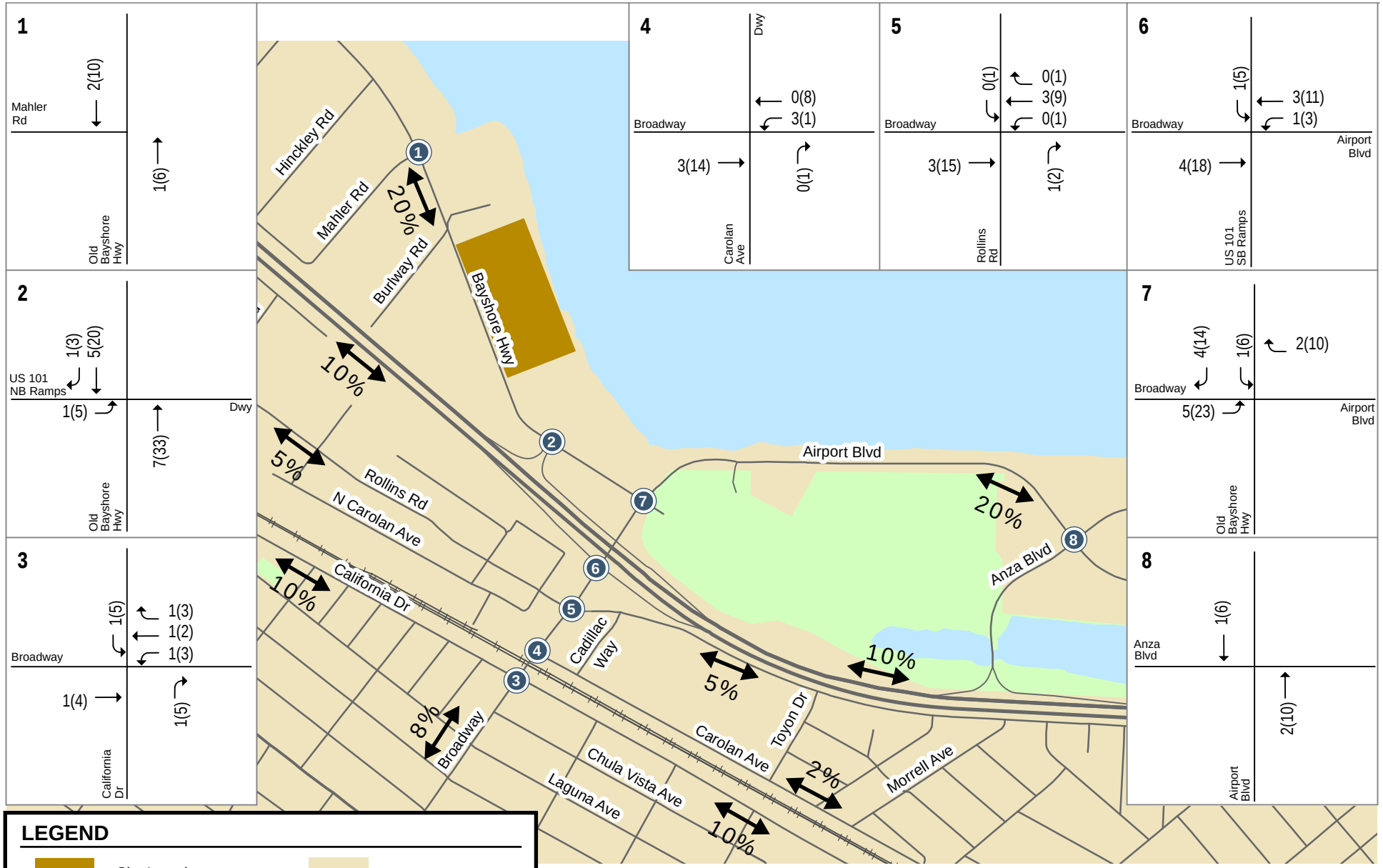


Figure 8
Project Office Trip Distribution and Assignment



LEGEND

- = Site Location
- = City of Burlingame
- (X) = Study Intersection
- XX% = Trip Distribution
- XX(XX) = AM(PM) Peak-Hour Trips

Figure 9
Project Restaurant and Retail Trip Distribution and Assignment

HEXAGON

NORTH
Not to Scale

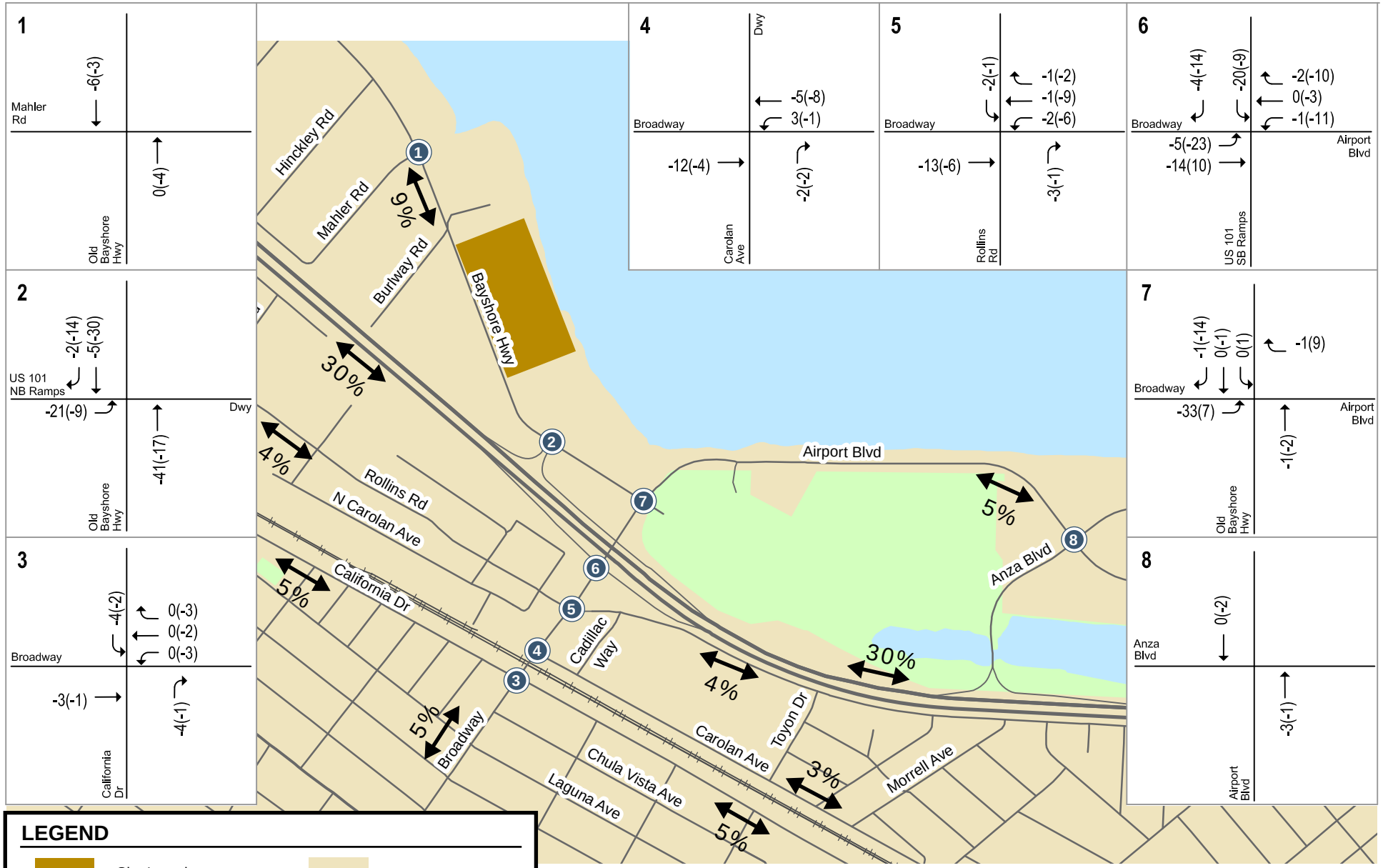
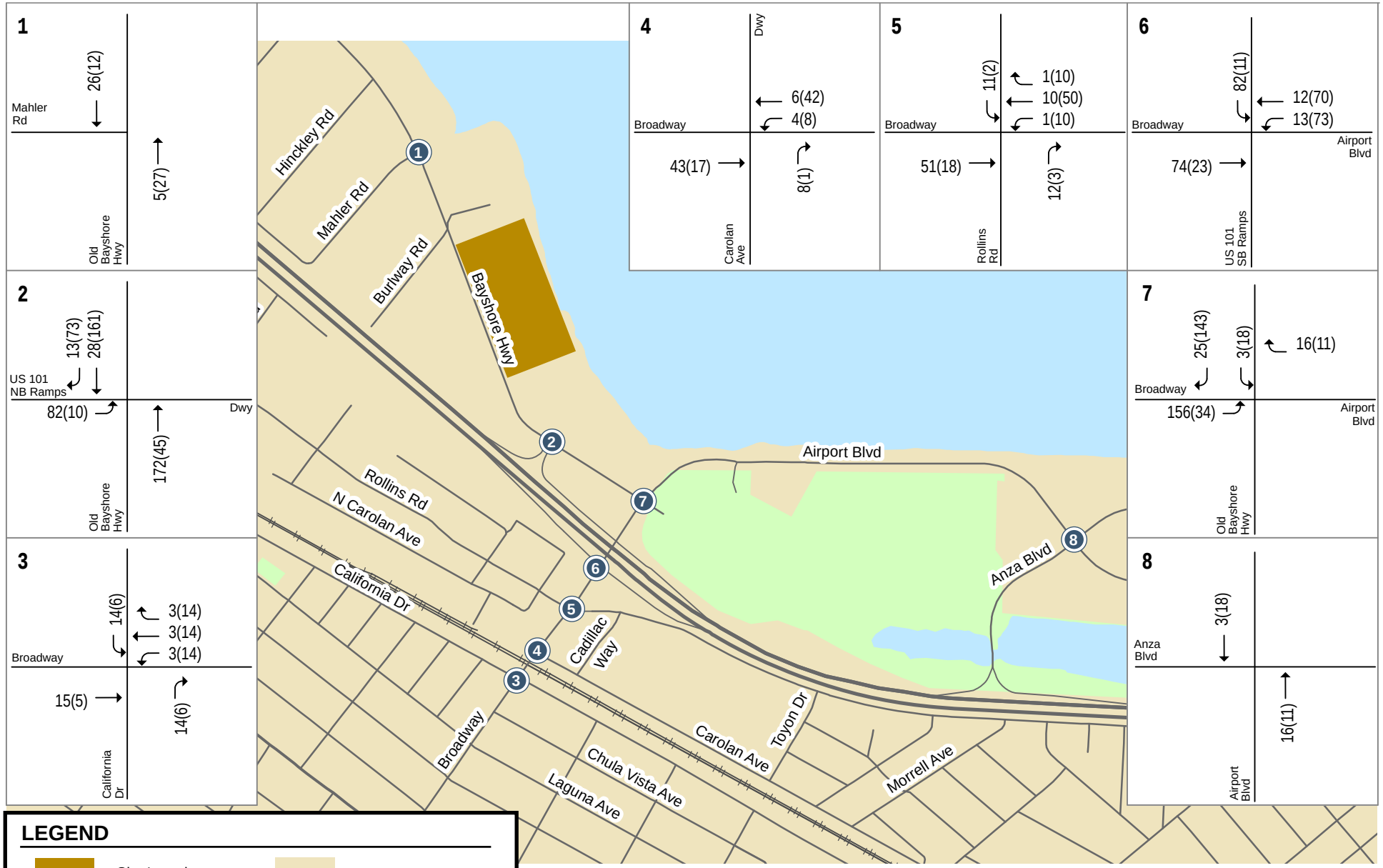


Figure 10
Existing Use Trip Distribution and Assignment

SFO Tech Center



LEGEND

= Site Location
= City of Burlingame
X = Study Intersection
XX(XX) = AM(PM) Peak-Hour Trips

Figure 11
Net Project Trip Assignment

HEXAGON

NORTH
Not to Scale

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 12.

Existing Plus Project Intersection Analysis

Table 7 shows that most of the study intersections would continue to operate at LOS D or better during both the AM and PM peak hours of traffic. The California Drive/Broadway intersection would operate at a substandard LOS E during the AM peak hour. The project would increase the delay by less than 5 seconds, so the project impact would be less than significant. The intersection level of service calculation sheets are provided in Appendix B.

Table 7
Existing Plus Project Intersection Levels of Service

Study Number	Intersection	Peak Hour	Existing Conditions			
			No Project		With Project	
			Avg Delay (sec.)	LOS	Avg Delay (sec.)	LOS
1	Old Bayshore Highway and Mahler Road *	AM	7.4	A	7.3	A
		PM	8.0	A	7.8	A
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	34.4	C	34.5	C
		PM	38.3	D	40.8	D
3	California Drive and Broadway	AM	**61.2**	**E**	**63.8**	**E**
		PM	45.0	D	45.8	D
4	Carolan Avenue and Broadway	AM	25.9	C	26.1	C
		PM	24.8	C	24.9	C
5	Rollins Road and Broadway	AM	33.2	C	33.7	C
		PM	33.9	C	34.1	C
6	US 101 Southbound Ramps and Broadway *	AM	26.5	C	27.5	C
		PM	17.7	B	18.4	B
7	Old Bayshore Highway and Airport Boulevard *	AM	18.2	B	18.6	B
		PM	18.6	B	18.6	B
8	Airport Boulevard and Anza Boulevard *	AM	14.9	B	14.8	B
		PM	23.2	C	22.9	C

Note:

* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

Bold indicates a substandard level of service.

Bold indicates a significant project impact.

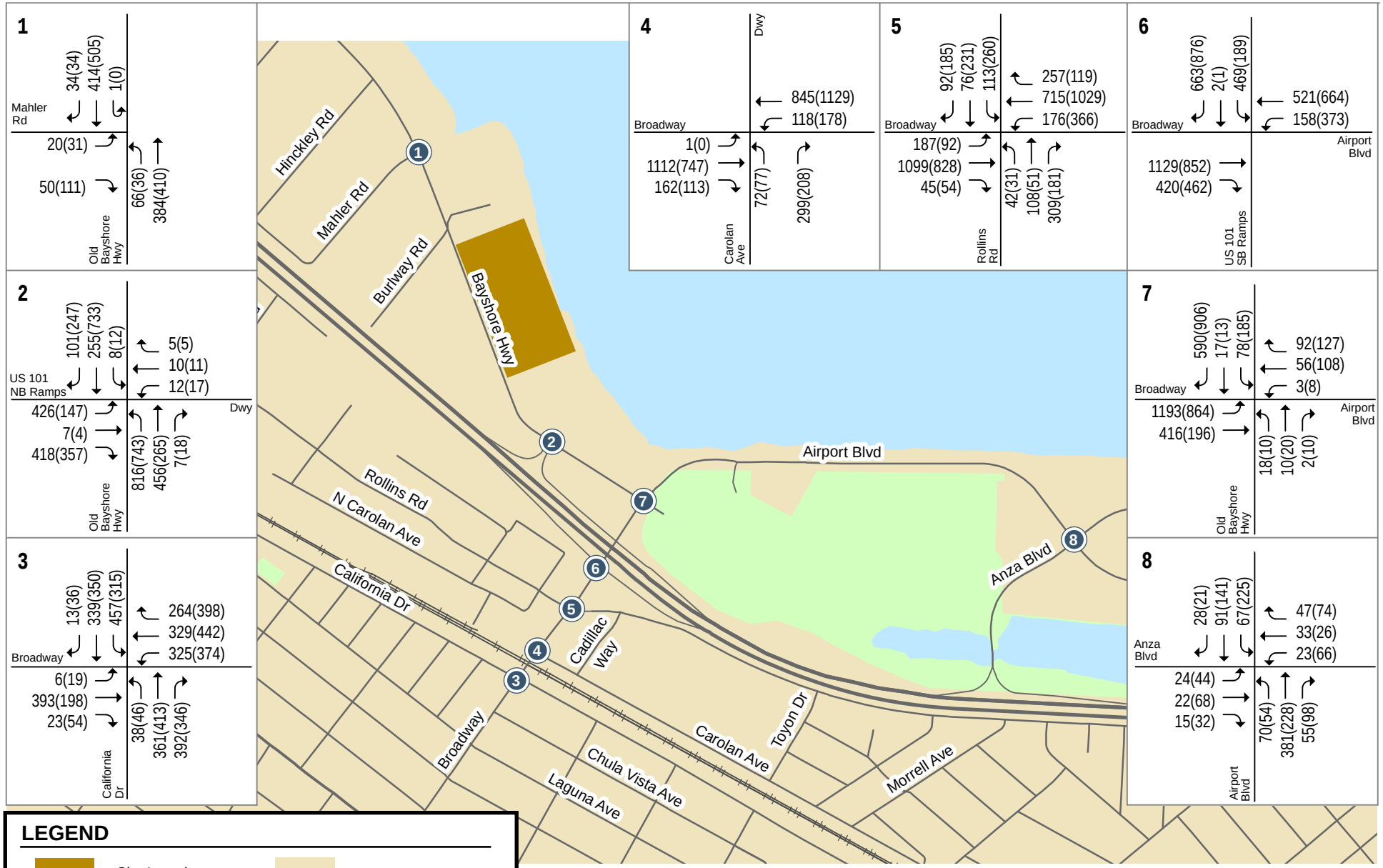


Figure 12
Existing Plus Project Traffic Volumes

Project Conditions Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to background traffic volumes to obtain project conditions traffic volumes. The project conditions traffic volumes at the study intersections are shown on Figure 13.

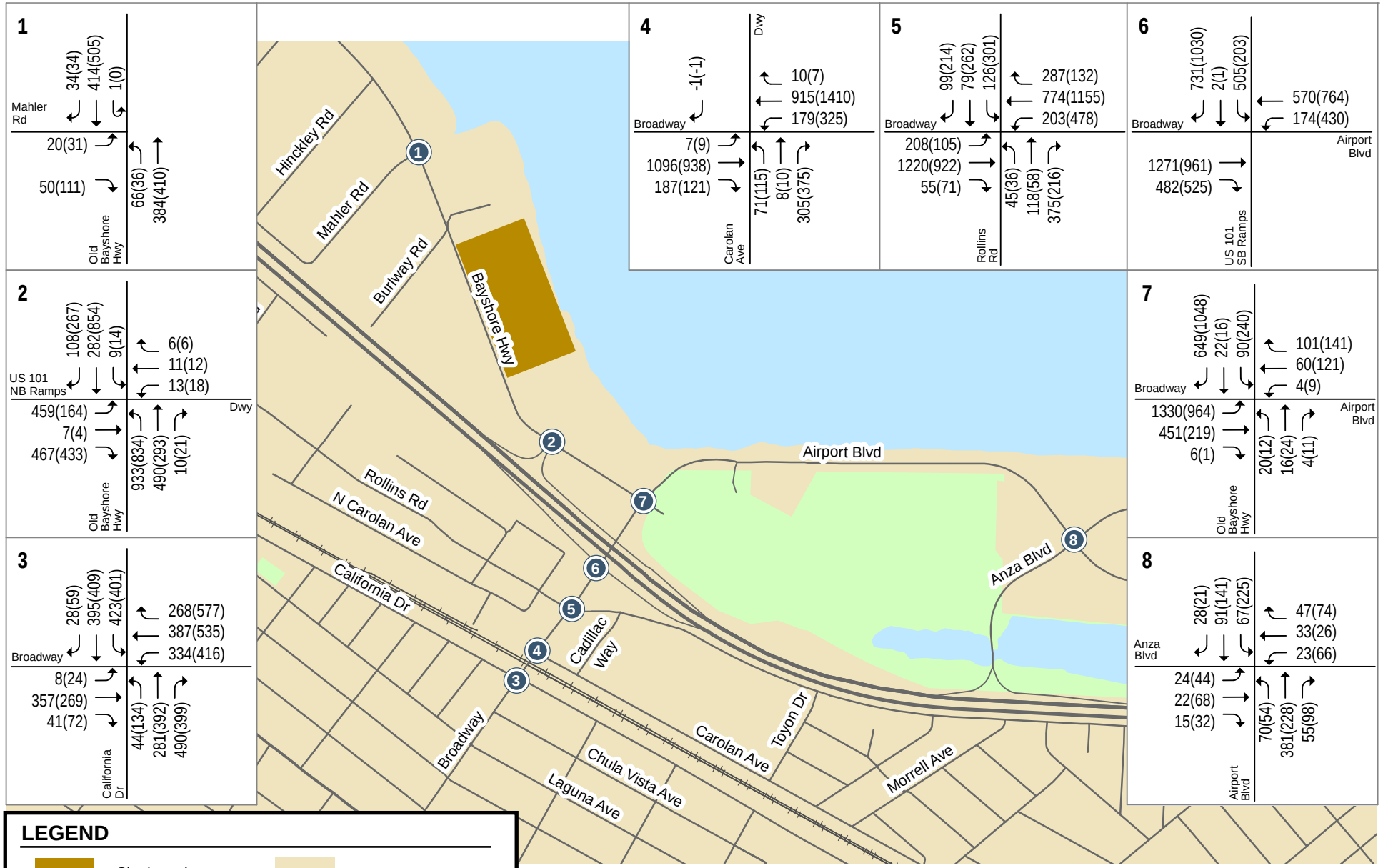
Project Conditions Intersection Analysis

Table 8 shows that most of the study intersections would continue to operate at LOS D or better during both the AM and PM peak hours of traffic. The California Drive/Broadway intersection would continue to operate at an unacceptable LOS E during both peak hours with the addition of the project traffic. However, the addition of project traffic would not create a significant impact at this intersection because the weighted average delay per vehicle would increase by only two (2) seconds, which is less than the standard threshold of five (5) seconds for a significant impact. The Old Bayshore Highway/Mahler Road intersection and the Airport Boulevard/Anza Boulevard intersection show an improvement with the increased traffic from the project. This can happen when traffic is added to intersection turning movements that have low delay. The overall weighted average delay can improve. The intersection level of service calculation sheets are provided in Appendix B.

Table 8
Project Conditions Intersection Levels of Service

Study Number	Intersection	Peak Hour	Background Conditions: No Project Avg Delay (sec.)	No Project LOS	With Project Avg Delay (sec.)	With Project LOS	Incr. In Avg. Delay
1	Old Bayshore Highway and Mahler Road *	AM	7.4	A	7.3	A	-0.1
		PM	8.0	A	7.8	A	-0.2
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	36.8	D	37.1	D	0.3
		PM	42.4	D	45.0	D	2.6
3	California Drive and Broadway	AM	**69.9**	**E**	**71.9**	**E**	**2.0**
		PM	**65.8**	**E**	**67.4**	**E**	**1.6**
4	Carolan Avenue and Broadway	AM	27.3	C	27.5	C	0.2
		PM	29.0	C	29.3	C	0.3
5	Rollins Road and Broadway	AM	35.7	D	36.3	D	0.6
		PM	38.6	D	39.0	D	0.4
6	US 101 Southbound Ramps and Broadway *	AM	28.1	C	29.2	C	1.1
		PM	19.4	B	20.5	C	1.1
7	Old Bayshore Highway and Airport Boulevard *	AM	18.4	B	19.4	B	1.0
		PM	19.4	B	19.5	B	0.1
8	Airport Boulevard and Anza Boulevard *	AM	14.9	B	14.8	B	-0.1
		PM	23.2	C	22.9	C	-0.3

Notes:
* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.
Bold indicates a substandard level of service.
Bold indicates a significant project impact.



LEGEND

- = Site Location
- = City of Burlingame
- (X) = Study Intersection
- XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 13
Background Plus Project Traffic Volumes

HEXAGON

NORTH
Not to Scale

5. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions with the proposed project. Cumulative conditions represent future traffic conditions with expected growth in the area. The expected future traffic growth was estimated by applying an annual growth factor to the existing counts for 10 years. Cumulative conditions reflect a horizon year of 2028.

Roadway Network and Traffic Volumes

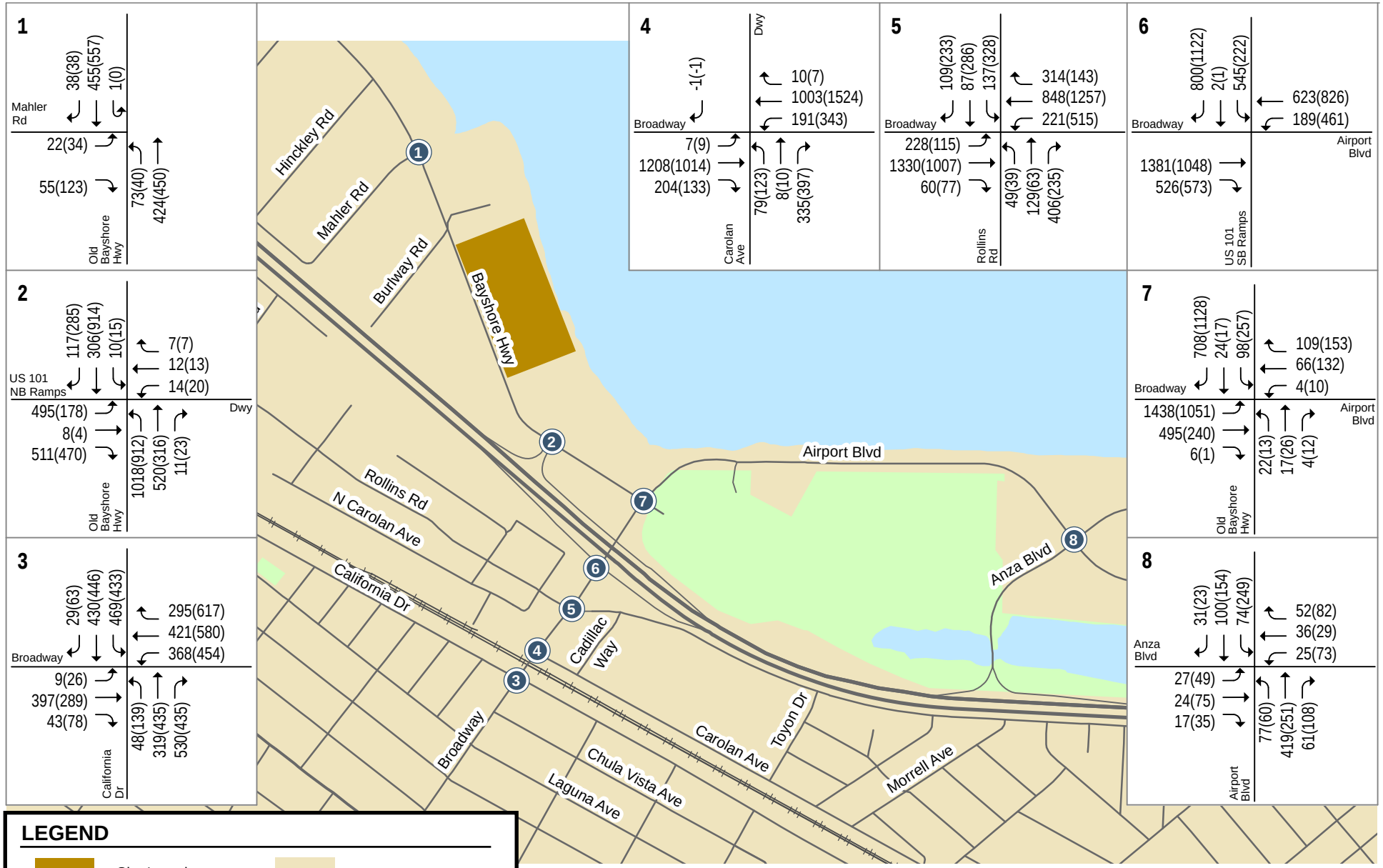
The intersection lane configurations under cumulative conditions were assumed to be the same as described under background conditions.

The traffic volumes under cumulative conditions for the study intersections were estimated by applying a 1.0 percent annual growth rate to the existing traffic counts and adding traffic from approved developments. The growth rate was applied to the study intersections through the year 2028 (ten-year horizon). Project trips were then added to the growth estimates to create the cumulative conditions volumes (see Figure 14).

Intersection Levels of Service Analysis

The results of the level of service analysis under cumulative conditions show that most of the study intersections would operate at an acceptable LOS D or better during both the AM and PM peak hours (see Table 10). The California Drive/Broadway intersection would operate at an unacceptable LOS F and LOS E during the AM and PM peak hours, respectively. However, based on the significance criteria presented in Chapter 4, the project would add only 3.5 seconds of average delay, and its impact would be considered less than significant. Level of service calculation sheets are included in Appendix B.

The City of Burlingame is seeking to grade-separate the Caltrain tracks at Broadway and currently is studying design options. With the grade separation, the gate downtime at the Broadway and California Drive intersection would be eliminated, adding relief to the vehicle queues along Broadway. The intersection would operate at LOS D or better during peak hours under cumulative conditions.



LEGEND

= Site Location
= City of Burlingame
X = Study Intersection
XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 14
Cumulative Plus Project Traffic Volumes

HEXAGON

NORTH
Not to Scale

Table 9
Cumulative Level of Service Summary

Study Number	Intersection	Peak Hour	Cumulative Conditions				
			No Project		With Project		
			Average Delay	LOS	Average Delay	LOS	Incr. In Avg. Delay
1	Old Bayshore Highway and Mahler Road *	AM	7.8	A	7.7	A	-0.1
		PM	8.3	A	8.2	A	-0.1
2	Old Bayshore Highway and US 101 Nouthbound Ramps *	AM	39.1	D	39.4	D	0.3
		PM	45.4	D	48.2	D	2.8
3	California Drive and Broadway	AM	**87.1**	**F**	**90.6**	**F**	**3.5**
		PM	**72.8**	**E**	**74.6**	**E**	**1.8**
4	Carolan Avenue and Broadway	AM	28.0	C	28.4	C	0.4
		PM	30.5	C	31.0	C	0.5
5	Rollins Road and Broadway	AM	38.2	D	39.0	D	0.8
		PM	42.1	D	42.6	D	0.5
6	US 101 Southbound Ramps and Broadway *	AM	29.6	C	31.0	C	1.4
		PM	21.2	C	22.6	C	1.4
7	Old Bayshore Highway and Airport Boulevard *	AM	19.0	B	19.8	B	0.8
		PM	20.1	C	20.2	C	0.1
8	Airport Boulevard and Anza Boulevard *	AM	15.3	B	15.2	B	-0.1
		PM	24.3	C	24.1	C	-0.2

Note:

* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

Bold indicates a substandard level of service.

Bold indicates a significant project impact.

6. Freeway Segment Analysis and CMP Compliance

The magnitude of project trips on the freeway segments near the project site were determined based on the trip assignment. Freeway segments were analyzed for the AM and PM peak hours as required by the CMP.

Freeway Segment Analysis

Per CMP technical guidelines, a freeway segment level of service analysis is required when a project is expected to add trips greater than one percent of a segment's capacity. New freeway trips generated by the project are expected to be considerably less than the one percent threshold of freeway capacity to all segments in the area. Therefore, a detailed analysis of freeway segments was not performed, and the project is considered to have an insignificant impact on the study freeway segments. A simple freeway segment capacity evaluation to substantiate this determination is presented in Table 10.

Table 10
Freeway Segment Capacity Evaluation

				Existing Conditions [1]			Project Conditions		
Freeway	Segment	Direction	Peak Hour	# of Lanes	Capacity	LOS	Project Trips	% Capacity	Impact
US 101	Peninsula Avenue to Broadway	NB	AM	**4**	**9,200**	**F**	82	0.89%	NO
			PM	**4**	**9,200**	**F**	10	0.11%	NO
US 101	Broadway to Millbrae Avenue	NB	AM	4	9,200	E	13	0.14%	NO
			PM	**4**	**9,200**	**F**	73	0.79%	NO
US 101	Millbrae Avenue to Broadway	SB	AM	4	9,200	E	82	0.89%	NO
			PM	**4**	**9,200**	**F**	11	0.12%	NO
US 101	Broadway to Peninsula Avenue	SB	AM	**4**	**9,200**	**F**	13	0.14%	NO
			PM	**4**	**9,200**	**F**	73	0.79%	NO

Notes:
[1] Existing freeway conditions referenced the Level of Service and Performance Measure Monitoring Report - 2015.
BOLD indicates a substandard level of service.

CMP Compliance

As the Congestion Management Agency (CMA) for San Mateo County, the City/County Association of Governments (C/CAG) is responsible for maintaining the performance and standards of the Congestion Management Program (CMP) roadway network. Per CMP technical guidelines, all new developments projected to add at least 100 net peak hour trips to the CMP roadway network are required to implement Travel Demand Management (TDM) measures that would reduce project impacts. In the vicinity of the project site, roadway facilities that are part of the CMP network include US 101 and El Camino Real.

TDM Measures

Transportation Demand Management (TDM) is a combination of services, incentives, facilities, and actions that reduce single–occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollution problems. The purpose of TDM is to (1) reduce the amount of trips generated by new developments; (2) promote more efficient utilization of existing transportation facilities and ensure that new developments are designed to maximize the potential for sustainable transportation usage; (3) reduce the parking demand generated by new developments and allow for a reduction in parking supply; and (4) establish an ongoing monitoring and enforcement program to guarantee the desired trip and parking reductions are achieved.

The proposed TDM plan has been prepared to satisfy the requirements outlined by the City/County Association of Governments (C/CAG) of San Mateo County.

The project's TDM Plan addresses all of the requirements set forth by the CMP and includes a broad range of TDM measures designed to reduce project trips and parking demand by employees of the project. The proposed TDM measures include planning and design measures related to the attributes of the site location, the site design, and on-site amenities. Such measures encourage walking, biking, use of transit and internalization of trips. Table 11 presents a summary of the measures proposed in this plan. An indication of who would have primary responsibility for implementing each measure is also shown on the table.

Estimated C/CAG Trip Reductions

The C/CAG provides a list of potential TDM measures that developments may use to reduce their net peak hour trip generation. Each measure has an associated peak hour trip reduction, which is also known as a trip credit. Each new development must demonstrate that it will implement TDM measures to achieve a number of credits equal to its ITE peak-hour trip generation.

The proposed project would generate 3,007 daily trips, including 327 AM and 329 PM peak hour trips. Based on the 329 PM peak hour trips (higher of the two peak hour trips), Table 12 provides a summary of the measures in the proposed TDM program for which the project can receive credit in accordance with the C/CAG TDM guidelines. The table shows that the measures proposed by the project would provide up to 767 peak hour trip credits, which is more than enough to offset the project's estimated trip generation.

Table 11
Proposed TDM Measures

TDM Measure	Implementation Responsibility
Commute Assistance Center	
Part-time/Full-time Transportation Coordinator	Building developer
Transit/Carpool/Vanpool Information	Building developer
Info Packets for New Tenants/New Employees	Trans.Coordinator
Survey Employees for Use and Best Practices	Building developer
Guaranteed Ride Home Program	Trans.Coordinator
On-Site Shuttle Service	
Dedicated Shuttles to BART & Caltrain	Building developer
Financial Incentives	
Subsidize Use of Transit, Bicycling, & Walking to Work	Trans.Coordinator
Parking Cash-Out Program	Building developer
On-Site Amenities	
Retail and Restaurant Uses	Building developer
Bicycle Facilities	
Resources (schedules, route maps & other info)	Trans.Coordinator
Bicycle Parking	Building developer
Bike Share	Tenant(s)
Showers and Changing Rooms	Building developer
Carpool and Vanpool Programs	
511 Ridematching Assistance	Available to public
Incentives for New Carpools/Vanpools	Available to public
Discounted Tolls on Bay Area Bridges	Available to public
Preferential Parking	Building developer
Car Share Program	
On-Site Vehicles for Use by Employees	Building developer
Workweek Programs	
Compressed Work Weeks	Tenant(s)
Shared Parking Agreement	
Shared Parking with an Existing Development	Building developer

Notes:
[1] The building developer will have Initial responsibility for creating an online kiosk. After the building is occupied, the Transportation Coordinator will have ongoing responsibility for the online kiosk and various program elements.

Table 12
Summary of C/CAG Trip Credits

TDM Measure	Number of Credited Trips		Proposed		Trip Reduction	Additional Notes
Commute Assistance Center						
Operation of a commute assistance center	1	peak hour trip credited for each feature added to the center[1]	6	features	6	
	1	An additional peak hour trip credited for each hour the center is staffed with a live person (up to 20 trips per each 200 tenants)	4	hours with a live person	4	
Survey employees to examine use and best practices	3	peak hour trips credited for a survey developed and adminstered twice yearly		Yes	3	
On-Site Shuttle Services						
Dedicated Shutte	1	peak hour trip credited for each peak-hour round trip seat on the shuttle. Increases to two trips if a Guaranteed Ride Home Program is also in place.	60	seats	120	This equates to three shuttles per hour during peak hours.
Financial Incentives						
Subsidizing transit tickets for employees	1	peak hour trip will be credited for each transit pass that is subsized (at least $20 per month per year)	100	transit passes	100	9.4% transit ridership assumed based on ACS Commute Data[3] for San Mateo County
Subsidizing pedestrains/bicyclist who comute to work	1	peak hour trip credited for each employee that is subsidized (at least $20 per month per year)	40	subsidized employees	40	3.8% ped/bike mode share assumed based on ACS Commute Data[3] for San Mateo County
Pay for parking at park and ride lots or transit stations	1	peak hour trip for each spot purchaced	100	spots	100	
On-Site Amenities						
Provision of on-site amenitites encouraging people to stay on site during the workday	5	peak hour trips credited for each feature[2]	2	features[4]	10	
Bicycle Facilities						
Secure bicycle storage	1	Peak hour trip for every 3 new bike lockers/racks	101	racks	34	
Showers and changing rooms	10	peak hour trips for each new combination shower and changing room installed	4	showers and changing rooms	40	
	5	Additional peak hour trips credited in combination with atleast 5 bike lockers			5	
Provide bicycles to employees who use alternative commute methods	1	peak hour trip credited for every four bicycles provided	12	bicycles	3	
Carpool and Vanpool Programs						
Preferential parking for carpoolers	2	peak hour trips credited for each reserved spot	20	reserved spots	40	
Preferential parking for vanpoolers	7	peak hour trips credited for each reserved spot	2	reserved spots	14	
Implementation of a vanpool program	7	peak hour trips credited for each vanpool arranged by a spcific program operated at the site of development	1	vanpools	7	
Car Share Program						
Provide automobile use to employees who use alternative commute methods	5	peak hour trips credited for each vehicle provided	2	vehicles	10	
Workweek Programs						
Implementation of compressed workweek program	1	peak hour trip credited for every five employees offered the opportunity to work four compressed days per week	1,040	employees	208	Assuming a standard 4 employees per 1,000 s.f. of commercial space.
Shared Parking Agreement						
Encourage shared parking	5	peak hour trips will be credited for an agreement with an existing development to share existing parking		Yes	5	
Other						
A combination of any ten of these elements	5	peak hour trips		Yes	5	
Encourage infill development	2%	of all peak hour trips will be credited for each infill development			13	
Total C/CAG Trip Credits					**767**	

Notes:

1 Features may include: Transit information brochure rack, computer kiosk connected to internet, telephone with commute and transit information numbers, desk and chairs, on-site transit ticket sales, and quarterly education programs to support commute alternatives.

2 Features may include: banking, grocerey shopping, clothes cleaning, exercise facilities, child care center

3 Values calculated based on American Community Survey (ACS) 2015 Commute to Work estimates for San Mateo County. Survey projects commute data across the county based on representative sample surveys. The Survey is updated and published yearly by the U.S. Census Bureau. Assumes 1,040 employees.

4 Retail and restaurant uses located on-site

7. Other Transportation Issues

This chapter presents other transportation issues associated with the project. These include an analysis of:

- Vehicle Queuing
- Site access and circulation
- Parking Management Plan
- Bicycle Parking
- Potential impacts to transit, bicycle, and pedestrian facilities

The analyses in this chapter are based on professional judgement in accordance with the standards and methods employed by the traffic engineering community.

Queuing Analysis

The operations analysis is based on vehicle queuing for high-demand movements at intersections (see Table 11). Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average # of vehicles in the queue per lane (vehicles per hr. per lane/signal cycles per hr.)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. The following seven left-turn movements were examined as part of the queuing analysis for this project:

- Eastbound left/through turn at Old Bayshore Highway and US 101 Northbound Ramps
- Southbound and westbound left-turns at California Drive and Broadway
- Southbound left/through turn and westbound left-turn at US 101 Southbound Ramps and Broadway
- Eastbound and southbound left-turns at Old Bayshore Highway and Broadway

The estimated queue lengths based on the Synchro analysis show queuing deficiencies for two intersections (see Table 13).

Table 13
Queuing Analysis Summary

	Old Bayshore Highway and US 101 NB Ramps		California Drive and Broadway				US 101 SB Ramps and Broadway				Old Bayshore Highway and Broadway/Airport Boulevard			
	EBL/EBT		SBL		WBL		SBL/SBT		WBL		EBL		SBL	
Measurement	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing														
Volume (vphpl)	351	141	222	155	322	360	389	179	73	150	519	415	75	167
95th %. Queue (veh/ln.)[1]	11	7	11	10	22	18	13	11	4	4	13	10	3	4
95th %. Queue (ft./ln)	275	175	275	250	550	450	325	275	100	100	325	250	75	100
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	Y	Y	Y	Y
Existing Plus Project														
Volume (vphpl)	433	151	229	158	325	374	471	190	79	187	597	432	78	185
95th %. Queue (veh/ln.)[1]	12	8	11	10	22	19	17	11	4	5	15	10	3	5
95th %. Queue (ft./ln)	300	200	275	250	550	475	405	275	100	125	375	250	75	125
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	Y	Y	Y	Y
Background														
Volume (vphpl)	384	158	205	198	331	402	425	193	81	179	587	465	87	222
95th %. Queue (veh/ln.)[1]	13	8	10	12	23	21	15	12	4	5	15	11	3	5
95th %. Queue (ft./ln)	325	200	250	300	575	525	375	300	100	125	375	275	75	125
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	Y	Y	Y	Y
Background Plus Project														
Volume (vphpl)	466	168	212	201	334	416	507	204	87	215	665	482	90	407
95th %. Queue (veh/ln.)[1]	14	9	10	12	23	22	18	12	5	6	18	12	4	6
95th %. Queue (ft./ln)	350	225	250	300	575	550	450	300	125	150	450	300	100	150
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	**N**	Y	Y	Y
Cumulative														
Volume (vphpl)	421	172	455	214	365	440	465	212	88	194	641	509	95	239
95th %. Queue (veh/ln.)[1]	14	9	11	13	26	23	16	12	5	7	17	13	4	6
95th %. Queue (ft./ln)	350	225	275	325	650	575	400	300	125	175	425	325	100	150
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	Y	Y	Y	Y
Cumulative Plus Project														
Volume (vphpl)	503	182	462	217	368	454	547	223	95	231	719	526	98	257
95th %. Queue (veh/ln.)[1]	15	15	12	12	26	26	20	13	5	7	21	14	4	6
95th %. Queue (ft./ln)	375	375	300	300	650	650	500	325	125	175	525	350	100	150
Storage (ft./ ln.)	750	750	225	225	125	125	1000	1000	425	425	425	425	475	475
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	Y	Y	Y	Y	**N**	Y	Y	Y

Notes:
[1] Assumes 25 Feet Per Vehicle Queued.

California Drive and Broadway

At the intersection of California Drive and Broadway, the 95th percentile queue for the southbound left turn currently exceeds the existing turn pocket storage capacity by 50 feet, or two vehicles during the AM peak hour, and by 25 feet (one vehicle) during the PM peak hour. Field observations confirmed this, as vehicle queues occasionally extended past the California Drive/Rhinette Avenue intersection due to the congestion on Broadway; however, the queued vehicles only occasionally required more than one signal cycle to clear the intersection. Under background conditions, the 95th percentile queue is expected to decrease by 25 feet during the AM peak hour and increase by 50 feet during the PM peak

hour. With the additional trips added by the SFO Technology Center project, the 95th percentile queue would is not expected to change for the southbound left turn lane.

The 95th percentile queue for the westbound left turn currently exceeds the existing turn pocket storage capacity by 425 feet, or 17 vehicles during the AM peak hour, and by 325 feet (13 vehicles) during the PM peak hour. Field observations confirmed this, as vehicle queues frequently extended past the Carolan Avenue/Broadway intersection, particularly due to the frequent Caltrain railroad gate down-times; however, the queued vehicles were able to clear the intersection within one signal cycle, and seldom required more than one cycle. Under background conditions, the 95th percentile queue would exceed the storage capacity by 450 feet during the AM peak hour and by 400 feet during PM peak hours. With the additional trips added by the SFO Technology Center project, the 95th percentile queue would remain the same during the AM peak hour and would increase by one vehicle during the PM peak hour.

The small increase in queue length due to the addition of project traffic would have a negligible effect on traffic operations at this intersection because it would last for only a few seconds during only the busiest cycles within the peak hour. In addition, the planned Broadway Grade Separation project would ease the queuing problems at the adjacent streets and intersections along Broadway (i.e. California Drive and Carolan Avenue) by eliminating the gate downtime on Broadway. The Broadway Grade Separation project developed and evaluated six alternatives for a grade separation at the Broadway Caltrain crossing in Burlingame, to improve railroad operational efficiency and alleviate congestion along Broadway. The preferred alternative for the planned project would remove the at-grade crossing at Broadway in place of partially elevating the Caltrain tracks, and partially depressing Broadway and the adjoining frontage streets, California Drive and Carolan Avenue.

Old Bayshore Highway and Broadway/Airport Boulevard

At the intersection of Old Bayshore Highway and Broadway/Airport Boulevard, the 95th percentile queue for the background conditions is expected to have a sufficient amount of storage length for the queue in the eastbound left turn lane. With the additional trips added by the SFO Technology Center project, the 95th percentile queue would increase by 75 feet, exceeding the storage length by one vehicle during the AM peak hour. The 95th percentile queue would increase by one vehicle in PM peak hour, however, the queue would not exceed the storage length.

Although the intersection is physically constrained, improvements such as signal timing changes would help alleviate the Broadway congestion. More green-time could be given to eastbound left-turning vehicles, without degrading the intersection's level of service. The additional green-time would allow more vehicles to clear the intersection within a single signal cycle and reduce the number of queued vehicles in the left-turn lane (See Table 14). During the AM and PM peak hours, the southbound left-turn movement is expected to have sufficient storage under all scenarios with and without the project.

Table 14
Additional Green Time Comparison

Measurement	Without More Green Time	With More Green Time
Backgound Plus Project		
Added Green Time (s)	0	5
Intersection (AM) LOS	B	B
EBL (AM) LOS	B	B
95th %. Queue (veh/ln.)[1]	18	17
95th %. Queue (ft./ln)	450	425
Storage (ft./ ln.)	425	425
Adequate (Y/N)	**N**	Y
Cumulative Plus Project		
Added Green Time (s)	0	11
Intersection (AM) LOS	B	B
EBL (AM) LOS	B	B
95th %. Queue (veh/ln.)[1]	21	17
95th %. Queue (ft./ln)	525	425
Storage (ft./ ln.)	425	425
Adequate (Y/N)	**N**	Y

Notes:
[1] Assumes 25 Feet Per Vehicle Queued.

Site Access and On-Site Circulation

The site access and circulation evaluation is based on the August 31, 2017 site plan prepared by Nardi Associates LLP. The project site plan is shown on Figure 2. The project would consist of two buildings and associated parking garages separated by Easton Creek, which bisects the site. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards.

Project Driveway Design

Site access was evaluated to determine the adequacy of the site's driveways with regard to the following: traffic volume, delays, vehicle queues, geometric design, and corner sight distance. Access to the project site would be provided via two full-access driveways on Old Bayshore Highway. The northern driveway measures 18 feet wide (measured at the throat) and would provide access to the surface parking lot along the northern edge of the site, while the southern driveway measures 38 feet wide and would primarily provide access to the above-grade levels of the parking garages comprising the first four floors of the two buildings. The surface parking spaces would primarily serve the retail and restaurant components of the project, while the parking garages would primarily serve the office component. A driveway width of 18 feet is too narrow to be located on an arterial. A driveway width of 38 feet is too wide, as it interferes with pedestrian circulation. Both driveways should be designed between 26 and 30 feet wide.

Sight Distance

There are no existing trees or visual obstructions along the project frontages to obscure sight distance at the project driveways. However, a roadway curve exists along the project frontage on Old Bayshore Highway near the southern project driveway. Clear sight distance triangles should be provided at the project driveways to optimize sight distance. Any landscaping and signage should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Adequate sight distance (sight distance triangles) should be provided at the project driveway in accordance with Caltrans standards. Sight distance triangles should be measured approximately 10 feet back from the traveled way. Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection and provides drivers with the ability to exit a driveway or locate sufficient gaps in traffic. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For the driveways on Old Bayshore Highway, which has a posted speed limit of 35 mph, the Caltrans stopping sight distance is 300 feet (based on a design speed of 40 mph). Thus, a driver must be able to see 300 feet in both directions along Old Bayshore Highway in order to stop and avoid a collision. Based on the project site plan, the northern and southern project driveways would have approximately 450 feet and 350 feet of sight distance, respectively. Therefore, it can be concluded that the project driveways would meet the Caltrans minimum stopping sight distance standards.

Project Driveway Operations

The project-generated trips that are estimated to occur at the project driveways are 348 inbound and 53 outbound during the AM peak hour, and 96 inbound and 309 outbound during the PM peak hour. Vehicle queuing issues are not expected to occur, based on the relatively moderate traffic volumes on Old Bayshore Highway and observations of existing traffic operations along Old Bayshore Highway.

Both project driveways would provide full-access, allowing right and left inbound and outbound turns onto Old Bayshore Highway. Outbound left turns from the project driveway would require vehicles to wait for gaps in both the northbound and southbound traffic, while inbound left turns would require vehicles to wait for a gap in the northbound traffic flow only. However, given that Old Bayshore Highway contains a center turn-lane, outbound left turns would be able to complete the turn in two stages. Similarly, the center turn-lane would allow inbound left turns to exit the southbound traffic flow while they wait for an appropriate gap in the northbound traffic flow. Thus, the inbound left-turn queues are not expected to disrupt traffic in the southbound through-lane on Old Bayshore Highway.

Signal Warrants

Signal warrant checks (California *MUTCD 2014 Edition, Section 4, Warrant 3*) were performed for the intersection of Old Bayshore Highway and the south project driveway. The analysis showed that the projected peak-hour traffic volumes would warrant signalization at the south project driveway during the PM peak hour. Therefore, project conditions were analyzed with the installation of a traffic signal at the south project driveway. The signal warrant worksheets are included in Appendix C.

Installation of a new traffic signal at the southern project driveway would align the project driveway with the access driveway of the Hyatt Hotel across Old Bayshore Highway. The new signal would facilitate left-turns into and out of the project driveway. Additionally, the new signal would provide a controlled crossing for pedestrians.

Under project conditions with the installation of a new traffic signal, the level of service analysis results show that the south project driveway would operate at an acceptable LOS C or better during both the

AM and PM peak hours (see Table 15). Level of service calculation sheets for the new traffic signal are included in Appendix C.

Table 15
Project Driveway with Traffic Signal Level of Service Summary

Study Number	Intersection	Peak Hour	Existing with Project Avg Delay (sec.)	Existing with Project LOS	Background with Project Avg Delay (sec.)	Background with Project LOS	Cumulative with Project Avg Delay (sec.)	Cumulative with Project LOS
9	Old Bayshore Highway and Project Driveway *	AM	7.8	A	7.8	A	7.9	A
		PM	22.7	C	24.3	C	25.5	C

Notes:
* The *Highway Capacity Manual* (HCM) *2010* does not support turning movements with shared and exclusive lanes. Therefore, this intersection was analyzed using the HCM 2000.

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards. Generally, the proposed plan would provide adequate connectivity through the parking areas for vehicles, bicycles, and pedestrians. The site plan shows four dead-end aisles: one dead-end drive aisle in each of the garages, and one dead-end aisle in each surface parking lot. However, vehicle turnarounds would be provided at the end of the drive aisle, giving vehicles adequate space to turnaround if they fail to find a parking space. In addition, the project would provide signage indicating the available spaces in each parking area. The project site plan also shows a roundabout adjacent to the southern project driveway. The roundabout would allow for vehicles to easily turnaround on site, facilitating the traffic flow on-site without queuing into the project driveway.

The City's standard width for two-way drive aisles is 24 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of parking spaces. According to the site plan, the drive aisles within both parking structures, as well as the surface parking areas measure 24 feet wide. Thus, adequate access to all parking stalls would be provided.

The project plans show a designated loading area for delivery trucks located near the northern edge of the site, adjacent to the restaurant space of the building. Two truck loading docks (10 feet wide by 35 feet long) would be accessed through the loading area. Freight/delivery trucks would be able to enter the project site through either driveway, circulate through the surface parking area along the northern edge of the site, and exit.

Parking Stall Dimensions

According to the site plan, the standard stalls are shown to be 8.5 feet wide by 18 feet long, and the tandem stalls are shown to be 8.5 feet wide by 36 feet long. Compact parking stalls are shown to be 8 feet wide by 17 feet long. This meets the City of Burlingame off-street parking design standards for standard car spaces as well as compact spaces. Van accessibility is provided at all ADA accessible stall locations.

Parking Garage Circulation

The first four floors of Building "A" (northern building) and the first three floors of Building "B" (southern building) of the project would consist of a multilevel parking structure. There would be one entrance/exit per parking garage located on either side (to the north and south) of the roundabout (See Figure 2). Vehicles entering the parking garage in Building "A" would need to circulate through the roundabout.

Similarly, vehicles exiting the garage in Building "B" would need to drive through the roundabout. The site plan shows that all parking levels of each garage would be accessible by both project driveways.

Pedestrian access between the parking structure and the uses within the buildings would be provided via elevators and stairways on each parking level. Building "A" would include two elevators and three stairways, while Building "B" would include one elevator and three stairways. The elevators and stairways would provide direct access to either the building's main lobbies, or to an exit corridor. Vehicles parked in Building "A" would have to take any of the elevators or stairways to the pedestrian bridge across Easton Creek on the ground floor to access the retail and office uses in Building "B"; similarly, vehicles parked in Building "B" would have to take the elevator or any of the stairways to the pedestrian bridge to access the restaurant and office uses in Building "A". Both elevators and their accompanied stairways in Building "A" would be of equal distance to the pedestrian bridge. The one elevator and stairway located in the elevator lobby in Building "B" would provide the shortest path to the pedestrian bridge.

Therefore, the project would provide adequate vehicular and pedestrian circulation on all levels of both parking structures.

Truck Access and Circulation

The ground level site plan shows two freight/delivery loading spaces measuring 10 feet by 35 feet located near the northern edge of the site, adjacent to the restaurant space in the Building "A" (see Figure 2). The loading zones would be accessed by either driveway on Old Bayshore Highway. The loading area would accommodate trucks up to about 12 feet in height. The loading area would not incorporate a turnaround, so trucks would need to back in and exit forward. No loading zone is shown for the retail space in Building "B." A loading zone should be added to the site plan for Building "B."

Garbage Collection

The site plan shows two on-site trash rooms: one located adjacent to the loading zone in Building "A", and one located in the surface parking lot adjacent to Building "B." Trash bins or dumpsters should be placed within the trash enclosure for garbage pickup.

Garbage trucks typically require 15 feet of overhead clearance to enter a parking structure but require about 24 feet of overhead clearance to service or empty a dumpster over the truck. Due to the height requirement, garbage collection activities usually do not occur inside enclosed structures. Accordingly, trash bins would be picked up from and returned to the dedicated trash enclosure on designated garbage collection days. The trash bins should be removed immediately after garbage pickup as to not impact on-site circulation. There would be enough space within the northern drive aisle for garbage trucks to make a three-point turn. Garbage trucks would also be able to use the fire truck turnaround located at the end of the northern drive aisle to turnaround and exit the site.

Tandem Parking Stalls

The site plan shows that some of the proposed parking stalls throughout the surface parking lot and parking garages are to be tandem spaces. According to the site plan, the project would provide 422 tandem parking spaces, or just about 46 percent of the total amount of proposed parking. The City of Burlingame Zoning Code does not address tandem parking for non-residential developments. However, the City has previously approved commercial developments with tandem parking, including the office expansion project at 270 East Lane which had a tandem parking plan.

Hexagon researched cities within the Bay Area to determine whether each City's parking code allows tandem parking for office developments, and if allowed, how much of the required parking can be satisfied with tandem parking spaces. Most cities within the Bay Area allow tandem parking for residential developments, but do not address tandem parking for non-residential developments. The City of Foster City explicitly states that tandem parking is allowed only for residential developments. The City of Palo Alto, Cupertino, San Jose, Hayward, and Berkeley allow non-residential developments to use tandem parking spaces upon the approval of the Zoning Administrator/Director/City Traffic Board. The City of San Carlos is the only city within the Bay Area that allows non-residential development to use tandem parking for employees to meet the parking requirement and restricts the maximum number of tandem parking spaces to be less than 50 percent of the total number of spaces. Table 16 below summarizes our research findings.

Table 16
Bay Area Office Tandem Parking Regulations

City	Tandem Parking for Office Development [1]		
	Prohibited	No Mention	Allowed
South San Francisco		✓	
San Bruno		✓	
Millbrae		✓	
San Mateo		✓	
Foster City	✓		
San Carlos			Up to 50% of total spaces
Redwood City		✓	
Menlo Park		✓	
East Palo Alto		✓	
Palo Alto			upon approval
Mountain View		✓	
Sunnyvale		✓	
Cupertino			upon approval
Santa Clara		✓	
San Jose			upon approval
Milpitas		✓	
Fremont		✓	
Newark		✓	
Union City		✓	
Hayward			upon approval
Oakland		✓	
Berkeley			upon approval

Notes:
[1] As prescribed in each City's Zoning Code.

The project applicant should coordinate with City staff to determine if the proposed tandem parking supply is acceptable.

Parking Management Plan

Parking Requirements

The City of Burlingame Zoning Code (Section 25.70.040) states that office uses are required to provide one parking stall per 300 square feet of gross floor area; retail uses are required to provide one parking stall per 400 square feet of gross floor area; and restaurant uses (i.e. establishments for the sale and consumption on the premises of beverages, food, and refreshments) are required to provide one parking stall per 200 square feet of gross floor area. Table 17 shows the total required parking spaces for the project buildings in accordance with the City of Burlingame Zoning Code.

Building A comprises a total of 169,486 square feet of office space and a total of 11,887 square feet of restaurant space. Based on the parking requirements outlined in the City's Zoning Code, Building A would require a total of 625 parking spaces, with 565 of the spaces for the office use and 60 of the spaces for the restaurant use.

Building B comprises a total of 69,715 square feet of office space and a total of 8,610 square feet of retail space. Based on the parking requirements, Building B would require a total of 255 parking spaces, with 233 of the spaces for the office use and 22 of the spaces for the retail use.

Based on the project as proposed, the total parking requirement for the SFO Technology Center mixed-use project equates to 880 parking spaces. Per the California Building Code (CBC) Table 11B-6, a total of 18 accessible spaces are required for projects with 501 to 1,000 parking spaces. Of the required accessible parking spaces, two (2) van accessible spaces are required.

It should also be noted that the San Francisco Bay Conservation and Development Commission (BCDC) requires that some of the surface spaces near the Bay Trail be dedicated for public use.

Table 17
Project Required Parking Summary

Project Use	Size	Parking Requirement Description [1]	Parking Spaces Required [2]
Building A			
Office	169,486 s.f.	1 space per 300 square feet of GFA	565
Restaurant	11,887 s.f.	1 space per 200 square feet of GFA	60
Subtotal			**625**
Building B			
Office	69,715 s.f.	1 space per 300 square feet of GFA	233
Retail	8,610 s.f.	1 space per 400 square feet of GFA	22
Subtotal			**255**
Total Parking Spaces			**880**
Required ADA Spaces of the Total Parking [3]			**18**

Notes:
s.f. = square feet
GFA = gross floor area
[1] Based on the City of Burlingame Zoning Code, Section 25.70.040.
[2] Partial calculated spaces were rounded up to the nearest whole number.
[3] Based on the California Building Code (CBC), Table 11B-6.

Parking Supply

The site plan dated August 31, 2017 shows a total of 945 on-site parking spaces. Therefore, the proposed parking would supply 65 more spaces than the minimum parking requirements set forth by the City's parking code. Some of these extra spaces could be used to satisfy the BCDC requirement.

Building A would provide a total of 832 parking spaces, consisting of 80 spaces for the restaurant use, and the remaining 730 spaces for the office use. The 832 parking spaces would be comprised of 356 tandem spaces, 462 standard spaces, and 14 ADA spaces. Based on the parking requirements outlined in the City's Zoning Code, Building A would provide adequate parking for each component of the building in accordance with the City's standards.

Building B would provide a total of 113 parking spaces, consisting of 27 spaces for the restaurant use, and the remaining 86 spaces for the office use. The 113 parking spaces would be comprised of 60 tandem spaces, 48 standard spaces, and 5 ADA spaces. Based on the City's parking requirements, Building B would meet the parking minimum for the retail component of the building, but not the office

component of the building. However, it should be noted that the parking garage for Building A would provide a surplus of 165 spaces for the building's office component, which would adequately satisfy the office parking demand of Building B.

Table 18
Project Parking Supply Summary

Location	Parking Description	Parking Supply
Building A		
Surface Lot, Restaurant	48 Tandem, 30 Standard, 2 ADA	80
Surface Lot, Office	68 Standard	68
Garage 1st Floor, Office	21 Standard, 6 ADA	27
Garage 2nd Floor, Office	90 Tandem, 99 Standard, 2 ADA	191
Garage 3rd Floor, Office	110 Tandem, 114 Standard, 2 ADA	226
Garage 4th Floor, Office	108 Tandem, 130 Standard, 2 ADA	240
Subtotal	**356 Tandem, 462 Standard, 14 ADA**	**832**
Building B		
Surface Lot, Retail	25 Standard, 2 ADA	27
Surface Lot, Office	-	-
Garage 1st Floor, Office	-	-
Garage 2nd Floor, Office	12 Tandem, 19 Standard, 1 ADA	32
Garage 3rd Floor, Office	48 Tandem, 4 Standard, 2 ADA	54
Subtotal	**60 Tandem, 48 Standard, 5 ADA**	**113**
Total Parking Spaces Provided		**945**
Provided ADA Spaces of the Total Parking		**19**

While not required for the project to meet the City's parking code, the project provides the opportunity for shared parking to reduce the overall parking demand. It is expected that the peak demand for the on-site restaurants would occur at night when the offices are closed. Also, the peak demand for the retail space probably would occur on weekends.

Ground Floor Parking Operations

The surface parking areas of the project site would accommodate retail customers, some office visitors and employees, and restaurant patrons. The surface parking areas consist of standard as well as tandem parking spaces.

As shown in Table 18, Building A would comprise a total of 119 standard spaces and 48 tandem spaces within its surface lot and the first floor of the parking garage. Of the total parking spaces, 89 of the standard spaces would be for the office use, while the remaining 30 standard spaces and all 48 of the tandem spaces would be dedicated for the restaurant use. The standard spaces for both the office and restaurant uses would be self-parked, and the tandem parking spaces for the restaurant would be parked via an on-site valet service. Restaurant patrons would drop-off/pick-up their vehicles at the designated drop-off/pick-up area, where an attendant would have access to patrons' vehicle keys including those parked in the tandem spaces. Thus, the valet service would allow attendants to access and move vehicles parked in the tandem stalls when necessary. Restaurant customers could choose

between the self-park spaces and the valet service within the surface lot. Therefore, only a portion of these vehicles would need to be valet parked. It is estimated that two valet attendants would be needed, would only use the tandem spaces as necessary (see Appendix D). In addition, some of the tandem spaces may be used by restaurant employees, which would provide more parking spaces for customer self-parking. The valet booth for the surface lot would most likely be stationed adjacent to the restaurant entrance, which is located at the northwest corner of the project site.

Building B would comprise a total of 25 standard spaces within its surface lot, which would be solely dedicated for the retail use of Building B (see Table 18). The standard spaces would be self-parked.

Since the majority of the office parking would occur in the parking garages, and the retail and restaurant uses would be short-term, the surface parking areas not comprised of tandem parking should be signed for two-hour parking. This would help with parking turnover and keep spaces available for customers and visitors. Designated parking spaces should be provided for retail and restaurant employees to allow them to park for more than two hours. Additional details of the shared parking scheme would be determined when the actual office, retail, and restaurant tenants are identified. The property manager should take steps, such as additional signage or other controls, to ensure that all tenants' parking stalls are actively managed in the surface parking areas as well as in the parking garages.

Upper Floor Parking Operations

The upper floors (2nd – 4th floor) of the Building A parking garage would comprise a total of 343 standard spaces and 308 tandem spaces. While the standard spaces would be self-parked, the tandem spaces within the parking garage would use an attendant to assist with parking. The attendant assist parking scheme would have all of the office employees self-park, and for those parked in the tandem spaces would allow attendants access to their vehicle keys. The attendants would move and adjust vehicles as needed. Attendants would be appropriately stationed so that guests and employees can see them from the parking level's entrance. According to All About Parking, the Building A parking garage would require four attendants, with 3 attendants stationed on each garage Level, plus one roving attendant who would move up the floors as each level becomes full (see Appendix D).

The upper floors (2nd – 3rd floor) of the Building B parking garage would comprise a total of 48 standard spaces and 60 tandem spaces. Similar to the parking operations of the Building A parking garage, the standard spaces would be self-parked, and the tandem spaces within the parking garage would use an attendant to assist with parking. According to All About Parking, Building B would require only one attendant for Level 3 (see Appendix D).

Summary

According to the City's Zoning Code, the SFO Technology Center mixed-use project as proposed is required to provide a total of 880 parking spaces, including 18 accessible spaces. The site plan dated August 31, 2017 shows a total of 945 on-site parking spaces, of which 19 are accessible spaces. Therefore, the proposed parking supply would meet the City's minimum parking requirements. The project would provide 48 tandem spaces (which would be serviced by valet) and 30 standards spaces for the restaurant use, 25 standard spaces for the retail use, and 368 tandem spaces and 391 standard spaces for the office uses. The office tandem spaces would be used in conjunction with the assistance of parking attendants. Based on the proposed valet parking scheme, valet staffing would provide a total of 7 parking attendants to assist with the tandem parking in the surface lot as well as within the parking garages (see Appendix D). Over time, the parking attendant staffing would be reviewed and adjusted based on daily volume numbers and trends. The surface parking layout, as well as the parking layout of the garages for both Building A and Building B are shown on Figures 15, 16, 17, and 18.

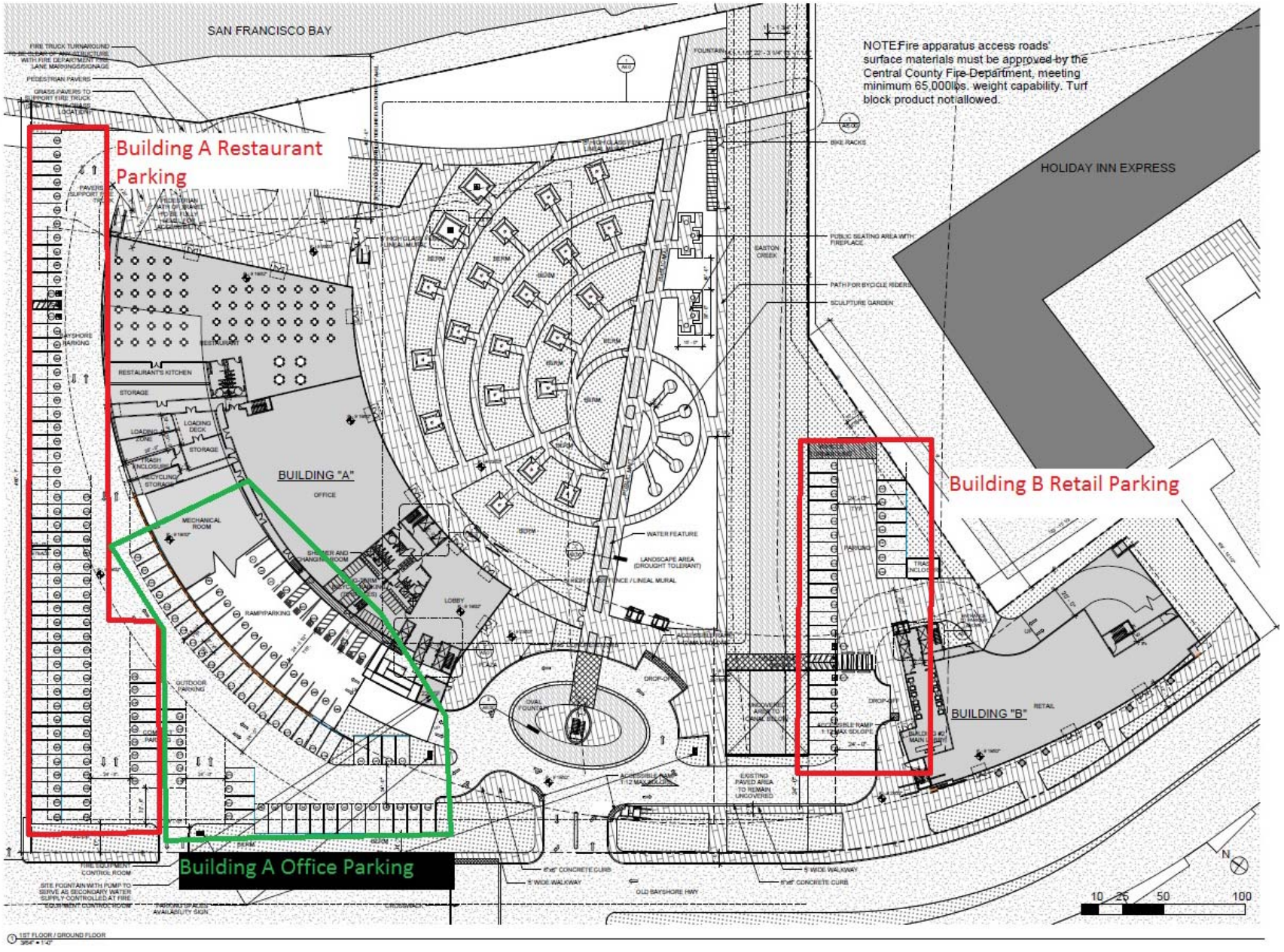


Figure 15
Surface Lot Parking Layout

NORTH
Not to Scale

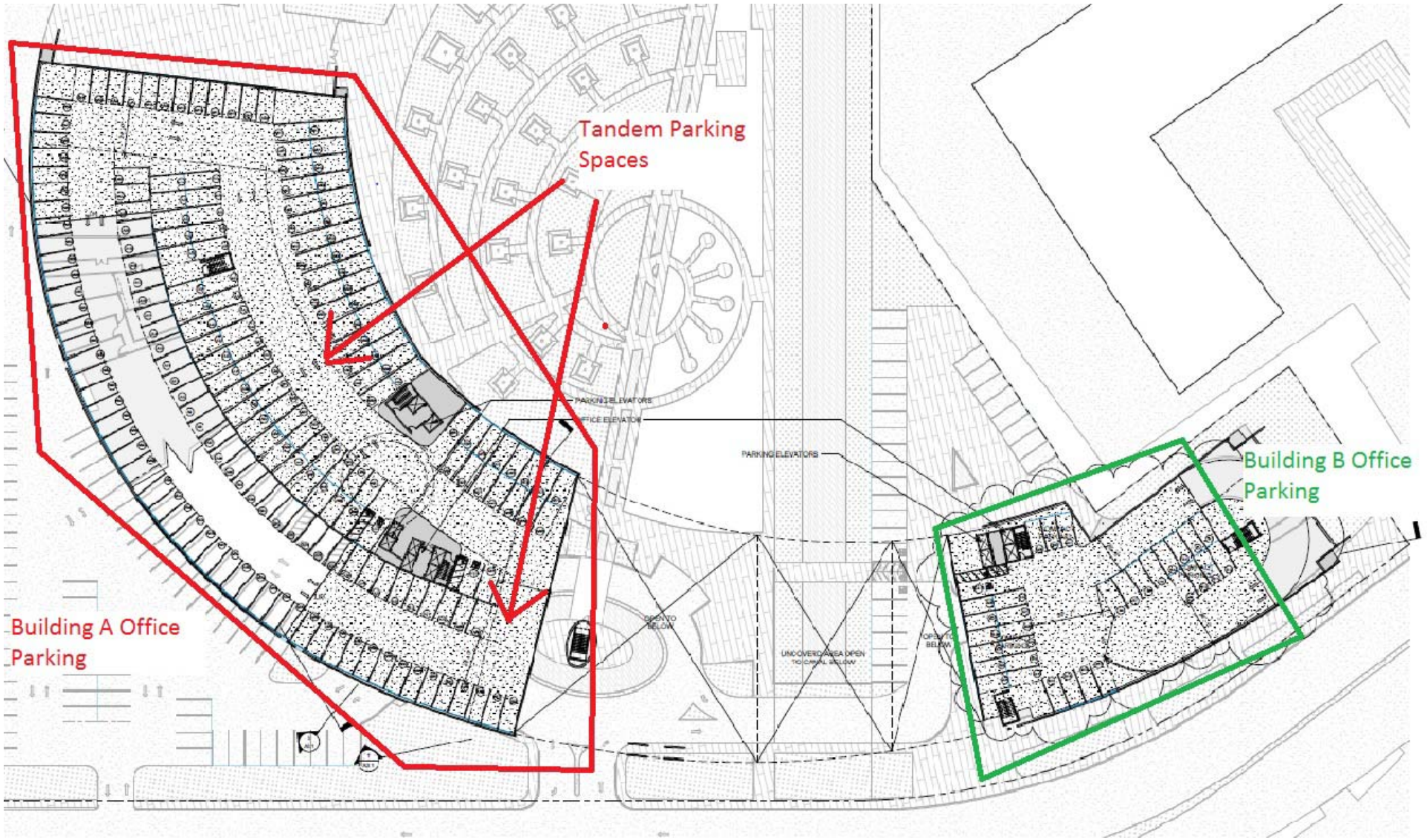


Figure 16
Parking Garages: Level 2 Parking Layout

NORTH
Not to Scale

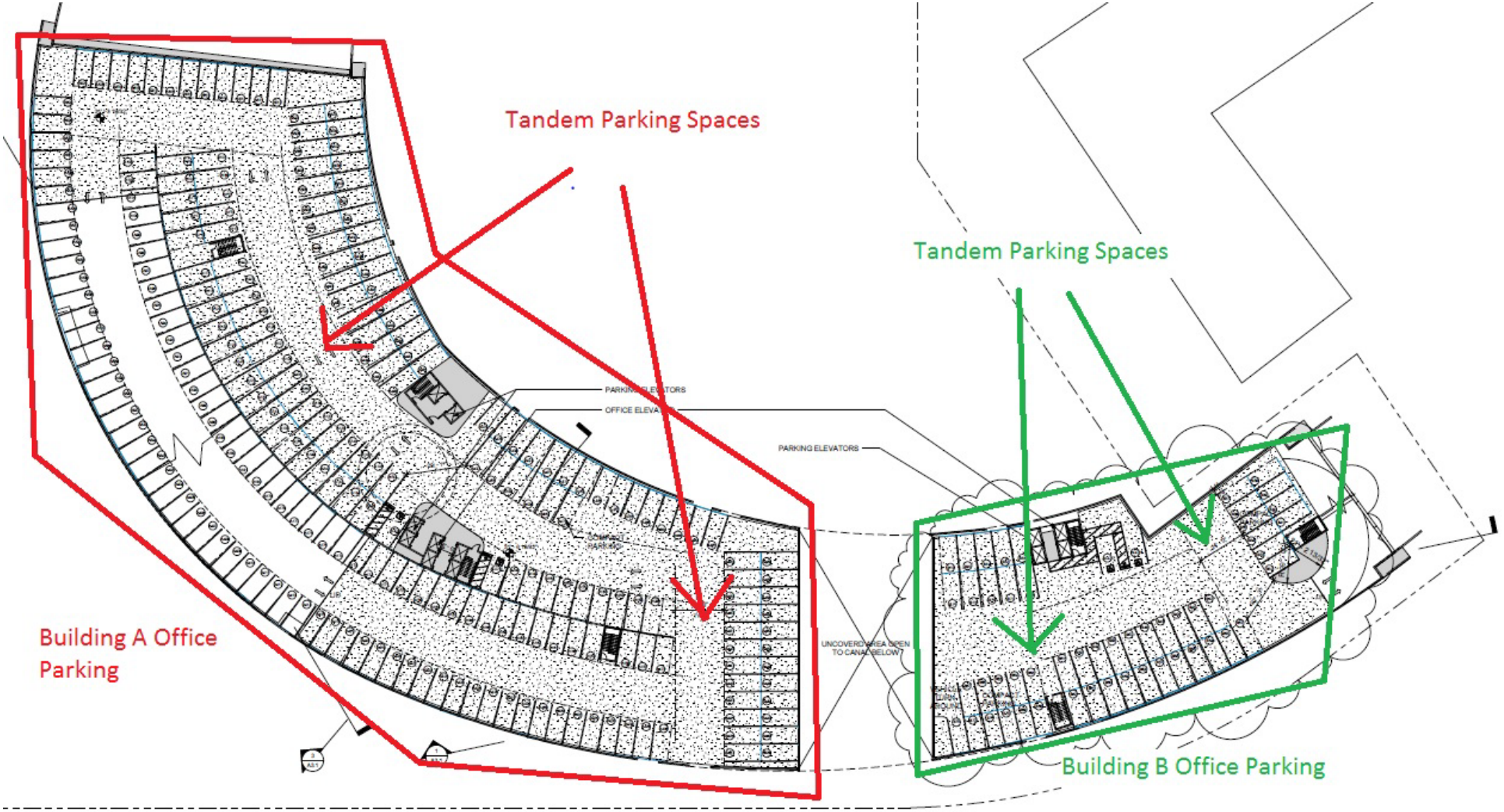


Figure 17
Parking Garages: Level 3 Parking Layout

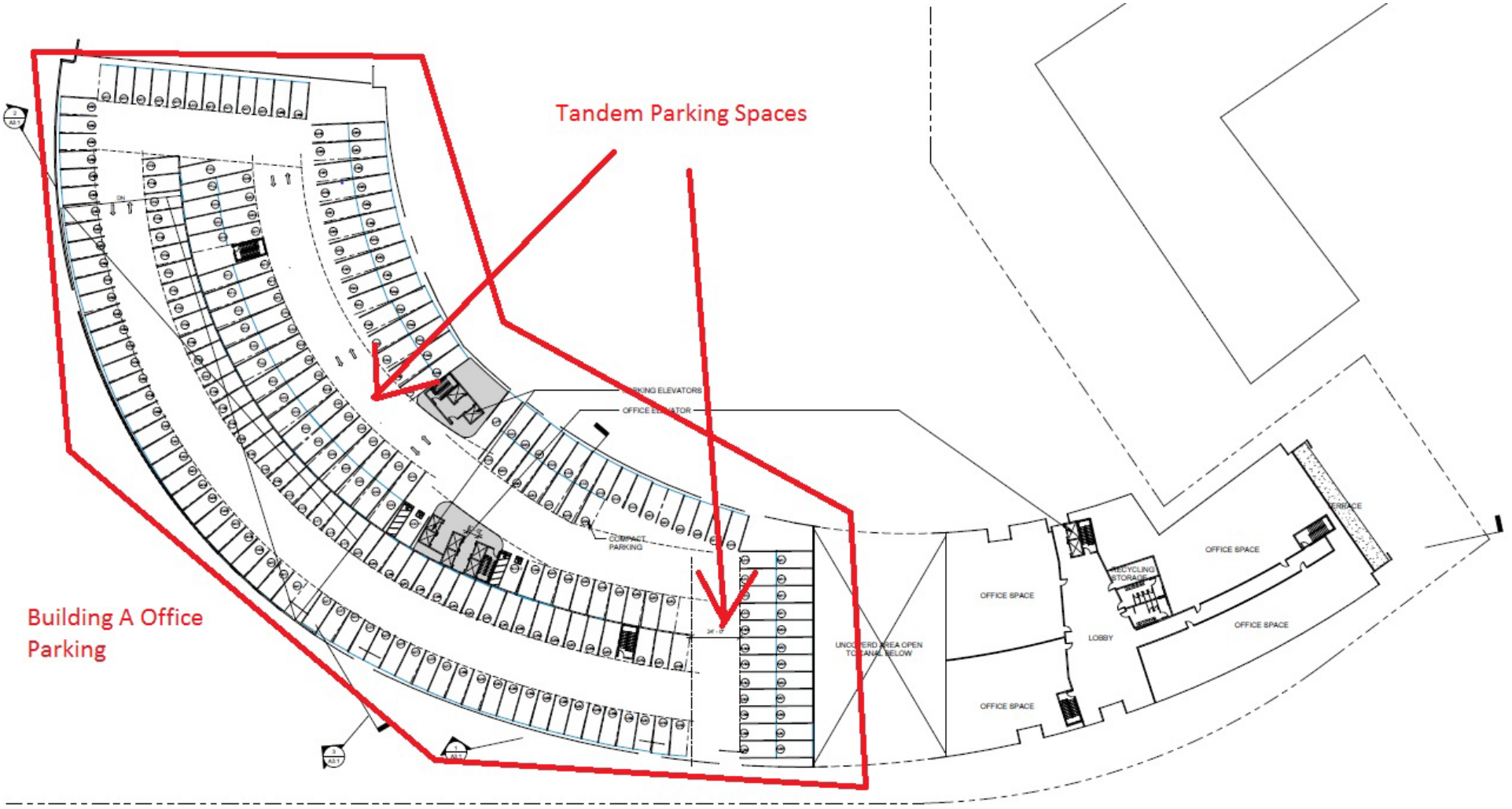


Figure 18
Parking Garages: Level 4 Parking Layout

NORTH
Not to Scale

Bicycle Parking

The site plan shows two bicycle parking areas on the project site: one secure storage room on the ground floor of Building "A", and a set of bicycle racks adjacent to the pedestrian mall and San Francisco Bay Trail near the eastern edge of the project site. The bicycle storage room is situated adjacent to the main lobby of Building "A", and can be accessed via either the lobby or the ground level parking area. Together, the two bicycle parking areas would provide a total of 101 bicycle parking spaces (70 covered spaces and 31 uncovered spaces). Although the City of Burlingame does not have any requirements for bicycle parking, bicycle facilities are typically required as traffic mitigation for all new developments within the City of Burlingame. Because Burlingame does not have specific bicycle parking requirements, Hexagon checked the Santa Clara Valley Transportation Agency (VTA) guidelines, which is a good source for bicycle planning. The VTA guidelines suggest 33 secure, covered bicycle spaces and 15 short-term spaces for this size and type of development. The proposed number of bicycle parking spaces exceeds the guideline.

Bike racks and bike lockers provide safe storage for employees' bicycles. By offering accessible and safe storage, nearby employees can commute by bicycle. In addition, the project would provide showers adjacent to the bicycle storage room. Shower facilities can encourage employees to move more and incorporate fitness into their daily routines. Providing showers enables active commuters to arrive early and prepare for the day without hygienic concerns.

Pedestrian, Bicycle, and Transit Analysis

All new development projects in the City of Burlingame should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve Burlingame's mobility goals. In addition, the adopted Bicycle Transportation Plan establishes goals and policies to make bicycling a daily part of life in Burlingame. The Transportation Plan includes designated bike lanes where possible, as well as designated routes for both local and regional trips, to provide a complete connection through Burlingame. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (See Chapter 2 for details). In the project vicinity, sidewalks exist along both sides of Old Bayshore Highway, Broadway/Airport Boulevard, Rollins Road, Carolan Avenue, as well as California Drive and Anza Boulevard. Access to the Broadway Caltrain Station from the project site is provided via sidewalks along both sides of Old Bayshore Highway and Broadway. Although some crosswalk connections are missing along Old Bayshore Highway and Broadway/Airport Boulevard, the overall network of sidewalks and crosswalks in the study area has good connectivity and provides pedestrians with safe routes to transit services and other points of interest in the vicinity of the project site.

The project site plan shows sidewalks along its frontage of approximately 5 feet in width backed by a berm. This width is too narrow for a street with the volume and speed of Old Bayshore Highway. Hexagon recommends a sidewalk width of 10-12 feet. There are two midblock crosswalks on Old Bayshore Highway along the project frontage. The project would increase the number of pedestrians using these crosswalks. Hexagon recommends that the City consider the installation of rectangular rapid flashing beacons at these crosswalks.

Bicycle Facilities

There are several bike facilities in the immediate vicinity of the project site (See Chapter 2 for details). There is a connection to the Class I San Francisco Bay Trail on Airport Boulevard and an access point located at the northeast corner of the project site, the Class II bike lanes along the west side of Rollins Road between Broderick Road and Carolan Avenue Road, as well as the designated Class III bike route on California Drive (between Millbrae Avenue and Burlingame Avenue), Carolan Avenue (between Broadway and Howard Avenue), Rollins Road (between Millbrae Avenue and Broadway), Old Bayshore Highway (between Millbrae Avenue and Airport Boulevard), and Broadway/Airport Boulevard (between California Drive and Peninsula Avenue). Bicycles are allowed on Caltrain and BART. The Broadway Station is served by Caltrain (located about a half-mile from the project site), while the Millbrae Station is served by Caltrain and BART (located about two miles from the project site). There are bicycle racks and bicycle lockers available at both transit stations.

To get to the site from the Broadway Caltrain station or from the residential areas on the west side of Burlingame, cyclists could use the new bicycle bridge over US101 near Broadway. For now, bicyclists between the project site and the Millbrae station would use Millbrae Avenue, which is classified as a "suggested route" in the Millbrae bicycle plan. In the future, Millbrae is planning to build a bicycle bridge over US101 north of, and parallel to, Millbrae Avenue.

The project would construct a connecting section of the San Francisco Bay Trail along the project's San Francisco Bay frontage. The path/trail would extend from the Bay side through a pedestrian mall in the center of the project, as well as along the north side of the drainage channel, connecting the San Francisco Bay Trail to the sidewalk system along the project frontage on Old Bayshore Highway.

Transit Services

The project site is well-served by SamTrans, Caltrain and BART (via shuttle services to the Millbrae Station), and the Burlingame Trolley. The study area is served directly by one express bus route and two shuttle routes. The project would generate about 400-person trips during the AM peak hour and 400 trips during the PM peak hour. With financial incentives, it could be expected that 10%-20% of trips would be made by transit. That translates into a maximum of 80 new transit riders during the peak hours. There are 10 buses that serve the bus stops near the site during peak hours. This calculates to an average of 8 new transit riders per bus. It is assumed that the buses have sufficient capacity to accommodate this modest increase in ridership.

Future Transit Services

Although only weekend (Saturday and Sunday) service is currently provided at the Broadway Caltrain station, with the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, weekday service at the Broadway station is expected to be restored. The PCEP is expected to increase service by up to six Caltrain trains per peak hour per direction by 2020. With the proposed electrification project, it is expected that the transit ridership at the Broadway station will increase. Given the nearby Caltrain station, development of the SFO Technology Center mixed-use project would result in new transit riders, thus reducing vehicle trips. It is not known whether shuttle service would be added to the Broadway station along with weekday train service. Shuttle service is available from the Millbrae station. If shuttle service were not available from the Broadway station, bicycling to the site offers a good option. There are excellent bicycle facilities between the Broadway station and the project site.

8. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame and the City/County Association of Governments (C/CAG) of San Mateo County Congestion Management Program (CMP). The study included the analysis of traffic conditions at eight (8) signalized intersections and two (2) freeway segments in the vicinity of the project site during the weekday AM and PM peak hours. The weekday peak hours are typically between 7:00 and 9:00 AM and between 4:00 and 6:00 PM. It is during these hours that traffic conditions on the surrounding roadways are generally the most congested and the impact on the roadway system by traffic from the proposed mixed-use development would be greatest.

Intersection Level of Service Analysis

The City of Burlingame does not have a Council-adopted level of service threshold, thus significance standards (such as LOS D or better) that has typically been applied in traffic studies and EIRs, were used. The results of the intersection level of service analysis determined that under all scenarios with and without the project, most of the study intersections would operate at an acceptable LOS D or better during both the AM and PM peak hours. While the California Drive/Broadway intersection would operate at unacceptable levels of service (LOS E or worse) during both the AM and PM peak hours under background and cumulative conditions, the addition of project-generated traffic would be considered a less than significant impact, adding only 3.5 seconds of average delay. In addition, the City of Burlingame's planned grade separation of the Caltrain tracks would be eliminate the gate downtime at the Broadway and California Drive intersection, improving the intersection level of service during peak hours under cumulative conditions.

Other Transportation Issues

Based on a review of the project site plan, there would be no issues regarding site access along Old Bayshore Highway; and no issues are expected to arise regarding on-site circulation. The proposed vehicle parking supply would meet the minimum parking requirements set forth by the City of Burlingame Zoning Code. However, tandem parking is proposed, which is not addressed in the City's parking code. Hexagon makes the following recommendations resulting from the vehicle site access and circulation, as well as the transit, pedestrian, and bicycle access analysis.

- Coordinate with City staff to determine if the proposed tandem parking supply is acceptable.
- Sign all surface parking areas not comprised of tandem parking spaces for two-hour parking. This will help with parking turnover and keep spaces available for customers and visitors.
- Designate some of the surface parking spaces near the Bay Trail for public use in accordance with the San Francisco Bay Conservation and Development Commission requirements.

- Provide designated parking spaces for retail and restaurant employees to allow them to park for more than two hours.

- Contract with a valet parking service to operate the ground level tandem parking and to operate the tandem parking in the office garages. An initial estimate is that 7 attendants will be required. Adjustments in the number of attendants should be made as operations warrant.
- Design both access driveways on Old Bayshore Highway to be between 26 feet and 30 feet wide. The proposed driveway width of 18 feet is too narrow to be located on an arterial, and a driveway width of 38 feet is too wide, as it interferes with pedestrian circulation.

- Design the sidewalk along the project frontage on Old Bayshore Highway to be between 10 feet and 12 feet wide. The proposed width of 5 feet is too narrow for a street with the volume and speed of Old Bayshore Highway.

- Install a traffic signal at the south project driveway, across from the Hyatt Hotel access driveway.

1300 Old Bayshore Highway
SFO Technology Center TIA

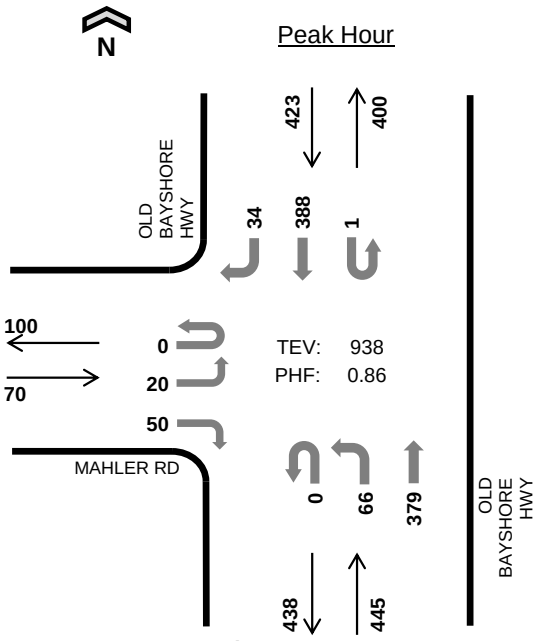
Technical Appendices

December 18, 2017

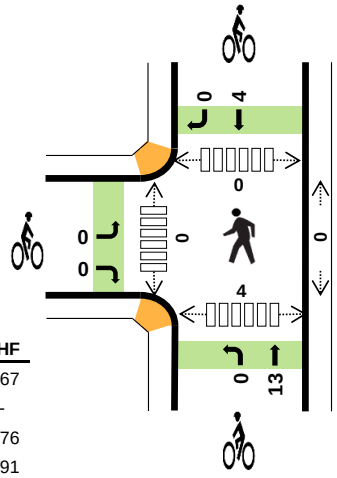
Appendix A
Traffic Counts

OLD BAYSHORE HWY
MAHLER RD

Date: 05/31/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.4%	0.67
WB	-	-
NB	0.7%	0.76
SB	0.2%	0.91
TOTAL	0.5%	0.86



Two-Hour Count Summaries

Interval Start	MAHLER RD Eastbound				0 Westbound				OLD BAYSHORE HWY Northbound				OLD BAYSHORE HWY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	6	0	0	0	0	2	12	45	0	0	0	51	7	125	0
7:15 AM	0	0	0	14	0	0	0	0	0	11	57	0	0	0	67	12	161	0
7:30 AM	0	3	0	13	0	0	0	0	0	10	78	0	0	0	55	10	169	0
7:45 AM	0	3	0	6	0	0	0	0	0	11	92	0	1	0	72	4	189	644
8:00 AM	**0**	**3**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**13**	**85**	**0**	**0**	**0**	**87**	**5**	**201**	720
8:15 AM	**0**	**8**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**10**	**72**	**0**	**1**	**0**	**100**	**6**	**215**	774
8:30 AM	**0**	**4**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**18**	**100**	**0**	**0**	**0**	**105**	**11**	**250**	855
8:45 AM	**0**	**5**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**25**	**122**	**0**	**0**	**0**	**96**	**12**	**272**	**938**
Count Total	0	28	0	89	0	0	0	0	2	110	651	0	2	0	633	67	1,582	0
Peak Hour All	**0**	**20**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**66**	**379**	**0**	**1**	**0**	**388**	**34**	**938**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**5**	**0**
Peak Hour HV%	**-**	**0%**	**-**	**2%**	**-**	**-**	**-**	**-**	**-**	**0%**	**1%**	**-**	**0%**	**-**	**0%**	**0%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	1	*1*	0	0	1	2	*3*	0	0	0	0	*0*
7:15 AM	2	0	1	0	*3*	0	0	1	4	*5*	0	0	0	0	*0*
7:30 AM	0	0	4	1	*5*	0	0	2	2	*4*	0	1	0	3	*4*
7:45 AM	0	0	2	0	*2*	0	0	5	7	*12*	0	1	0	1	*2*
8:00 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**4**	**3**	***7***	**0**	**0**	**0**	**1**	*1*
8:15 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**2**	*2*
8:30 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**1**	*1*
8:45 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**6**	**0**	***6***	**0**	**0**	**0**	**0**	***0***
Count Total	3	0	10	3	*16*	0	0	22	19	*41*	0	2	0	8	*10*
Peak Hr	**1**	**0**	**3**	**1**	***5***	**0**	**0**	**13**	**4**	***17***	**0**	**0**	**0**	**4**	***4***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	MAHLER RD				0				OLD BAYSHORE HWY				OLD BAYSHORE HWY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	5	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	12
8:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	10
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
Count Total	0	0	0	3	0	0	0	0	0	0	10	0	0	0	2	1	16	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**5**	**0**

Two-Hour Count Summaries - Bikes

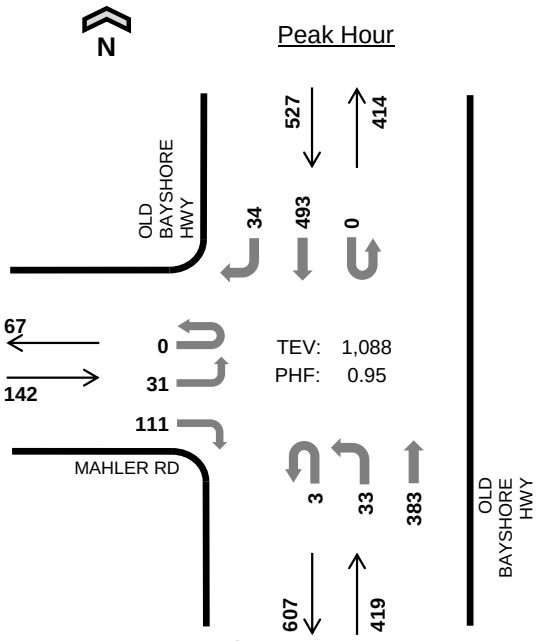
Interval Start	MAHLER RD			0			OLD BAYSHORE HWY			OLD BAYSHORE HWY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	4	0	5	0
7:30 AM	0	0	0	0	0	0	0	2	0	0	2	0	4	0
7:45 AM	0	0	0	0	0	0	0	5	0	0	7	0	12	24
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**3**	**0**	**7**	28
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	25
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	23
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**17**
Count Total	0	0	0	0	0	0	0	22	0	0	19	0	41	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**4**	**0**	**17**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

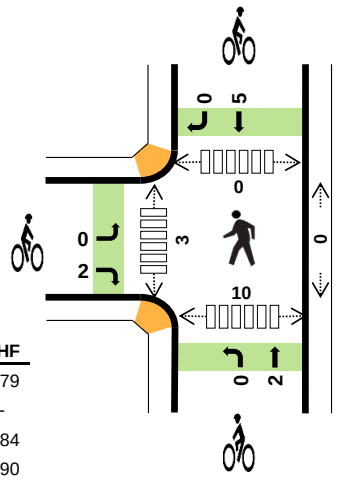
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

OLD BAYSHORE HWY
MAHLER RD

Date: 05/31/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.0%	0.79
WB	-	-
NB	1.2%	0.84
SB	1.7%	0.90
TOTAL	1.3%	0.95



Two-Hour Count Summaries

Interval Start	MAHLER RD Eastbound				0 Westbound				OLD BAYSHORE HWY Northbound				OLD BAYSHORE HWY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	8	0	22	0	0	0	0	0	6	90	0	0	0	117	10	253	0
4:15 PM	**0**	**4**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**10**	**114**	**0**	**0**	**0**	**112**	**8**	**272**	0
4:30 PM	**0**	**5**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**14**	**86**	**0**	**0**	**0**	**134**	**12**	**276**	0
4:45 PM	**0**	**10**	**0**	**29**	**0**	**0**	**0**	**0**	**2**	**6**	**90**	**0**	**0**	**0**	**109**	**9**	**255**	1,056
5:00 PM	**0**	**12**	**0**	**33**	**0**	**0**	**0**	**0**	**1**	**3**	**93**	**0**	**0**	**0**	**138**	**5**	**285**	**1,088**
5:15 PM	0	6	0	19	0	0	0	0	0	3	93	0	0	0	119	5	245	1,061
5:30 PM	0	10	0	26	0	0	0	0	1	6	83	0	0	0	118	8	252	1,037
5:45 PM	0	5	0	14	0	0	0	0	0	5	89	0	0	0	118	8	239	1,021
Count Total	0	60	0	192	0	0	0	0	4	53	738	0	0	0	965	65	2,077	0
Peak Hour All	**0**	**31**	**0**	**111**	**0**	**0**	**0**	**0**	**3**	**33**	**383**	**0**	**0**	**0**	**493**	**34**	**1,088**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**8**	**1**	**14**	**0**
Peak Hour HV%	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**1%**	**-**	**-**	**-**	**2%**	**3%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	1	0	*1*	0	1	0	1	*2*
4:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**2**	*3*
4:30 PM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**2**	**1**	***3***	**1**	**0**	**1**	**2**	***4***	**0**	**2**	**0**	**5**	*7*
5:00 PM	**0**	**0**	**1**	**2**	***3***	**1**	**0**	**1**	**1**	***3***	**0**	**0**	**0**	**3**	***3***
5:15 PM	0	0	1	1	*2*	0	0	1	2	*3*	0	0	0	1	*1*
5:30 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	3	*3*
5:45 PM	0	0	0	2	*2*	0	0	0	4	*4*	0	1	0	2	*3*
Count Total	0	0	8	15	*23*	2	0	4	11	*17*	0	5	0	17	*22*
Peak Hr	**0**	**0**	**5**	**9**	***14***	**2**	**0**	**2**	**5**	***9***	**0**	**3**	**0**	**10**	***13***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	MAHLER RD				0				OLD BAYSHORE HWY				OLD BAYSHORE HWY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**5**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**14**
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	13
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9
Count Total	0	0	0	0	0	0	0	0	0	1	7	0	0	0	14	1	23	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**8**	**1**	**14**	**0**

Two-Hour Count Summaries - Bikes

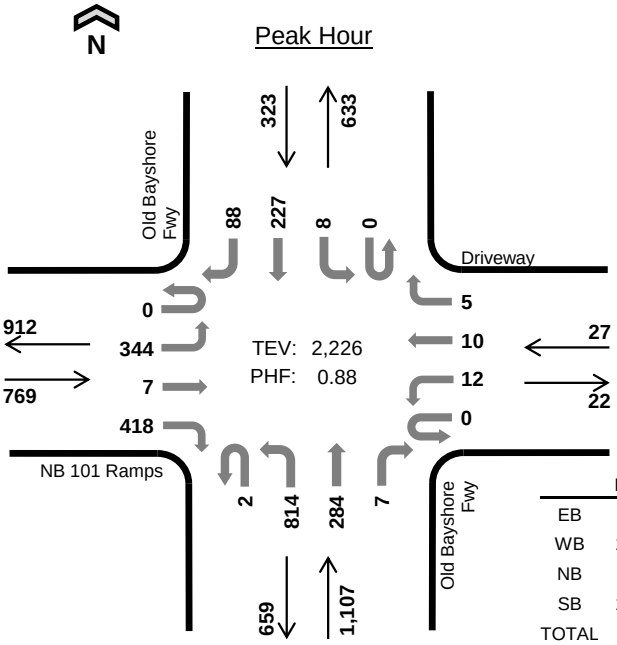
Interval Start	MAHLER RD			0			OLD BAYSHORE HWY			OLD BAYSHORE HWY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**4**	7
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**3**	**9**
5:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	3	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	10
Count Total	0	0	2	0	0	0	0	4	0	0	11	0	17	0
Peak Hour	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**5**	**0**	**9**	**0**

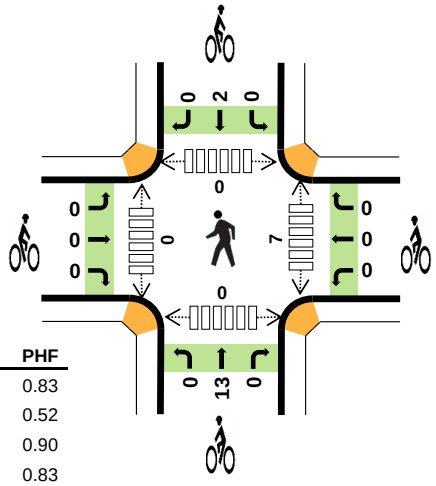
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Old Bayshore Fwy
NB 101 Ramps

Date: 06/20/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	4.0%	0.83
WB	18.5%	0.52
NB	3.1%	0.90
SB	11.5%	0.83
TOTAL	4.8%	0.88

Two-Hour Count Summaries

Interval Start	NB 101 Ramps				Driveway				Old Bayshore Fwy				Old Bayshore Fwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	43	2	98	0	1	4	0	0	220	26	1	0	1	32	17	445	0
7:15 AM	0	49	1	86	0	5	4	0	1	217	42	1	0	1	36	12	455	0
7:30 AM	0	78	1	92	0	10	5	2	0	209	32	2	0	3	52	13	499	0
7:45 AM	0	79	1	109	0	2	2	1	0	223	56	3	1	1	51	10	539	1,938
8:00 AM	**0**	**81**	**3**	**95**	**0**	**5**	**5**	**3**	**0**	**203**	**47**	**2**	**0**	**4**	**53**	**14**	**515**	2,008
8:15 AM	**0**	**79**	**1**	**108**	**0**	**2**	**3**	**0**	**1**	**226**	**78**	**2**	**0**	**2**	**47**	**19**	**568**	2,121
8:30 AM	**0**	**77**	**2**	**91**	**0**	**2**	**1**	**2**	**0**	**170**	**81**	**1**	**0**	**1**	**60**	**26**	**514**	2,136
8:45 AM	**0**	**107**	**1**	**124**	**0**	**3**	**1**	**0**	**1**	**215**	**78**	**2**	**0**	**1**	**67**	**29**	**629**	**2,226**
Count Total	0	593	12	803	0	30	25	8	3	1,683	440	14	1	14	398	140	4,164	0
Peak Hour All	**0**	**344**	**7**	**418**	**0**	**12**	**10**	**5**	**2**	**814**	**284**	**7**	**0**	**8**	**227**	**88**	**2,226**	**0**
Peak Hour HV	**0**	**14**	**0**	**17**	**0**	**2**	**2**	**1**	**0**	**22**	**12**	**0**	**0**	**5**	**18**	**14**	**107**	**0**
Peak Hour HV%	**-**	**4%**	**0%**	**4%**	**-**	**17%**	**20%**	**20%**	**0%**	**3%**	**4%**	**0%**	**-**	**63%**	**8%**	**16%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	1	7	7	*20*	0	0	4	3	*7*	8	0	0	0	*8*
7:15 AM	2	1	5	7	*15*	0	0	1	2	*3*	8	0	0	0	*8*
7:30 AM	6	3	6	7	*22*	2	0	10	4	*16*	2	0	0	0	*2*
7:45 AM	3	0	4	13	*20*	0	0	1	2	*3*	4	0	0	0	*4*
8:00 AM	**7**	**2**	**13**	**5**	***27***	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**5**	**0**	**6**	**7**	***18***	**0**	**0**	**6**	**0**	***6***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**14**	**2**	**8**	**13**	***37***	**0**	**0**	**3**	**0**	***3***	**6**	**0**	**0**	**0**	*6*
8:45 AM	**5**	**1**	**7**	**12**	***25***	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***
Count Total	47	10	56	71	*184*	2	0	29	13	*44*	29	0	0	0	*29*
Peak Hour	**31**	**5**	**34**	**37**	***107***	**0**	**0**	**13**	**2**	***15***	**7**	**0**	**0**	**0**	***7***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	NB 101 Ramps				Driveway				Old Bayshore Fwy				Old Bayshore Fwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	3	0	0	1	0	0	6	1	0	0	1	3	3	20	0
7:15 AM	0	1	0	1	0	1	0	0	0	5	0	0	0	1	4	2	15	0
7:30 AM	0	3	0	3	0	1	2	0	0	4	2	0	0	1	4	2	22	0
7:45 AM	0	0	0	3	0	0	0	0	0	2	2	0	0	0	10	3	20	77
8:00 AM	**0**	**2**	**0**	**5**	**0**	**1**	**1**	**0**	**0**	**8**	**5**	**0**	**0**	**2**	**2**	**1**	**27**	84
8:15 AM	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**1**	**4**	**2**	**18**	87
8:30 AM	**0**	**7**	**0**	**7**	**0**	**0**	**1**	**1**	**0**	**5**	**3**	**0**	**0**	**1**	**7**	**5**	**37**	102
8:45 AM	**0**	**3**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**4**	**3**	**0**	**0**	**1**	**5**	**6**	**25**	**107**
Count Total	0	20	0	27	0	4	5	1	0	39	17	0	0	8	39	24	184	0
Peak Hour	**0**	**14**	**0**	**17**	**0**	**2**	**2**	**1**	**0**	**22**	**12**	**0**	**0**	**5**	**18**	**14**	**107**	**0**

Two-Hour Count Summaries - Bikes

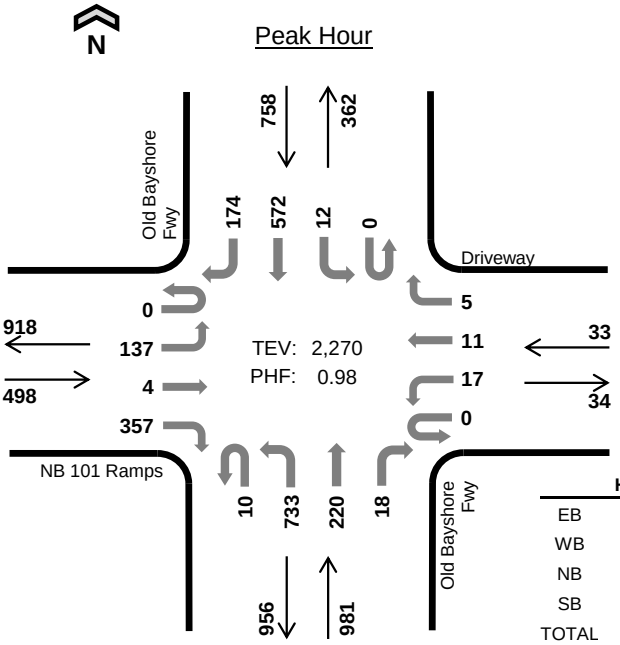
Interval Start	NB 101 Ramps			Driveway			Old Bayshore Fwy			Old Bayshore Fwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	4	0	0	3	0	7	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0
7:30 AM	0	0	2	0	0	0	0	10	0	0	4	0	16	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	29
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**4**	26
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	29
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	16
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	**15**
Count Total	0	0	2	0	0	0	0	29	0	0	13	0	44	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**2**	**0**	**15**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

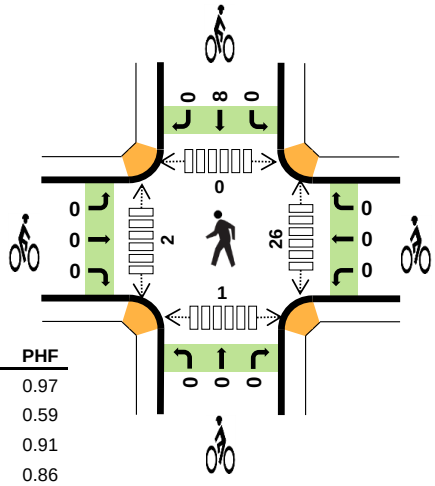
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Old Bayshore Fwy
NB 101 Ramps

Date: 06/20/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	3.0%	0.97
WB	6.1%	0.59
NB	1.9%	0.91
SB	1.8%	0.86
TOTAL	2.2%	0.98



Two-Hour Count Summaries

Interval Start		NB 101 Ramps Eastbound				Driveway Westbound				Old Bayshore Fwy Northbound				Old Bayshore Fwy Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	33	1	89	0	7	5	0	6	155	57	3	0	4	105	37	502	0
4:15 PM		1	27	2	95	0	6	3	0	0	146	45	2	0	2	104	23	456	0
4:30 PM		**0**	**33**	**2**	**90**	**0**	**9**	**3**	**2**	**4**	**177**	**48**	**7**	**0**	**4**	**146**	**41**	**566**	0
4:45 PM		**0**	**41**	**1**	**85**	**0**	**2**	**4**	**0**	**1**	**184**	**54**	**6**	**0**	**3**	**138**	**42**	**561**	2,085
5:00 PM		**0**	**35**	**1**	**82**	**0**	**4**	**2**	**3**	**2**	**171**	**54**	**3**	**0**	**4**	**168**	**49**	**578**	2,161
5:15 PM		**0**	**28**	**0**	**100**	**0**	**2**	**2**	**0**	**3**	**201**	**64**	**2**	**0**	**1**	**120**	**42**	**565**	**2,270**
5:30 PM		0	33	1	89	0	3	3	0	2	161	45	2	0	3	159	46	547	2,251
5:45 PM		1	48	0	96	0	0	2	0	2	139	70	9	0	2	124	36	529	2,219
Count Total		2	278	8	726	0	33	24	5	20	1,334	437	34	0	23	1,064	316	4,304	0
Peak Hour	**All**	**0**	**137**	**4**	**357**	**0**	**17**	**11**	**5**	**10**	**733**	**220**	**18**	**0**	**12**	**572**	**174**	**2,270**	**0**
	HV	**0**	**4**	**0**	**11**	**0**	**0**	**2**	**0**	**0**	**11**	**8**	**0**	**0**	**3**	**8**	**3**	**50**	**0**
	HV%	**-**	**3%**	**0%**	**3%**	**-**	**0%**	**18%**	**0%**	**0%**	**2%**	**4%**	**0%**	**-**	**25%**	**1%**	**2%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	2	6	2	*13*	0	0	0	1	*1*	1	0	0	0	*1*
4:15 PM	4	0	2	3	*9*	0	0	0	3	*3*	3	0	0	0	*3*
4:30 PM	**7**	**1**	**7**	**4**	***19***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**1**	*4*
4:45 PM	**5**	**0**	**2**	**4**	***11***	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**1**	**5**	**4**	***13***	**0**	**0**	**0**	**3**	***3***	**17**	**2**	**0**	**0**	*19*
5:15 PM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**2**	***2***	**6**	**0**	**0**	**0**	***6***
5:30 PM	1	1	3	6	*11*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	3	0	2	1	*6*	0	0	0	0	*0*	6	0	0	0	*6*
Count Total	26	5	32	26	*89*	0	0	0	12	*12*	37	2	0	1	*40*
Peak Hour	**15**	**2**	**19**	**14**	***50***	**0**	**0**	**0**	**8**	***8***	**26**	**2**	**0**	**1**	***29***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	NB 101 Ramps				Driveway				Old Bayshore Fwy				Old Bayshore Fwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	3	0	0	2	0	0	3	3	0	0	1	1	0	13	0
4:15 PM	0	0	0	4	0	0	0	0	0	2	0	0	0	0	2	1	9	0
4:30 PM	**0**	**3**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**3**	**4**	**0**	**0**	**2**	**2**	**0**	**19**	0
4:45 PM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**1**	**11**	52
5:00 PM	**0**	**1**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**1**	**2**	**13**	52
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**2**	**0**	**7**	**50**
5:30 PM	0	0	0	1	0	0	1	0	0	1	2	0	0	1	4	1	11	42
5:45 PM	0	2	0	1	0	0	0	0	0	2	0	0	0	0	0	1	6	37
Count Total	0	6	0	20	0	0	5	0	0	19	13	0	0	5	15	6	89	0
Peak Hour	**0**	**4**	**0**	**11**	**0**	**0**	**2**	**0**	**0**	**11**	**8**	**0**	**0**	**3**	**8**	**3**	**50**	**0**

Two-Hour Count Summaries - Bikes

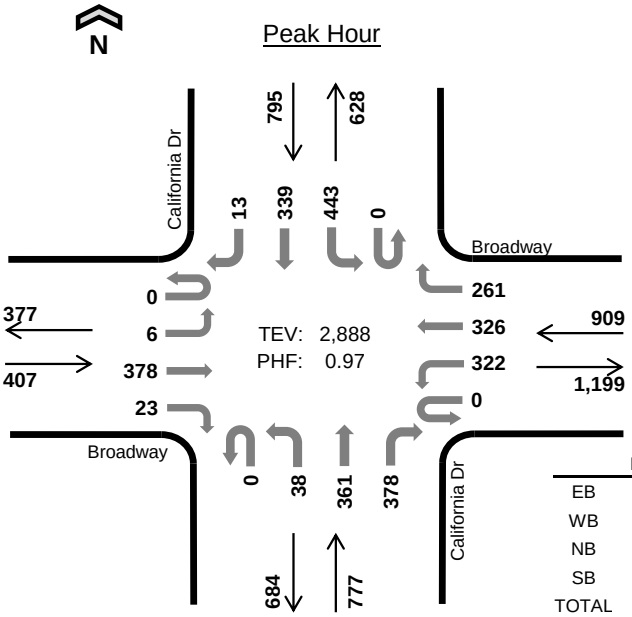
Interval Start	NB 101 Ramps			Driveway			Old Bayshore Fwy			Old Bayshore Fwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	7
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	9
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**8**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	0	0	0	0	0	0	0	0	0	12	0	12	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**8**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

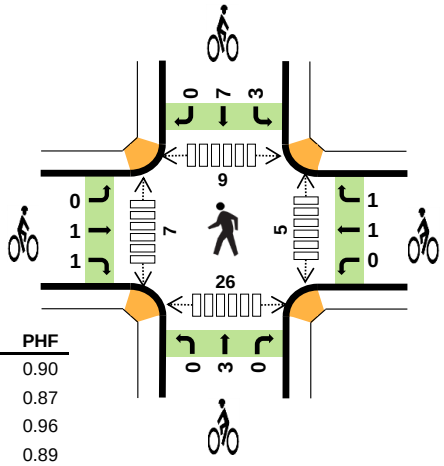
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

California Dr
Broadway

Date: 05/23/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	1.0%	0.90
WB	4.0%	0.87
NB	2.7%	0.96
SB	1.6%	0.89
TOTAL	2.6%	0.97



Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Broadway Westbound				California Dr Northbound				California Dr Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	71	6	0	62	53	21	0	7	36	92	0	63	38	1	450	0
7:15 AM		0	3	65	8	0	56	51	42	0	9	47	92	0	48	42	5	468	0
7:30 AM		0	3	84	3	0	72	55	60	0	2	71	121	0	116	69	2	658	0
7:45 AM		**0**	**1**	**105**	**7**	**0**	**75**	**84**	**78**	**0**	**14**	**95**	**82**	**0**	**108**	**75**	**2**	**726**	2,302
8:00 AM		**0**	**1**	**98**	**7**	**0**	**65**	**72**	**76**	**0**	**8**	**102**	**92**	**0**	**122**	**97**	**4**	**744**	2,596
8:15 AM		**0**	**3**	**95**	**3**	**0**	**104**	**94**	**63**	**0**	**4**	**80**	**97**	**0**	**95**	**95**	**2**	**735**	2,863
8:30 AM		**0**	**1**	**80**	**6**	**0**	**78**	**76**	**44**	**0**	**12**	**84**	**107**	**0**	**118**	**72**	**5**	**683**	**2,888**
8:45 AM		0	1	77	12	0	67	85	69	0	11	82	94	0	93	92	7	690	2,852
Count Total		0	13	675	52	0	579	570	453	0	67	597	777	0	763	580	28	5,154	0
Peak Hour	**All**	**0**	**6**	**378**	**23**	**0**	**322**	**326**	**261**	**0**	**38**	**361**	**378**	**0**	**443**	**339**	**13**	**2,888**	**0**
	HV	**0**	**0**	**4**	**0**	**0**	**18**	**9**	**9**	**0**	**0**	**7**	**14**	**0**	**6**	**6**	**1**	**74**	**0**
	HV%	**-**	**0%**	**1%**	**0%**	**-**	**6%**	**3%**	**3%**	**-**	**0%**	**2%**	**4%**	**-**	**1%**	**2%**	**8%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	6	2	1	*9*	1	0	0	2	*3*	0	0	4	6	*10*
7:15 AM	0	6	4	0	*10*	0	0	0	0	*0*	1	1	3	4	*9*
7:30 AM	5	6	4	3	*18*	0	0	0	5	*5*	4	1	5	5	*15*
7:45 AM	**0**	**12**	**8**	**2**	***22***	**0**	**0**	**0**	**1**	***1***	**0**	**3**	**1**	**8**	*12*
8:00 AM	**4**	**9**	**4**	**3**	***20***	**1**	**1**	**2**	**4**	***8***	**0**	**0**	**3**	**12**	*15*
8:15 AM	**0**	**9**	**3**	**3**	***15***	**0**	**0**	**1**	**2**	***3***	**1**	**3**	**2**	**3**	*9*
8:30 AM	**0**	**6**	**6**	**5**	***17***	**1**	**1**	**0**	**3**	***5***	**4**	**1**	**3**	**3**	***11***
8:45 AM	0	8	5	7	*20*	0	0	1	2	*3*	5	2	6	4	*17*
Count Total	9	62	36	24	*131*	3	2	4	19	*28*	15	11	27	45	*98*
Peak Hour	**4**	**36**	**21**	**13**	***74***	**2**	**2**	**3**	**10**	***17***	**5**	**7**	**9**	**26**	***47***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				California Dr Northbound				California Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	2	3	1	0	0	1	1	0	0	1	0	9	0
7:15 AM	0	0	0	0	0	6	0	0	0	1	2	1	0	0	0	0	10	0
7:30 AM	0	1	3	1	0	1	3	2	0	0	2	2	0	1	2	0	18	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**4**	**3**	**5**	**0**	**0**	**4**	**4**	**0**	**1**	**1**	**0**	**22**	59
8:00 AM	**0**	**0**	**4**	**0**	**0**	**4**	**4**	**1**	**0**	**0**	**0**	**4**	**0**	**1**	**1**	**1**	**20**	70
8:15 AM	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**2**	**0**	**0**	**2**	**1**	**0**	**2**	**1**	**0**	**15**	75
8:30 AM	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**1**	**0**	**0**	**1**	**5**	**0**	**2**	**3**	**0**	**17**	**74**
8:45 AM	0	0	0	0	0	3	3	2	0	1	1	3	0	1	6	0	20	72
Count Total	0	1	7	1	0	30	18	14	0	2	13	21	0	8	15	1	131	0
Peak Hour	**0**	**0**	**4**	**0**	**0**	**18**	**9**	**9**	**0**	**0**	**7**	**14**	**0**	**6**	**6**	**1**	**74**	**0**

Two-Hour Count Summaries - Bikes

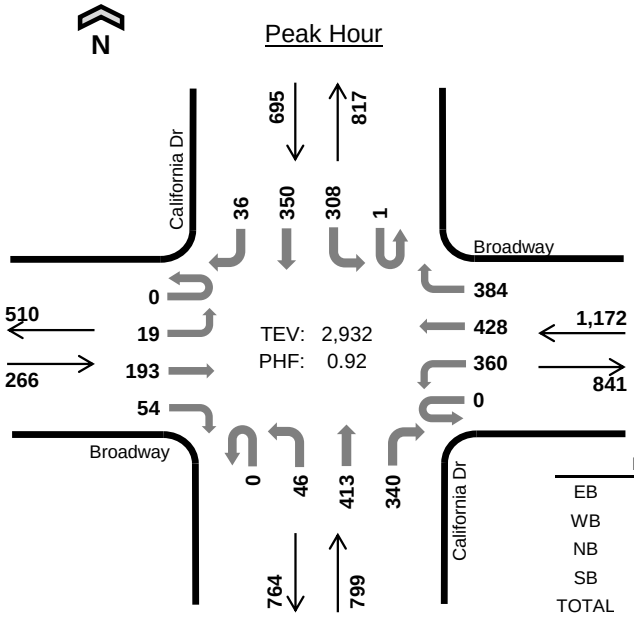
Interval Start	Broadway Eastbound			Broadway Westbound			California Dr Northbound			California Dr Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	2	5	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	9
8:00 AM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**1**	**3**	**0**	**8**	14
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**3**	17
8:30 AM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**5**	**17**
8:45 AM	0	0	0	0	0	0	0	1	0	1	1	0	3	19
Count Total	0	2	1	0	1	1	0	4	0	4	13	2	28	0
Peak Hour	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**3**	**0**	**3**	**7**	**0**	**17**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

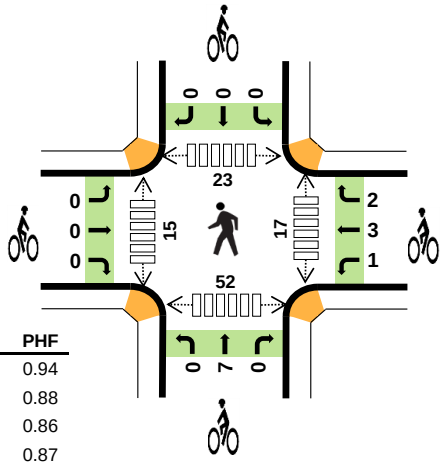
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

California Dr
Broadway

Date: 05/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	1.5%	0.94
WB	1.1%	0.88
NB	1.4%	0.86
SB	0.9%	0.87
TOTAL	1.2%	0.92



Two-Hour Count Summaries

Interval Start	Broadway Eastbound				Broadway Westbound				California Dr Northbound				California Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	58	13	0	81	78	77	0	12	76	75	0	86	88	6	653	0
4:15 PM	0	1	48	10	0	83	91	75	0	12	97	100	0	57	83	6	663	0
4:30 PM	0	4	83	11	0	72	76	79	0	7	81	78	0	64	84	2	641	0
4:45 PM	0	3	60	9	0	90	90	81	0	17	93	93	0	77	84	7	704	2,661
5:00 PM	**0**	**7**	**45**	**17**	**0**	**104**	**91**	**84**	**0**	**12**	**91**	**85**	**0**	**74**	**72**	**6**	**688**	2,696
5:15 PM	**0**	**7**	**50**	**13**	**0**	**73**	**98**	**97**	**0**	**9**	**121**	**103**	**0**	**88**	**99**	**12**	**770**	2,803
5:30 PM	**0**	**0**	**47**	**9**	**0**	**89**	**110**	**92**	**0**	**10**	**103**	**68**	**0**	**63**	**78**	**10**	**679**	2,841
5:45 PM	**0**	**5**	**51**	**15**	**0**	**94**	**129**	**111**	**0**	**15**	**98**	**84**	**1**	**83**	**101**	**8**	**795**	**2,932**
Count Total	0	30	442	97	0	686	763	696	0	94	760	686	1	592	689	57	5,593	0
Peak Hour All	**0**	**19**	**193**	**54**	**0**	**360**	**428**	**384**	**0**	**46**	**413**	**340**	**1**	**308**	**350**	**36**	**2,932**	**0**
Peak Hour HV	**0**	**0**	**3**	**1**	**0**	**6**	**5**	**2**	**0**	**1**	**5**	**5**	**0**	**3**	**3**	**0**	**34**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**2%**	**-**	**2%**	**1%**	**1%**	**-**	**2%**	**1%**	**1%**	**0%**	**1%**	**1%**	**0%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	5	2	4	*12*	0	0	1	0	*1*	4	5	4	11	*24*
4:15 PM	2	4	5	4	*15*	1	1	0	0	*2*	2	1	4	11	*18*
4:30 PM	2	5	3	4	*14*	0	0	0	1	*1*	4	5	14	6	*29*
4:45 PM	0	3	0	0	*3*	0	0	1	0	*1*	2	7	5	6	*20*
5:00 PM	**0**	**4**	**2**	**3**	***9***	**0**	**3**	**2**	**0**	***5***	**7**	**2**	**10**	**11**	*30*
5:15 PM	**1**	**3**	**4**	**1**	***9***	**0**	**1**	**1**	**0**	***2***	**2**	**6**	**3**	**9**	*20*
5:30 PM	**1**	**3**	**3**	**2**	***9***	**0**	**1**	**2**	**0**	***3***	**4**	**4**	**4**	**18**	*30*
5:45 PM	**2**	**3**	**2**	**0**	***7***	**0**	**1**	**2**	**0**	***3***	**4**	**3**	**6**	**14**	***27***
Count Total	9	30	21	18	*78*	1	7	9	1	*18*	29	33	50	86	*198*
Peak Hour	**4**	**13**	**11**	**6**	***34***	**0**	**6**	**7**	**0**	***13***	**17**	**15**	**23**	**52**	***107***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				California Dr Northbound				California Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	3	1	1	0	0	2	0	0	2	2	0	12	0
4:15 PM	0	0	2	0	0	2	2	0	0	0	0	5	0	2	2	0	15	0
4:30 PM	0	0	2	0	0	1	2	2	0	0	1	2	0	0	4	0	14	0
4:45 PM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3	44
5:00 PM	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**1**	**0**	**9**	41
5:15 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**9**	35
5:30 PM	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**1**	**1**	**0**	**9**	30
5:45 PM	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	**34**
Count Total	0	0	8	1	0	14	11	5	0	1	8	12	0	7	11	0	78	0
Peak Hour	**0**	**0**	**3**	**1**	**0**	**6**	**5**	**2**	**0**	**1**	**5**	**5**	**0**	**3**	**3**	**0**	**34**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Broadway Eastbound			Broadway Westbound			California Dr Northbound			California Dr Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5
5:00 PM	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	9
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	9
5:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	11
5:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**13**
Count Total	0	1	0	1	4	2	0	9	0	0	0	1	18	0
Peak Hour	**0**	**0**	**0**	**1**	**3**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

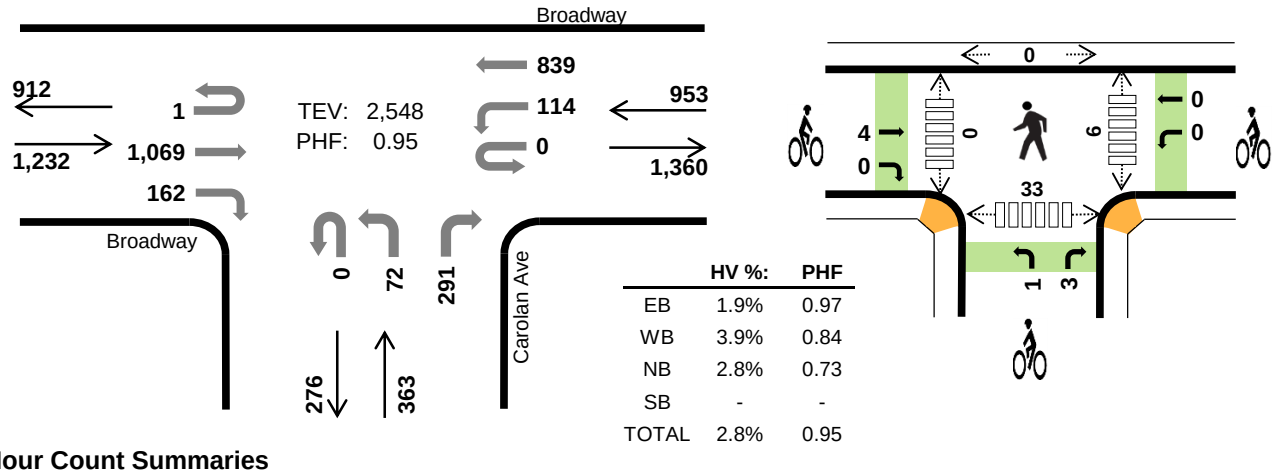
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Carolan Ave
Broadway

N

Peak Hour

Date: 05/23/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	1.9%	0.97
WB	3.9%	0.84
NB	2.8%	0.73
SB	-	-
TOTAL	2.8%	0.95

Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Broadway Westbound				Carolan Ave Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		2	0	218	5	0	23	132	0	0	6	0	58	0	0	0	0	444	0
7:15 AM		0	0	199	9	0	22	140	0	0	6	0	65	0	0	0	0	441	0
7:30 AM		**1**	**0**	**271**	**46**	**0**	**32**	**183**	**0**	**0**	**9**	**0**	**68**	**0**	**0**	**0**	**0**	**610**	0
7:45 AM		**0**	**0**	**246**	**65**	**0**	**29**	**206**	**0**	**0**	**33**	**0**	**91**	**0**	**0**	**0**	**0**	**670**	2,165
8:00 AM		**0**	**0**	**281**	**27**	**0**	**21**	**200**	**0**	**0**	**24**	**0**	**72**	**0**	**0**	**0**	**0**	**625**	2,346
8:15 AM		**0**	**0**	**271**	**24**	**0**	**32**	**250**	**0**	**0**	**6**	**0**	**60**	**0**	**0**	**0**	**0**	**643**	**2,548**
8:30 AM		0	0	256	40	0	20	173	0	0	23	0	79	0	0	0	0	591	2,529
8:45 AM		0	0	240	32	0	26	207	0	0	17	0	73	0	0	0	0	595	2,454
Count Total		3	0	1,982	248	0	205	1,491	0	0	124	0	566	0	0	0	0	4,619	0
Peak Hour	**All**	**1**	**0**	**1,069**	**162**	**0**	**114**	**839**	**0**	**0**	**72**	**0**	**291**	**0**	**0**	**0**	**0**	**2,548**	**0**
	HV	**0**	**0**	**24**	**0**	**0**	**1**	**36**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**71**	**0**
	HV%	**0%**	**-**	**2%**	**0%**	**-**	**1%**	**4%**	**-**	**-**	**4%**	**-**	**2%**	**-**	**-**	**-**	**-**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	7	0	0	*8*	2	0	1	0	*3*	0	0	0	2	*2*
7:15 AM	1	6	0	0	*7*	1	0	0	0	*1*	1	0	0	6	*7*
7:30 AM	**8**	**7**	**1**	**0**	***16***	**0**	**0**	**3**	**0**	***3***	**2**	**0**	**0**	**9**	*11*
7:45 AM	**4**	**8**	**6**	**0**	***18***	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**0**	**8**	*9*
8:00 AM	**9**	**10**	**2**	**0**	***21***	**2**	**0**	**0**	**0**	***2***	**2**	**0**	**0**	**11**	*13*
8:15 AM	**3**	**12**	**1**	**0**	***16***	**1**	**0**	**1**	**0**	***2***	**1**	**0**	**0**	**5**	***6***
8:30 AM	5	6	1	0	*12*	2	0	1	0	*3*	0	0	0	4	*4*
8:45 AM	5	8	0	0	*13*	0	0	1	0	*1*	0	0	0	7	*7*
Count Total	36	64	11	0	*111*	9	0	7	0	*16*	7	0	0	52	*59*
Peak Hr	**24**	**37**	**10**	**0**	***71***	**4**	**0**	**4**	**0**	***8***	**6**	**0**	**0**	**33**	***39***

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				Carolan Ave Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	8	0
7:15 AM	0	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0	7	0
7:30 AM	**0**	**0**	**8**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**16**	0
7:45 AM	**0**	**0**	**4**	**0**	**0**	**1**	**7**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**18**	49
8:00 AM	**0**	**0**	**9**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**21**	62
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**16**	**71**
8:30 AM	0	0	5	0	0	1	5	0	0	1	0	0	0	0	0	0	12	67
8:45 AM	0	0	5	0	0	1	7	0	0	0	0	0	0	0	0	0	13	62
Count Total	0	0	36	0	0	4	60	0	0	4	0	7	0	0	0	0	111	0
Peak Hour	**0**	**0**	**24**	**0**	**0**	**1**	**36**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**71**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Broadway Eastbound			Broadway Westbound			Carolan Ave Northbound			0 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	3	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**3**	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
8:00 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	7
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**8**
8:30 AM	0	1	1	0	0	0	1	0	0	0	0	0	3	8
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	8
Count Total	0	8	1	0	0	0	3	0	4	0	0	0	16	0
Peak Hour	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**8**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

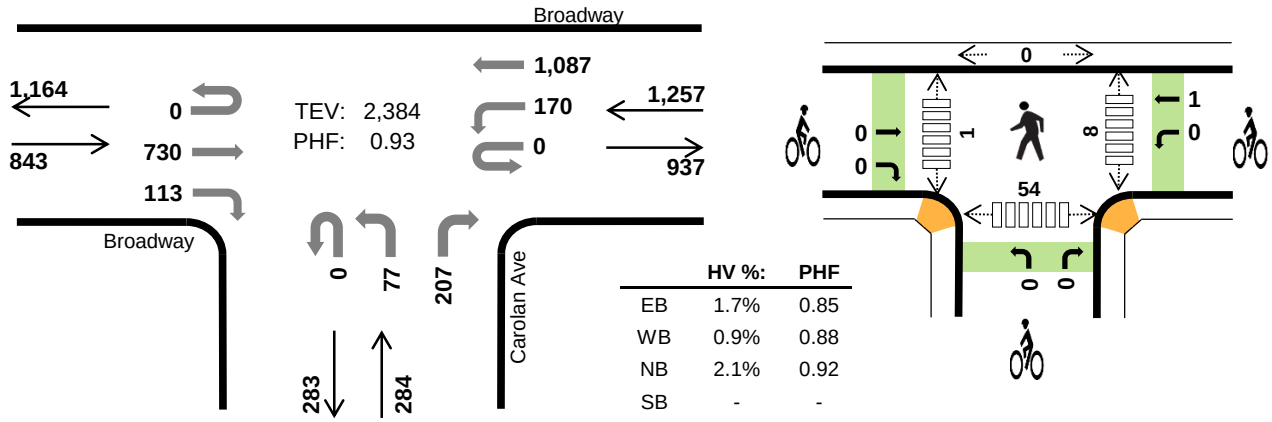
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Carolan Ave
Broadway

N

Peak Hour

Date: 05/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	1.7%	0.85
WB	0.9%	0.88
NB	2.1%	0.92
SB	-	-
TOTAL	1.3%	0.93

Two-Hour Count Summaries

Interval Start	Broadway Eastbound				Broadway Westbound				Carolan Ave Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	186	27	0	26	223	0	0	17	0	67	0	0	0	0	546	0
4:15 PM	0	0	190	19	1	36	221	0	0	21	0	50	0	0	0	0	538	0
4:30 PM	0	0	204	20	0	38	224	0	0	12	0	53	0	0	0	0	551	0
4:45 PM	0	0	202	25	0	41	254	0	0	18	0	57	0	0	0	0	597	2,232
5:00 PM	**0**	**0**	**182**	**20**	**0**	**36**	**259**	**0**	**0**	**17**	**0**	**48**	**0**	**0**	**0**	**0**	**562**	2,248
5:15 PM	**0**	**0**	**214**	**35**	**0**	**39**	**253**	**0**	**0**	**19**	**0**	**53**	**0**	**0**	**0**	**0**	**613**	2,323
5:30 PM	**0**	**0**	**146**	**33**	**0**	**58**	**253**	**0**	**0**	**20**	**0**	**57**	**0**	**0**	**0**	**0**	**567**	2,339
5:45 PM	**0**	**0**	**188**	**25**	**0**	**37**	**322**	**0**	**0**	**21**	**0**	**49**	**0**	**0**	**0**	**0**	**642**	**2,384**
Count Total	0	0	1,512	204	1	311	2,009	0	0	145	0	434	0	0	0	0	4,616	0
Peak Hour All	**0**	**0**	**730**	**113**	**0**	**170**	**1,087**	**0**	**0**	**77**	**0**	**207**	**0**	**0**	**0**	**0**	**2,384**	**0**
Peak Hour HV	**0**	**0**	**14**	**0**	**0**	**0**	**11**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**31**	**0**
Peak Hour HV%	**-**	**-**	**2%**	**0%**	**-**	**0%**	**1%**	**-**	**-**	**1%**	**-**	**2%**	**-**	**-**	**-**	**-**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	6	1	0	*10*	0	2	0	0	*2*	1	0	0	7	*8*
4:15 PM	10	3	2	0	*15*	1	1	0	0	*2*	5	0	0	11	*16*
4:30 PM	4	3	1	0	*8*	1	0	1	0	*2*	0	0	0	4	*4*
4:45 PM	2	7	0	0	*9*	0	0	0	0	*0*	0	0	0	5	*5*
5:00 PM	**5**	**2**	**1**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**15**	*16*
5:15 PM	**7**	**4**	**0**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**13**	*19*
5:30 PM	**1**	**1**	**4**	**0**	***6***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**0**	**11**	*13*
5:45 PM	**1**	**4**	**1**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**15**	***15***
Count Total	33	30	10	0	*73*	2	4	1	0	*7*	14	1	0	81	*96*
Peak Hr	**14**	**11**	**6**	**0**	***31***	**0**	**1**	**0**	**0**	***1***	**8**	**1**	**0**	**54**	***63***

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				Carolan Ave Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	0	0	1	5	0	0	0	0	1	0	0	0	0	10	0
4:15 PM	0	0	9	1	0	0	3	0	0	1	0	1	0	0	0	0	15	0
4:30 PM	0	0	4	0	0	0	3	0	0	0	0	1	0	0	0	0	8	0
4:45 PM	0	0	2	0	0	1	6	0	0	0	0	0	0	0	0	0	9	42
5:00 PM	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	40
5:15 PM	**0**	**0**	**7**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	36
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**6**	34
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**31**
Count Total	0	0	32	1	0	2	28	0	0	2	0	8	0	0	0	0	73	0
Peak Hour	**0**	**0**	**14**	**0**	**0**	**0**	**11**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**31**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Broadway Eastbound			Broadway Westbound			Carolan Ave Northbound			0 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	2	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	1	0	0	0	0	0	1	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
5:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Count Total	0	1	1	1	3	0	0	0	1	0	0	0	7	0
Peak Hour	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

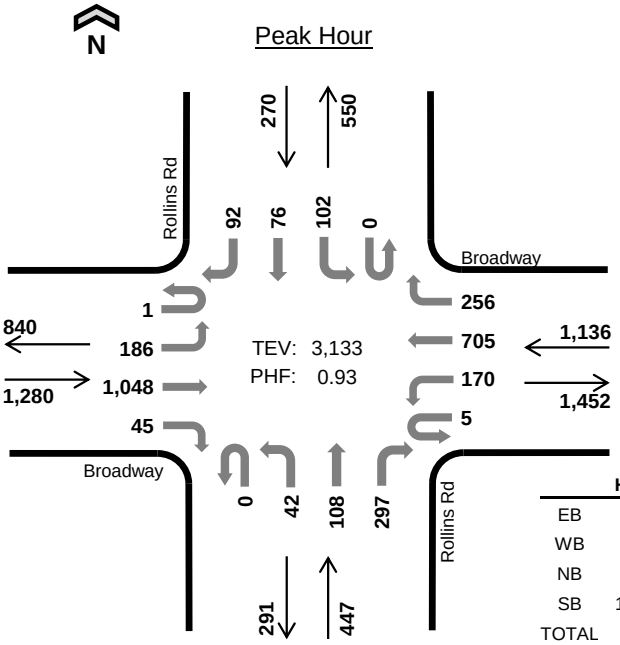
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

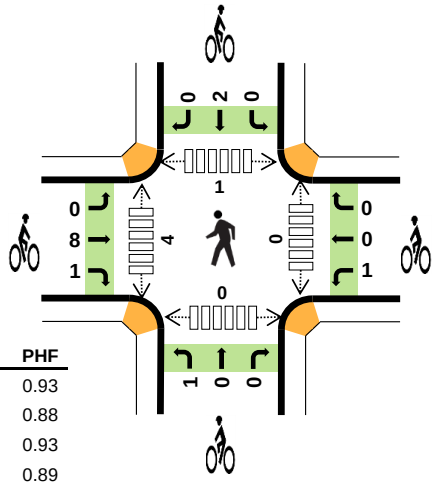
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Rollins Rd
Broadway

Peak Hour

Date: 06/20/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	2.3%	0.93
WB	4.3%	0.88
NB	1.8%	0.93
SB	13.0%	0.89
TOTAL	3.9%	0.93

Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Broadway Westbound				Rollins Rd Northbound				Rollins Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	24	243	7	1	27	135	73	0	1	13	72	0	32	7	17	653	0
7:15 AM		0	34	270	1	0	27	115	65	0	3	28	70	0	22	13	17	665	0
7:30 AM		0	24	242	3	0	39	148	68	0	10	25	86	0	30	19	15	709	0
7:45 AM		**0**	**52**	**278**	**6**	**2**	**45**	**207**	**67**	**0**	**17**	**31**	**72**	**0**	**22**	**20**	**25**	**844**	2,871
8:00 AM		**1**	**61**	**237**	**12**	**0**	**34**	**143**	**54**	**0**	**8**	**22**	**73**	**0**	**25**	**17**	**23**	**710**	2,928
8:15 AM		**0**	**36**	**290**	**19**	**2**	**42**	**179**	**79**	**0**	**8**	**29**	**75**	**0**	**26**	**25**	**25**	**835**	3,098
8:30 AM		**0**	**37**	**243**	**8**	**1**	**49**	**176**	**56**	**0**	**9**	**26**	**77**	**0**	**29**	**14**	**19**	**744**	**3,133**
8:45 AM		0	47	261	5	1	50	212	66	0	11	31	80	0	23	11	33	831	3,120
Count Total		2	315	2,064	61	7	313	1,315	528	0	67	205	605	0	209	126	174	5,991	0
Peak Hour	**All**	**1**	**186**	**1,048**	**45**	**5**	**170**	**705**	**256**	**0**	**42**	**108**	**297**	**0**	**102**	**76**	**92**	**3,133**	**0**
	HV	**0**	**5**	**23**	**2**	**0**	**3**	**29**	**17**	**0**	**2**	**1**	**5**	**0**	**22**	**7**	**6**	**122**	**0**
	HV%	**0%**	**3%**	**2%**	**4%**	**0%**	**2%**	**4%**	**7%**	**-**	**5%**	**1%**	**2%**	**-**	**22%**	**9%**	**7%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	8	2	9	*22*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 AM	5	12	1	7	*25*	5	0	0	1	*6*	0	0	4	0	*4*
7:30 AM	3	9	1	8	*21*	2	0	0	1	*3*	0	0	0	0	*0*
7:45 AM	**5**	**12**	**2**	**9**	***28***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**1**	**0**	*1*
8:00 AM	**7**	**11**	**2**	**12**	***32***	**3**	**0**	**0**	**0**	***3***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**8**	**9**	**0**	**10**	***27***	**3**	**0**	**0**	**1**	***4***	**0**	**2**	**0**	**0**	*2*
8:30 AM	**10**	**17**	**4**	**4**	***35***	**2**	**0**	**1**	**1**	***4***	**0**	**1**	**0**	**0**	***1***
8:45 AM	7	14	5	6	*32*	3	0	0	0	*3*	0	0	0	0	*0*
Count Total	48	92	17	65	*222*	19	1	1	4	*25*	0	5	5	0	*10*
Peak Hour	**30**	**49**	**8**	**35**	***122***	**9**	**1**	**1**	**2**	***13***	**0**	**4**	**1**	**0**	***5***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				Rollins Rd Northbound				Rollins Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	1	5	2	0	0	0	2	0	6	3	0	22	0
7:15 AM	0	1	4	0	0	1	7	4	0	1	0	0	0	6	0	1	25	0
7:30 AM	0	0	3	0	0	2	6	1	0	0	0	1	0	6	2	0	21	0
7:45 AM	**0**	**2**	**3**	**0**	**0**	**0**	**10**	**2**	**0**	**0**	**0**	**2**	**0**	**5**	**3**	**1**	**28**	96
8:00 AM	**0**	**1**	**6**	**0**	**0**	**0**	**7**	**4**	**0**	**1**	**0**	**1**	**0**	**10**	**0**	**2**	**32**	106
8:15 AM	**0**	**1**	**6**	**1**	**0**	**0**	**5**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**27**	108
8:30 AM	**0**	**1**	**8**	**1**	**0**	**3**	**7**	**7**	**0**	**1**	**1**	**2**	**0**	**3**	**0**	**1**	**35**	**122**
8:45 AM	0	0	7	0	0	0	10	4	0	1	1	3	0	3	2	1	32	126
Count Total	0	6	40	2	0	7	57	28	0	4	2	11	0	43	14	8	222	0
Peak Hour	**0**	**5**	**23**	**2**	**0**	**3**	**29**	**17**	**0**	**2**	**1**	**5**	**0**	**22**	**7**	**6**	**122**	**0**

Two-Hour Count Summaries - Bikes

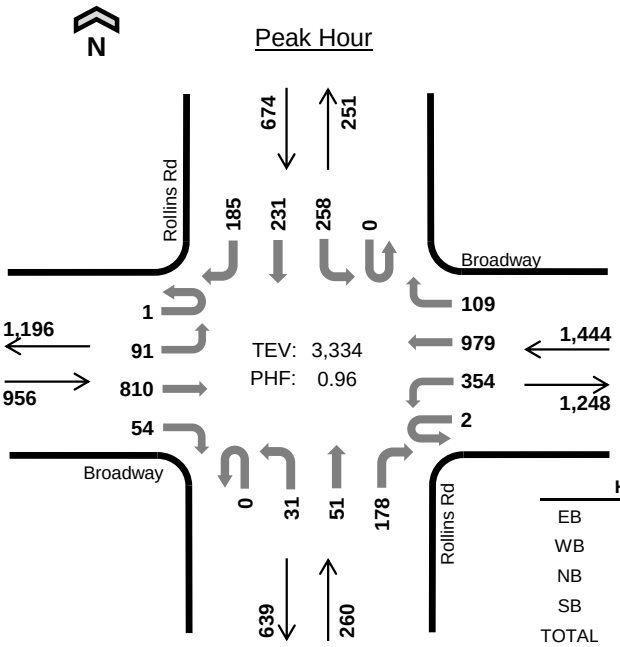
Interval Start	Broadway Eastbound			Broadway Westbound			Rollins Rd Northbound			Rollins Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	5	0	0	0	0	0	0	0	0	0	1	6	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	1	0	3	0
7:45 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
8:00 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	14
8:15 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	12
8:30 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**4**	**13**
8:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	3	14
Count Total	0	18	1	1	0	0	1	0	0	0	3	1	25	0
Peak Hour	**0**	**8**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

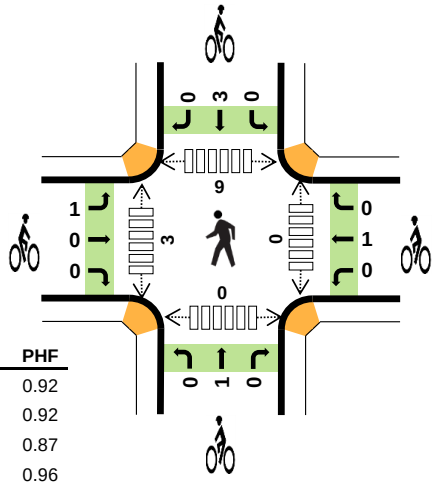
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Rollins Rd
Broadway

Date: 06/20/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.9%	0.92
WB	1.7%	0.92
NB	1.2%	0.87
SB	2.1%	0.96
TOTAL	1.5%	0.96



Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Broadway Westbound				Rollins Rd Northbound				Rollins Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	28	174	14	0	45	191	30	0	2	11	45	0	88	52	31	711	0
4:15 PM		2	31	206	17	2	59	214	31	0	7	13	41	0	54	40	38	755	0
4:30 PM		1	39	173	15	2	69	215	22	0	11	10	53	0	104	47	55	816	0
4:45 PM		0	23	219	11	1	65	235	35	0	5	15	53	0	61	32	49	804	3,086
5:00 PM		**1**	**17**	**196**	**9**	**0**	**89**	**239**	**19**	**0**	**2**	**13**	**52**	**0**	**84**	**54**	**38**	**813**	3,188
5:15 PM		**0**	**31**	**214**	**12**	**0**	**96**	**244**	**29**	**0**	**10**	**14**	**51**	**0**	**66**	**49**	**52**	**868**	3,301
5:30 PM		**0**	**10**	**192**	**14**	**2**	**86**	**265**	**40**	**0**	**7**	**14**	**45**	**0**	**57**	**56**	**44**	**832**	3,317
5:45 PM		**0**	**33**	**208**	**19**	**0**	**83**	**231**	**21**	**0**	**12**	**10**	**30**	**0**	**51**	**72**	**51**	**821**	**3,334**
Count Total		4	212	1,582	111	7	592	1,834	227	0	56	100	370	0	565	402	358	6,420	0
Peak Hour	**All**	**1**	**91**	**810**	**54**	**2**	**354**	**979**	**109**	**0**	**31**	**51**	**178**	**0**	**258**	**231**	**185**	**3,334**	**0**
	HV	**0**	**1**	**8**	**0**	**1**	**4**	**10**	**10**	**0**	**0**	**0**	**3**	**0**	**11**	**2**	**1**	**51**	**0**
	HV%	**0%**	**1%**	**1%**	**0%**	**50%**	**1%**	**1%**	**9%**	**-**	**0%**	**0%**	**2%**	**-**	**4%**	**1%**	**1%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	9	5	0	5	*19*	0	0	1	0	*1*	0	0	0	0	*0*
4:15 PM	4	8	1	4	*17*	0	0	0	1	*1*	0	1	1	0	*2*
4:30 PM	4	11	2	3	*20*	0	2	0	0	*2*	0	0	2	0	*2*
4:45 PM	2	9	1	3	*15*	0	0	0	0	*0*	0	0	2	0	*2*
5:00 PM	**2**	**3**	**2**	**3**	***10***	**0**	**1**	**0**	**1**	***2***	**0**	**1**	**3**	**0**	*4*
5:15 PM	**2**	**6**	**0**	**3**	***11***	**1**	**0**	**1**	**2**	***4***	**0**	**1**	**0**	**0**	*1*
5:30 PM	**2**	**11**	**1**	**2**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**5**	**0**	*6*
5:45 PM	**3**	**5**	**0**	**6**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
Count Total	28	58	7	29	*122*	1	3	2	4	*10*	0	4	14	0	*18*
Peak Hour	**9**	**25**	**3**	**14**	***51***	**1**	**1**	**1**	**3**	***6***	**0**	**3**	**9**	**0**	***12***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				Rollins Rd Northbound				Rollins Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	9	0	0	0	3	2	0	0	0	0	0	4	0	1	19	0
4:15 PM	0	1	3	0	0	1	1	6	0	0	1	0	0	4	0	0	17	0
4:30 PM	0	1	3	0	0	1	4	6	0	0	0	2	0	2	1	0	20	0
4:45 PM	0	0	2	0	0	2	2	5	0	0	1	0	0	2	1	0	15	71
5:00 PM	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**10**	62
5:15 PM	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**11**	56
5:30 PM	**0**	**0**	**2**	**0**	**1**	**2**	**3**	**5**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**16**	52
5:45 PM	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**14**	**51**
Count Total	0	3	25	0	1	8	20	29	0	0	2	5	0	23	4	2	122	0
Peak Hour	**0**	**1**	**8**	**0**	**1**	**4**	**10**	**10**	**0**	**0**	**0**	**3**	**0**	**11**	**2**	**1**	**51**	**0**

Two-Hour Count Summaries - Bikes

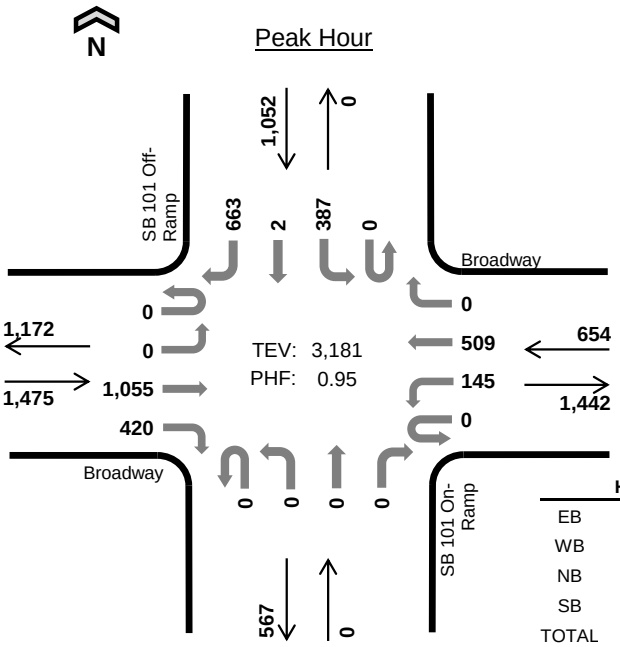
Interval Start	Broadway Eastbound			Broadway Westbound			Rollins Rd Northbound			Rollins Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	5
5:15 PM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**4**	8
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
Count Total	1	0	0	0	3	0	0	2	0	0	4	0	10	0
Peak Hour	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**6**	**0**

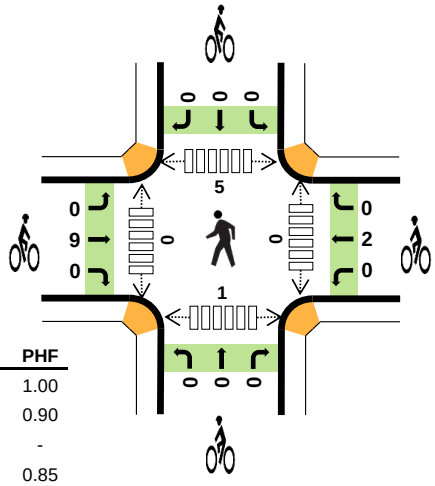
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

SB 101 On-Ramp
Broadway

Date: 06/20/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	3.3%	1.00
WB	5.5%	0.90
NB	-	-
SB	3.4%	0.85
TOTAL	3.8%	0.95

Two-Hour Count Summaries

Interval Start	Broadway Eastbound				Broadway Westbound				SB 101 On-Ramp Northbound				SB 101 Off-Ramp Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	227	128	0	24	120	0	0	0	0	0	0	41	0	110	650	0
7:15 AM	0	0	241	108	0	38	99	0	0	0	0	0	0	70	0	110	666	0
7:30 AM	0	0	244	133	0	37	122	0	0	0	0	0	0	83	0	146	765	0
7:45 AM	0	0	241	115	1	20	127	0	0	0	0	0	0	90	0	183	777	2,858
8:00 AM	**0**	**0**	**274**	**96**	**0**	**39**	**119**	**0**	**0**	**0**	**0**	**0**	**0**	**79**	**2**	**130**	**739**	2,947
8:15 AM	**0**	**0**	**262**	**108**	**0**	**38**	**117**	**0**	**0**	**0**	**0**	**0**	**0**	**116**	**0**	**192**	**833**	3,114
8:30 AM	**0**	**0**	**252**	**118**	**0**	**33**	**127**	**0**	**0**	**0**	**0**	**0**	**0**	**96**	**0**	**157**	**783**	3,132
8:45 AM	**0**	**0**	**267**	**98**	**0**	**35**	**146**	**0**	**0**	**0**	**0**	**0**	**0**	**96**	**0**	**184**	**826**	**3,181**
Count Total	0	0	2,008	904	1	264	977	0	0	0	0	0	0	671	2	1,212	6,039	0
Peak Hour All	**0**	**0**	**1,055**	**420**	**0**	**145**	**509**	**0**	**0**	**0**	**0**	**0**	**0**	**387**	**2**	**663**	**3,181**	**0**
Peak Hour HV	**0**	**0**	**25**	**24**	**0**	**15**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**20**	**121**	**0**
Peak Hour HV%	**-**	**-**	**2%**	**6%**	**-**	**10%**	**4%**	**-**	**-**	**-**	**-**	**-**	**-**	**4%**	**0%**	**3%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	9	4	0	7	*20*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	6	7	0	15	*28*	4	0	0	0	*4*	0	0	3	0	*3*
7:30 AM	9	8	0	9	*26*	3	1	0	0	*4*	0	0	0	0	*0*
7:45 AM	11	9	0	4	*24*	2	0	0	0	*2*	0	0	1	0	*1*
8:00 AM	**16**	**7**	**0**	**10**	***33***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**2**	**1**	*3*
8:15 AM	**11**	**4**	**0**	**10**	***25***	**5**	**0**	**0**	**0**	***5***	**0**	**0**	**3**	**0**	*3*
8:30 AM	**9**	**18**	**0**	**4**	***31***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**13**	**7**	**0**	**12**	***32***	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***
Count Total	84	64	0	71	*219*	18	3	0	0	*21*	0	0	9	1	*10*
Peak Hour	**49**	**36**	**0**	**36**	***121***	**9**	**2**	**0**	**0**	***11***	**0**	**0**	**5**	**1**	***6***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				SB 101 On-Ramp Northbound				SB 101 Off-Ramp Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	7	2	0	0	4	0	0	0	0	0	0	3	0	4	20	0
7:15 AM	0	0	1	5	0	2	5	0	0	0	0	0	0	7	0	8	28	0
7:30 AM	0	0	5	4	0	3	5	0	0	0	0	0	0	4	0	5	26	0
7:45 AM	0	0	4	7	0	5	4	0	0	0	0	0	0	0	0	4	24	98
8:00 AM	**0**	**0**	**9**	**7**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**7**	**33**	111
8:15 AM	**0**	**0**	**5**	**6**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**4**	**25**	108
8:30 AM	**0**	**0**	**5**	**4**	**0**	**8**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**31**	113
8:45 AM	**0**	**0**	**6**	**7**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**7**	**32**	**121**
Count Total	0	0	42	42	0	25	39	0	0	0	0	0	0	30	0	41	219	0
Peak Hour	**0**	**0**	**25**	**24**	**0**	**15**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**20**	**121**	**0**

Two-Hour Count Summaries - Bikes

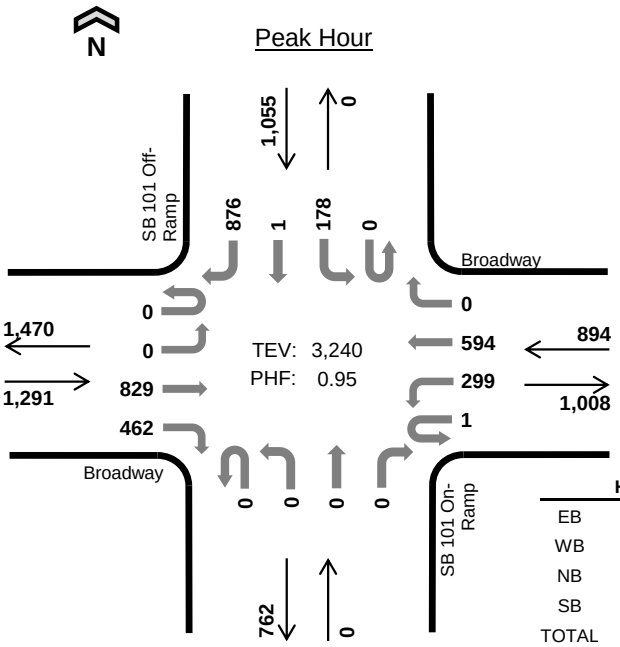
Interval Start	Broadway Eastbound			Broadway Westbound			SB 101 On-Ramp Northbound			SB 101 Off-Ramp Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	4	0	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	0	3	0	0	1	0	0	0	0	0	0	0	4	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	10
8:00 AM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	12
8:15 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	13
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	10
8:45 AM	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**11**
Count Total	0	18	0	0	3	0	0	0	0	0	0	0	21	0
Peak Hour	**0**	**9**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**

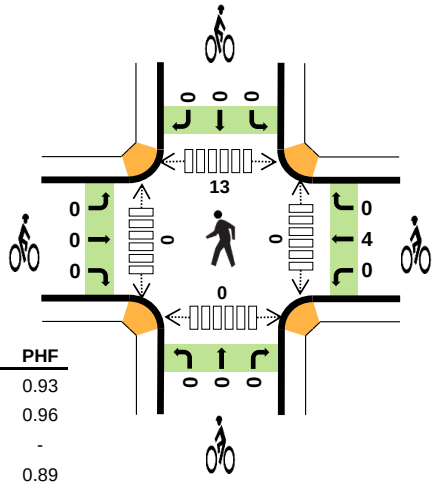
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

SB 101 On-Ramp
Broadway

Date: 06/20/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	1.9%	0.93
WB	2.3%	0.96
NB	-	-
SB	3.4%	0.89
TOTAL	2.5%	0.95

Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Broadway Westbound				SB 101 On-Ramp Northbound				SB 101 Off-Ramp Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	177	128	0	88	119	0	0	0	0	0	0	40	0	162	714	0
4:15 PM		0	0	194	118	0	74	137	0	0	0	0	0	0	37	0	176	736	0
4:30 PM		0	0	207	139	0	64	147	0	0	0	0	0	0	45	0	160	762	0
4:45 PM		**0**	**0**	**210**	**113**	**1**	**83**	**150**	**0**	**0**	**0**	**0**	**0**	**0**	**48**	**0**	**199**	**804**	3,016
5:00 PM		**0**	**0**	**225**	**115**	**0**	**79**	**152**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	**1**	**183**	**812**	3,114
5:15 PM		**0**	**0**	**222**	**124**	**0**	**65**	**143**	**0**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**258**	**850**	3,228
5:30 PM		**0**	**0**	**172**	**110**	**0**	**72**	**149**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**236**	**774**	**3,240**
5:45 PM		0	0	198	98	0	64	131	0	0	0	0	0	0	45	1	218	755	3,191
Count Total		0	0	1,605	945	1	589	1,128	0	0	0	0	0	0	345	2	1,592	6,207	0
Peak Hour	**All**	**0**	**0**	**829**	**462**	**1**	**299**	**594**	**0**	**0**	**0**	**0**	**0**	**0**	**178**	**1**	**876**	**3,240**	**0**
	HV	**0**	**0**	**10**	**15**	**0**	**4**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**13**	**82**	**0**
	HV%	**-**	**-**	**1%**	**3%**	**0%**	**1%**	**3%**	**-**	**-**	**-**	**-**	**-**	**-**	**13%**	**0%**	**1%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	7	0	5	*25*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	6	8	0	6	*20*	0	0	0	0	*0*	0	0	1	0	*1*
4:30 PM	7	6	0	11	*24*	0	2	0	0	*2*	0	0	4	0	*4*
4:45 PM	**3**	**9**	**0**	**9**	***21***	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**2**	**0**	*2*
5:00 PM	**7**	**5**	**0**	**6**	***18***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**4**	**0**	*4*
5:15 PM	**7**	**3**	**0**	**10**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
5:30 PM	**8**	**4**	**0**	**11**	***23***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**4**	**0**	***4***
5:45 PM	5	3	0	10	*18*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	56	45	0	68	*169*	0	6	0	0	*6*	0	0	20	0	*20*
Peak Hour	**25**	**21**	**0**	**36**	***82***	**0**	**4**	**0**	**0**	***4***	**0**	**0**	**13**	**0**	***13***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Broadway Westbound				SB 101 On-Ramp Northbound				SB 101 Off-Ramp Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	8	0	3	4	0	0	0	0	0	0	5	0	0	25	0
4:15 PM	0	0	4	2	0	2	6	0	0	0	0	0	0	5	0	1	20	0
4:30 PM	0	0	3	4	0	0	6	0	0	0	0	0	0	5	0	6	24	0
4:45 PM	**0**	**0**	**1**	**2**	**0**	**1**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**1**	**21**	90
5:00 PM	**0**	**0**	**4**	**3**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**18**	83
5:15 PM	**0**	**0**	**4**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**4**	**20**	83
5:30 PM	**0**	**0**	**1**	**7**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**6**	**23**	**82**
5:45 PM	0	0	2	3	0	0	3	0	0	0	0	0	0	7	0	3	18	79
Count Total	0	0	24	32	0	9	36	0	0	0	0	0	0	45	0	23	169	0
Peak Hour	**0**	**0**	**10**	**15**	**0**	**4**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**13**	**82**	**0**

Two-Hour Count Summaries - Bikes

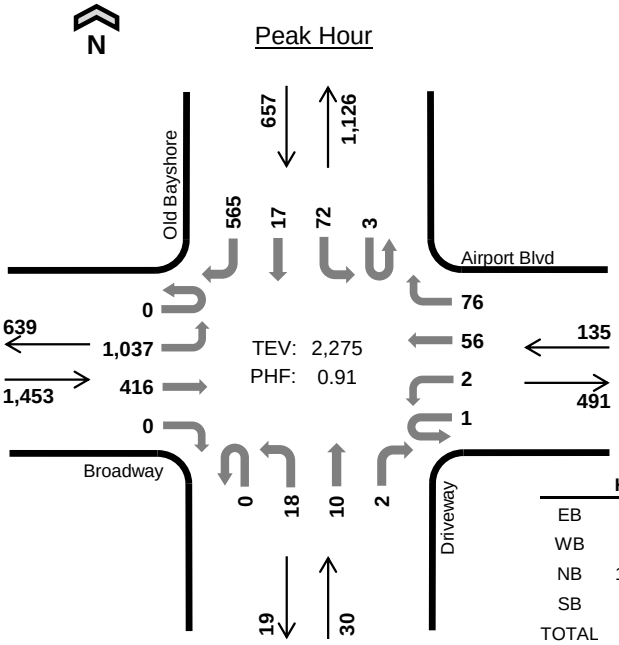
Interval Start	Broadway Eastbound			Broadway Westbound			SB 101 On-Ramp Northbound			SB 101 Off-Ramp Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	4
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	5
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	6	0	0	0	0	0	0	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

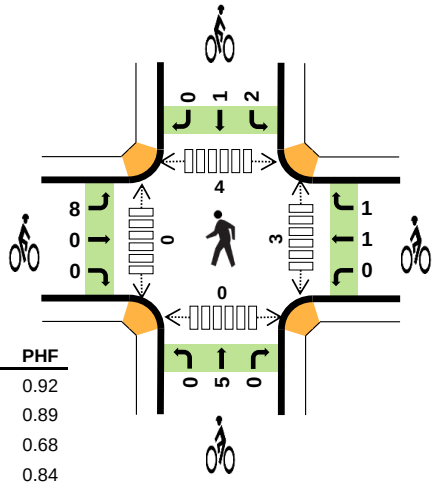
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Old Bayshore
Broadway

Date: 06/20/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	2.8%	0.92
WB	5.9%	0.89
NB	13.3%	0.68
SB	7.0%	0.84
TOTAL	4.3%	0.91

Two-Hour Count Summaries

Interval Start	Broadway Eastbound				Airport Blvd Westbound				Driveway Northbound				Old Bayshore Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	223	31	0	0	0	17	10	0	4	5	2	0	14	3	100	409	0
7:15 AM	0	252	70	0	0	4	16	10	0	1	2	1	1	7	4	119	487	0
7:30 AM	1	226	77	0	0	0	13	18	0	4	2	3	0	15	3	135	497	0
7:45 AM	0	254	79	0	0	3	7	20	0	5	5	4	0	16	3	140	536	1,929
8:00 AM	**0**	**245**	**91**	**0**	**1**	**0**	**11**	**13**	**0**	**2**	**3**	**0**	**0**	**15**	**1**	**129**	**511**	2,031
8:15 AM	**0**	**285**	**108**	**0**	**0**	**1**	**16**	**20**	**0**	**8**	**1**	**0**	**2**	**11**	**8**	**136**	**596**	2,140
8:30 AM	**0**	**236**	**101**	**0**	**0**	**0**	**16**	**22**	**0**	**6**	**3**	**2**	**1**	**27**	**2**	**130**	**546**	2,189
8:45 AM	**0**	**271**	**116**	**0**	**0**	**1**	**13**	**21**	**0**	**2**	**3**	**0**	**0**	**19**	**6**	**170**	**622**	**2,275**
Count Total	1	1,992	673	0	1	9	109	134	0	32	24	12	4	124	30	1,059	4,204	0
Peak Hour All	**0**	**1,037**	**416**	**0**	**1**	**2**	**56**	**76**	**0**	**18**	**10**	**2**	**3**	**72**	**17**	**565**	**2,275**	**0**
Peak Hour HV	**0**	**26**	**14**	**0**	**0**	**0**	**3**	**5**	**0**	**1**	**2**	**1**	**1**	**9**	**2**	**34**	**98**	**0**
Peak Hour HV%	**-**	**3%**	**3%**	**-**	**0%**	**0%**	**5%**	**7%**	**-**	**6%**	**20%**	**50%**	**33%**	**13%**	**12%**	**6%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	10	1	2	7	*20*	0	2	0	6	*8*	4	0	0	0	*4*
7:15 AM	9	1	0	8	*18*	3	0	1	3	*7*	1	0	3	0	*4*
7:30 AM	11	2	1	10	*24*	2	3	3	4	*12*	2	0	0	0	*2*
7:45 AM	7	0	1	11	*19*	0	4	0	2	*6*	1	0	3	0	*4*
8:00 AM	**11**	**3**	**1**	**9**	***24***	**1**	**0**	**1**	**2**	***4***	**1**	**0**	**1**	**0**	*2*
8:15 AM	**8**	**2**	**0**	**10**	***20***	**5**	**1**	**1**	**0**	***7***	**1**	**0**	**3**	**0**	*4*
8:30 AM	**10**	**1**	**3**	**18**	***32***	**0**	**0**	**2**	**0**	***2***	**1**	**0**	**0**	**0**	*1*
8:45 AM	**11**	**2**	**0**	**9**	***22***	**2**	**1**	**1**	**1**	***5***	**0**	**0**	**0**	**0**	***0***
Count Total	77	12	8	82	*179*	13	11	9	18	*51*	11	0	10	0	*21*
Peak Hour	**40**	**8**	**4**	**46**	***98***	**8**	**2**	**5**	**3**	***18***	**3**	**0**	**4**	**0**	***7***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Airport Blvd Westbound				Driveway Northbound				Old Bayshore Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	3	0	0	0	0	1	0	0	2	0	0	3	0	4	20	0
7:15 AM	0	5	4	0	0	0	1	0	0	0	0	0	1	1	0	6	18	0
7:30 AM	0	7	4	0	0	0	1	1	0	0	1	0	0	2	0	8	24	0
7:45 AM	0	4	3	0	0	0	0	0	0	1	0	0	0	2	1	8	19	81
8:00 AM	**0**	**10**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**3**	**1**	**5**	**24**	85
8:15 AM	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**8**	**20**	87
8:30 AM	**0**	**6**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**3**	**1**	**14**	**32**	95
8:45 AM	**0**	**7**	**4**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**7**	**22**	**98**
Count Total	0	49	28	0	0	0	5	7	0	2	5	1	2	17	3	60	179	0
Peak Hour	**0**	**26**	**14**	**0**	**0**	**0**	**3**	**5**	**0**	**1**	**2**	**1**	**1**	**9**	**2**	**34**	**98**	**0**

Two-Hour Count Summaries - Bikes

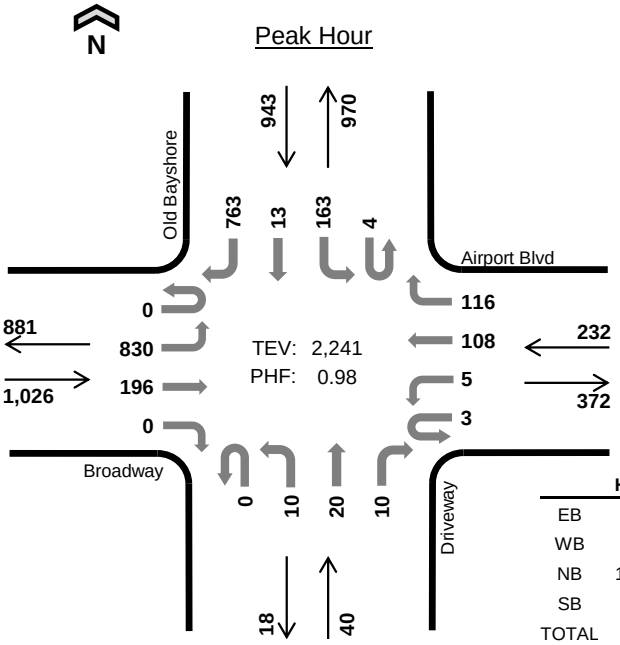
Interval Start	Broadway Eastbound			Airport Blvd Westbound			Driveway Northbound			Old Bayshore Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	2	0	0	0	6	0	0	8	0
7:15 AM	3	0	0	0	0	0	0	1	0	2	1	0	7	0
7:30 AM	2	0	0	0	0	3	0	3	0	4	0	0	12	0
7:45 AM	0	0	0	0	0	4	0	0	0	2	0	0	6	33
8:00 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**4**	29
8:15 AM	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	29
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	19
8:45 AM	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**5**	**18**
Count Total	13	0	0	0	1	10	0	9	0	16	2	0	51	0
Peak Hour	**8**	**0**	**0**	**0**	**1**	**1**	**0**	**5**	**0**	**2**	**1**	**0**	**18**	**0**

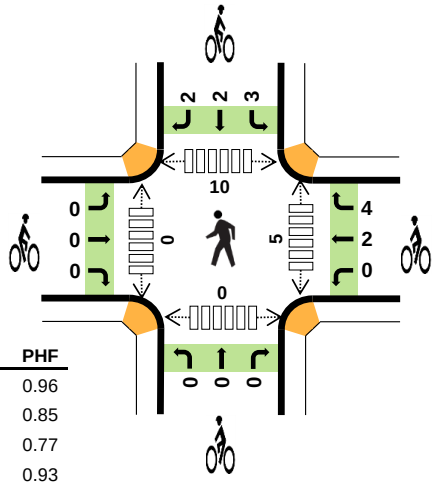
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Old Bayshore
Broadway

Date: 06/20/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	3.1%	0.96
WB	5.6%	0.85
NB	10.0%	0.77
SB	2.4%	0.93
TOTAL	3.2%	0.98

Two-Hour Count Summaries

Interval Start		Broadway Eastbound				Airport Blvd Westbound				Driveway Northbound				Old Bayshore Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		2	172	43	0	0	0	25	21	0	6	1	2	0	36	2	180	490	0
4:15 PM		0	176	37	0	0	0	24	19	0	1	5	1	1	14	5	171	454	0
4:30 PM		**0**	**208**	**53**	**0**	**1**	**0**	**21**	**23**	**0**	**1**	**6**	**3**	**0**	**50**	**4**	**199**	**569**	0
4:45 PM		**0**	**206**	**48**	**0**	**0**	**2**	**34**	**24**	**0**	**4**	**2**	**1**	**2**	**37**	**4**	**196**	**560**	2,073
5:00 PM		**0**	**219**	**48**	**0**	**1**	**0**	**26**	**32**	**0**	**2**	**7**	**1**	**1**	**37**	**1**	**196**	**571**	2,154
5:15 PM		**0**	**197**	**47**	**0**	**1**	**3**	**27**	**37**	**0**	**3**	**5**	**5**	**1**	**39**	**4**	**172**	**541**	**2,241**
5:30 PM		0	187	40	0	0	1	27	22	0	2	2	5	0	33	8	196	523	2,195
5:45 PM		0	195	34	0	0	2	26	32	0	1	5	5	1	34	5	198	538	2,173
Count Total		2	1,560	350	0	3	8	210	210	0	20	33	23	6	280	33	1,508	4,246	0
Peak Hour	**All**	**0**	**830**	**196**	**0**	**3**	**5**	**108**	**116**	**0**	**10**	**20**	**10**	**4**	**163**	**13**	**763**	**2,241**	**0**
	HV	**0**	**12**	**20**	**0**	**2**	**1**	**4**	**6**	**0**	**0**	**3**	**1**	**0**	**3**	**1**	**19**	**72**	**0**
	HV%	**-**	**1%**	**10%**	**-**	**67%**	**20%**	**4%**	**5%**	**-**	**0%**	**15%**	**10%**	**0%**	**2%**	**8%**	**2%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	10	5	1	5	*21*	0	0	0	1	*1*	2	0	0	0	*2*
4:15 PM	7	3	0	6	*16*	0	0	0	3	*3*	4	0	2	0	*6*
4:30 PM	**8**	**4**	**1**	**8**	***21***	**0**	**1**	**0**	**0**	***1***	**1**	**0**	**3**	**0**	*4*
4:45 PM	**6**	**2**	**0**	**9**	***17***	**0**	**2**	**0**	**3**	***5***	**0**	**0**	**2**	**0**	*2*
5:00 PM	**9**	**3**	**2**	**3**	***17***	**0**	**3**	**0**	**3**	***6***	**3**	**0**	**2**	**0**	*5*
5:15 PM	**9**	**4**	**1**	**3**	***17***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**3**	**0**	***4***
5:30 PM	5	2	2	4	*13*	0	0	0	4	*4*	0	0	3	0	*3*
5:45 PM	9	2	0	2	*13*	0	0	0	1	*1*	1	0	2	0	*3*
Count Total	63	25	7	40	*135*	0	6	0	16	*22*	12	0	17	0	*29*
Peak Hour	**32**	**13**	**4**	**23**	***72***	**0**	**6**	**0**	**7**	***13***	**5**	**0**	**10**	**0**	***15***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Broadway Eastbound				Airport Blvd Westbound				Driveway Northbound				Old Bayshore Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	6	0	0	0	4	1	0	0	1	0	0	1	0	4	21	0
4:15 PM	0	1	6	0	0	0	2	1	0	0	0	0	0	0	0	6	16	0
4:30 PM	**0**	**3**	**5**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**5**	**21**	0
4:45 PM	**0**	**1**	**5**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	**17**	75
5:00 PM	**0**	**3**	**6**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**17**	71
5:15 PM	**0**	**5**	**4**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**17**	**72**
5:30 PM	0	1	4	0	0	0	1	1	0	0	1	1	0	0	1	3	13	64
5:45 PM	0	3	6	0	0	0	1	1	0	0	0	0	0	0	0	2	13	60
Count Total	0	21	42	0	2	1	12	10	0	0	5	2	0	4	2	34	135	0
Peak Hour	**0**	**12**	**20**	**0**	**2**	**1**	**4**	**6**	**0**	**0**	**3**	**1**	**0**	**3**	**1**	**19**	**72**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Broadway Eastbound			Airport Blvd Westbound			Driveway Northbound			Old Bayshore Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	3	0
4:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**1**	**5**	10
5:00 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**1**	**6**	15
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**13**
5:30 PM	0	0	0	0	0	0	0	0	0	1	1	2	4	16
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	12
Count Total	0	0	0	0	2	4	0	0	0	8	3	5	22	0
Peak Hour	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**3**	**2**	**2**	**13**	**0**

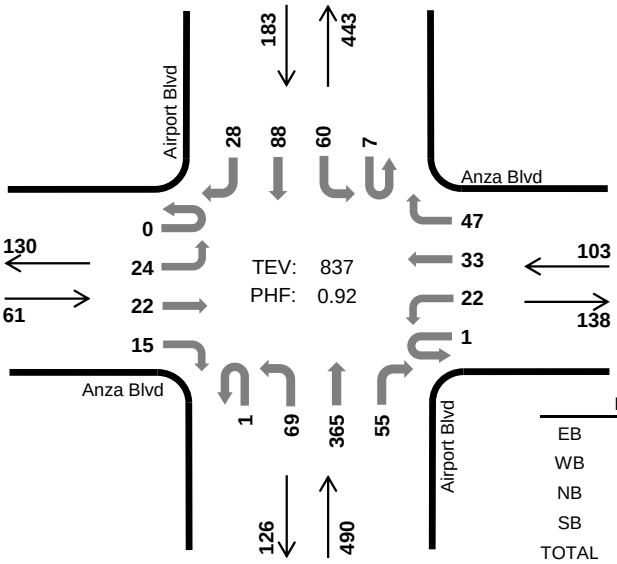
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

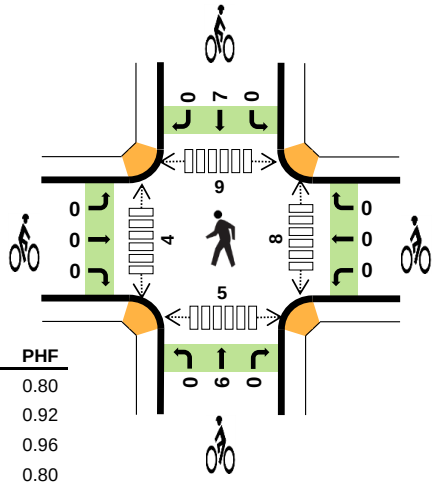
Airport Blvd
Anza Blvd

Date: 05/23/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	6.6%	0.80
WB	6.8%	0.92
NB	4.1%	0.96
SB	8.7%	0.80
TOTAL	5.6%	0.92



Two-Hour Count Summaries

Interval Start	Anza Blvd Eastbound				Anza Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	4	2	0	4	6	10	0	9	41	11	1	9	12	3	114	0
7:15 AM	0	2	8	6	3	3	11	7	1	7	49	8	1	11	19	6	142	0
7:30 AM	0	7	8	6	1	8	5	10	0	11	60	8	1	16	22	9	172	0
7:45 AM	0	4	5	5	1	3	9	10	0	11	74	10	4	20	15	6	177	605
8:00 AM	**0**	**5**	**4**	**5**	**0**	**6**	**7**	**15**	**0**	**13**	**95**	**20**	**2**	**11**	**20**	**8**	**211**	702
8:15 AM	**0**	**9**	**5**	**2**	**0**	**8**	**7**	**11**	**0**	**24**	**76**	**15**	**0**	**15**	**25**	**7**	**204**	764
8:30 AM	**0**	**8**	**8**	**3**	**0**	**5**	**10**	**13**	**0**	**17**	**93**	**13**	**2**	**26**	**24**	**5**	**227**	819
8:45 AM	**0**	**2**	**5**	**5**	**1**	**3**	**9**	**8**	**1**	**15**	**101**	**7**	**3**	**8**	**19**	**8**	**195**	**837**
Count Total	0	39	47	34	6	40	64	84	2	107	589	92	14	116	156	52	1,442	0
Peak Hour All	**0**	**24**	**22**	**15**	**1**	**22**	**33**	**47**	**1**	**69**	**365**	**55**	**7**	**60**	**88**	**28**	**837**	**0**
Peak Hour HV	**0**	**1**	**3**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**15**	**3**	**0**	**9**	**4**	**3**	**47**	**0**
Peak Hour HV%	**-**	**4%**	**14%**	**0%**	**0%**	**14%**	**0%**	**9%**	**0%**	**3%**	**4%**	**5%**	**0%**	**15%**	**5%**	**11%**	**6%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	1	8	6	*16*	0	0	1	2	*3*	0	1	3	0	*4*
7:15 AM	1	0	5	8	*14*	0	0	9	3	*12*	0	0	2	2	*4*
7:30 AM	1	2	3	4	*10*	0	0	1	0	*1*	2	0	2	0	*4*
7:45 AM	1	1	9	5	*16*	0	0	5	3	*8*	4	0	6	1	*11*
8:00 AM	**0**	**4**	**8**	**3**	***15***	**0**	**0**	**1**	**2**	***3***	**1**	**4**	**2**	**1**	*8*
8:15 AM	**1**	**2**	**3**	**6**	***12***	**0**	**0**	**1**	**3**	***4***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**2**	**1**	**6**	**3**	***12***	**0**	**0**	**1**	**1**	***2***	**2**	**0**	**2**	**3**	*7*
8:45 AM	**1**	**0**	**3**	**4**	***8***	**0**	**0**	**3**	**1**	***4***	**4**	**0**	**5**	**1**	***10***
Count Total	8	11	45	39	*103*	0	0	22	15	*37*	14	5	22	8	*49*
Peak Hour	**4**	**7**	**20**	**16**	***47***	**0**	**0**	**6**	**7**	***13***	**8**	**4**	**9**	**5**	***26***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Anza Blvd Eastbound				Anza Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	1	0	0	6	2	0	3	2	1	16	0
7:15 AM	0	1	0	0	0	0	0	0	0	1	4	0	0	5	2	1	14	0
7:30 AM	0	0	1	0	0	2	0	0	0	0	2	1	0	3	1	0	10	0
7:45 AM	0	0	1	0	0	1	0	0	0	0	9	0	0	4	0	1	16	56
8:00 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**1**	**5**	**2**	**0**	**1**	**1**	**1**	**15**	55
8:15 AM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**3**	**2**	**1**	**12**	53
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	**1**	**0**	**3**	**0**	**0**	**12**	55
8:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**2**	**1**	**1**	**8**	**47**
Count Total	0	2	6	0	0	6	0	5	0	3	36	6	0	24	9	6	103	0
Peak Hour	**0**	**1**	**3**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**15**	**3**	**0**	**9**	**4**	**3**	**47**	**0**

Two-Hour Count Summaries - Bikes

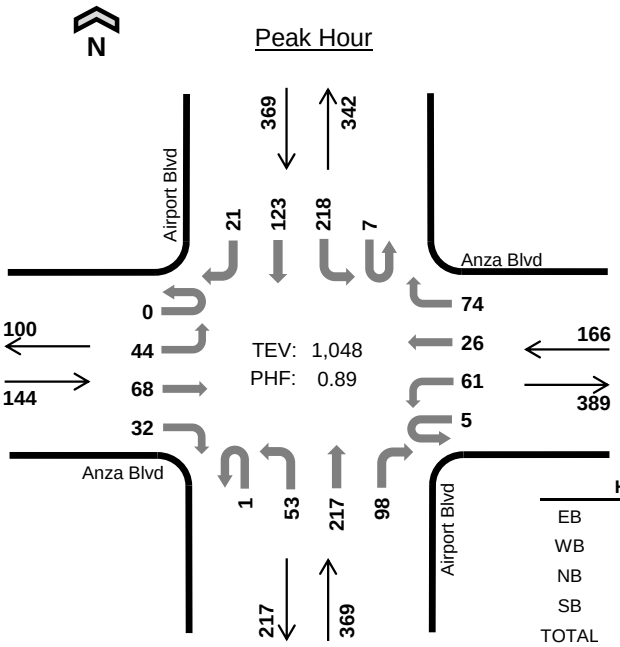
Interval Start	Anza Blvd Eastbound			Anza Blvd Westbound			Airport Blvd Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	0	0	9	0	0	3	0	12	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	1	4	0	0	3	0	8	24
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**3**	24
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**4**	16
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	17
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**4**	**13**
Count Total	0	0	0	0	0	0	1	21	0	0	15	0	37	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**7**	**0**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

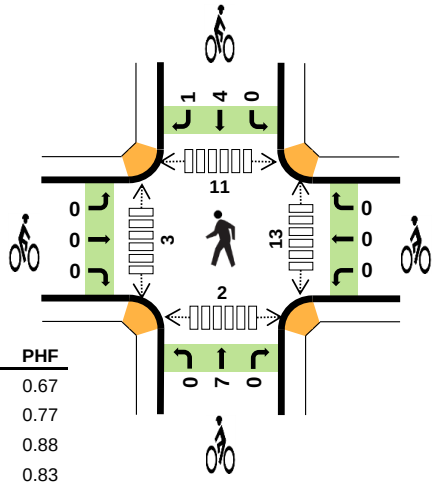
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Airport Blvd
Anza Blvd

Date: 05/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	3.5%	0.67
WB	3.6%	0.77
NB	5.1%	0.88
SB	5.1%	0.83
TOTAL	4.7%	0.89



Two-Hour Count Summaries

Interval Start	Anza Blvd Eastbound				Anza Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	9	15	7	1	19	5	11	0	19	66	25	0	48	33	11	269	0
4:15 PM	0	15	17	6	1	10	5	10	0	12	51	14	0	31	26	2	200	0
4:30 PM	0	16	25	11	0	8	5	7	0	10	45	12	2	43	23	6	213	0
4:45 PM	0	12	14	4	0	7	6	8	0	7	48	12	3	34	23	4	182	864
5:00 PM	**0**	**10**	**29**	**15**	**1**	**10**	**4**	**12**	**1**	**12**	**60**	**29**	**1**	**71**	**34**	**5**	**294**	889
5:15 PM	**0**	**11**	**14**	**3**	**2**	**14**	**9**	**16**	**0**	**9**	**54**	**42**	**1**	**53**	**31**	**3**	**262**	951
5:30 PM	**0**	**9**	**15**	**8**	**1**	**19**	**7**	**27**	**0**	**16**	**55**	**18**	**2**	**45**	**32**	**3**	**257**	995
5:45 PM	**0**	**14**	**10**	**6**	**1**	**18**	**6**	**19**	**0**	**16**	**48**	**9**	**3**	**49**	**26**	**10**	**235**	**1,048**
Count Total	0	96	139	60	7	105	47	110	1	101	427	161	12	374	228	44	1,912	0
Peak Hour All	**0**	**44**	**68**	**32**	**5**	**61**	**26**	**74**	**1**	**53**	**217**	**98**	**7**	**218**	**123**	**21**	**1,048**	**0**
Peak Hour HV	**0**	**1**	**3**	**1**	**0**	**4**	**0**	**2**	**0**	**1**	**17**	**1**	**0**	**10**	**5**	**4**	**49**	**0**
Peak Hour HV%	**-**	**2%**	**4%**	**3%**	**0%**	**7%**	**0%**	**3%**	**0%**	**2%**	**8%**	**1%**	**0%**	**5%**	**4%**	**19%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	5	4	*13*	0	0	0	1	*1*	1	0	0	0	*1*
4:15 PM	2	2	5	2	*11*	0	0	4	0	*4*	6	0	2	0	*8*
4:30 PM	1	1	3	4	*9*	0	0	1	0	*1*	3	0	0	0	*3*
4:45 PM	2	1	7	5	*15*	0	0	0	1	*1*	2	3	5	3	*13*
5:00 PM	**1**	**2**	**4**	**6**	***13***	**0**	**0**	**3**	**1**	***4***	**4**	**0**	**4**	**1**	*9*
5:15 PM	**0**	**3**	**7**	**3**	***13***	**0**	**0**	**0**	**2**	***2***	**2**	**3**	**2**	**0**	*7*
5:30 PM	**1**	**1**	**4**	**4**	***10***	**0**	**0**	**2**	**1**	***3***	**4**	**0**	**2**	**0**	*6*
5:45 PM	**3**	**0**	**4**	**6**	***13***	**0**	**0**	**2**	**1**	***3***	**3**	**0**	**3**	**1**	***7***
Count Total	12	12	39	34	*97*	0	0	12	7	*19*	25	6	18	5	*54*
Peak Hour	**5**	**6**	**19**	**19**	***49***	**0**	**0**	**7**	**5**	***12***	**13**	**3**	**11**	**2**	***29***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Anza Blvd Eastbound				Anza Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	1	0	1	0	1	3	1	0	0	3	1	13	0
4:15 PM	0	1	1	0	0	1	0	1	0	1	4	0	0	1	1	0	11	0
4:30 PM	0	0	1	0	0	0	0	1	0	0	3	0	0	2	1	1	9	0
4:45 PM	0	0	2	0	0	0	0	1	0	0	7	0	0	3	1	1	15	48
5:00 PM	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**4**	**1**	**1**	**13**	48
5:15 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**7**	**0**	**0**	**2**	**0**	**1**	**13**	50
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**	**0**	**0**	**2**	**2**	**0**	**10**	51
5:45 PM	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**2**	**2**	**2**	**13**	**49**
Count Total	0	2	9	1	0	6	0	6	0	3	34	2	0	16	11	7	97	0
Peak Hour	**0**	**1**	**3**	**1**	**0**	**4**	**0**	**2**	**0**	**1**	**17**	**1**	**0**	**10**	**5**	**4**	**49**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Anza Blvd Eastbound			Anza Blvd Westbound			Airport Blvd Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	4	0	0	0	0	4	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	7
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**4**	10
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	8
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	10
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	**12**
Count Total	0	0	0	0	0	0	0	12	0	0	6	1	19	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**4**	**1**	**12**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Appendix B
Level of Service Calculations



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	50	66	379	388	34
Future Volume (vph)	20	50	66	379	388	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3496	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3496	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	50	66	379	388	34
RTOR Reduction (vph)	47	0	0	0	5	0
Lane Group Flow (vph)	23	0	66	379	417	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	4.6		5.4	54.2	44.3	
Effective Green, g (s)	4.6		5.4	54.2	44.3	
Actuated g/C Ratio	0.07		0.08	0.80	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	112		140	2829	2284	
v/s Ratio Prot	c0.01		c0.04	0.11	c0.12	
v/s Ratio Perm						
v/c Ratio	0.21		0.47	0.13	0.18	
Uniform Delay, d1	29.9		29.8	1.5	4.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		2.5	0.1	0.2	
Delay (s)	30.8		32.3	1.6	4.8	
Level of Service	C		C	A	A	
Approach Delay (s)	30.8			6.2	4.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	7	418	12	10	5	816	284	7	8	227	88
Future Volume (vph)	344	7	418	12	10	5	816	284	7	8	227	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.90	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1501	1504		1777		3433	3526		1770	3539	1583
Flt Permitted	0.95	0.99	1.00		0.74		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1501	1504		1345		3433	3526		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	344	7	418	12	10	5	816	284	7	8	227	88
RTOR Reduction (vph)	0	58	159	0	5	0	0	2	0	0	0	78
Lane Group Flow (vph)	268	196	88	0	22	0	816	289	0	8	227	10
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.8	37.8	37.8		7.6		30.9	37.2		5.5	11.8	11.8
Effective Green, g (s)	37.8	37.8	37.8		7.6		30.9	37.2		5.5	11.8	11.8
Actuated g/C Ratio	0.36	0.36	0.36		0.07		0.29	0.35		0.05	0.11	0.11
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	598	534	535		96		999	1236		91	393	176
v/s Ratio Prot	c0.16	0.13					c0.24	0.08		0.00	c0.06	
v/s Ratio Perm			0.06		c0.02							0.01
v/c Ratio	0.45	0.37	0.16		0.23		0.82	0.23		0.09	0.58	0.06
Uniform Delay, d1	26.2	25.3	23.4		46.5		35.0	24.4		47.9	44.8	42.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	1.9	0.7		5.6		5.3	0.1		0.4	2.1	0.1
Delay (s)	28.6	27.2	24.0		52.1		40.2	24.5		48.3	46.8	42.3
Level of Service	C	C	C		D		D	C		D	D	D
Approach Delay (s)		26.7			52.1			36.1			45.6	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	106.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	378	23	322	326	261	38	361	378	443	339	13
Future Volume (veh/h)	6	378	23	322	326	261	38	361	378	443	339	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	378	23	322	326	0	38	361	0	443	339	13
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	458	28	321	337	287	51	1399	626	516	920	35
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.00	0.03	0.40	0.00	0.15	0.52	0.52
Sat Flow, veh/h	1774	3390	206	1774	1863	1583	1774	3539	1583	3442	1782	68
Grp Volume(v), veh/h	6	197	204	322	326	0	38	361	0	443	0	352
Grp Sat Flow(s),veh/h/ln	1774	1770	1826	1774	1863	1583	1774	1770	1583	1721	0	1851
Q Serve(g_s), s	0.4	14.0	14.1	23.5	22.5	0.0	2.8	8.9	0.0	16.3	0.0	14.7
Cycle Q Clear(g_c), s	0.4	14.0	14.1	23.5	22.5	0.0	2.8	8.9	0.0	16.3	0.0	14.7
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	240	239	247	321	337	287	51	1399	626	516	0	956
V/C Ratio(X)	0.03	0.82	0.83	1.00	0.97	0.00	0.75	0.26	0.00	0.86	0.00	0.37
Avail Cap(c_a), veh/h	324	323	334	321	337	287	178	1399	626	729	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.7	54.6	54.7	53.1	52.7	0.0	62.6	26.4	0.0	53.8	0.0	18.7
Incr Delay (d2), s/veh	0.0	11.8	12.0	50.8	40.0	0.0	19.1	0.4	0.0	7.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.7	8.0	16.0	15.3	0.0	1.6	4.4	0.0	8.3	0.0	7.8
LnGrp Delay(d),s/veh	48.7	66.4	66.6	104.0	92.7	0.0	81.7	26.9	0.0	61.2	0.0	19.8
LnGrp LOS	D	E	E	F	F		F	C		E		B
Approach Vol, veh/h		407			648			399			795	
Approach Delay, s/veh		66.2			98.3			32.1			42.9	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.9	55.8		22.0	8.2	71.5		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	18.3	10.9		16.1	4.8	16.7		25.5
Green Ext Time (p_c), s	1.1	5.3		1.4	0.0	5.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	61.2
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1069	162	114	839	0	72	0	291	0	0	0
Future Volume (veh/h)	1	1069	162	114	839	0	72	0	291	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	1069	162	114	839	0	72	0	291			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	278	1776	269	173	1727	0	769	0	686			
Arrive On Green	0.40	0.40	0.40	0.05	0.49	0.00	0.43	0.00	0.43			
Sat Flow, veh/h	653	4459	675	3442	3632	0	1774	0	1583			
Grp Volume(v), veh/h	1	812	419	114	839	0	72	0	291			
Grp Sat Flow(s),veh/h/ln	653	1695	1744	1721	1770	0	1774	0	1583			
Q Serve(g_s), s	0.1	21.7	21.7	3.7	18.2	0.0	2.7	0.0	14.6			
Cycle Q Clear(g_c), s	8.0	21.7	21.7	3.7	18.2	0.0	2.7	0.0	14.6			
Prop In Lane	1.00		0.39	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	278	1351	695	173	1727	0	769	0	686			
V/C Ratio(X)	0.00	0.60	0.60	0.66	0.49	0.00	0.09	0.00	0.42			
Avail Cap(c_a), veh/h	375	1854	954	437	2524	0	769	0	686			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.8	27.2	27.2	53.3	19.6	0.0	19.1	0.0	22.5			
Incr Delay (d2), s/veh	0.0	0.4	0.8	4.2	0.2	0.0	0.2	0.0	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	10.2	10.6	1.9	8.9	0.0	1.4	0.0	6.7			
LnGrp Delay(d),s/veh	25.8	27.6	28.1	57.5	19.8	0.0	19.4	0.0	24.4			
LnGrp LOS	C	C	C	E	B		B		C			
Approach Vol, veh/h		1232			953			363				
Approach Delay, s/veh		27.8			24.3			23.4				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	10.2	50.0				60.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		16.6	5.7	23.7				20.2
Green Ext Time (p_c), s		1.5	0.2	21.8				26.9

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1048	45	175	705	256	42	108	297	102	76	92
Future Volume (veh/h)	187	1048	45	175	705	256	42	108	297	102	76	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	1048	45	175	705	0	42	108	297	102	76	92
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1643	70	247	1652	514	601	631	536	290	157	133
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.00	0.34	0.34	0.34	0.08	0.08	0.08
Sat Flow, veh/h	3442	5001	215	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	187	710	383	175	705	0	42	108	297	102	76	92
Grp Sat Flow(s),veh/h/ln	1721	1695	1825	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	5.4	18.1	18.2	5.1	11.1	0.0	1.6	4.1	15.6	2.8	4.0	5.8
Cycle Q Clear(g_c), s	5.4	18.1	18.2	5.1	11.1	0.0	1.6	4.1	15.6	2.8	4.0	5.8
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1114	600	247	1652	514	601	631	536	290	157	133
V/C Ratio(X)	0.72	0.64	0.64	0.71	0.43	0.00	0.07	0.17	0.55	0.35	0.48	0.69
Avail Cap(c_a), veh/h	490	1414	761	490	2122	661	601	631	536	693	375	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	29.0	29.1	46.2	27.0	0.0	22.8	23.6	27.4	44.0	44.5	45.4
Incr Delay (d2), s/veh	3.7	0.6	1.2	3.7	0.2	0.0	0.2	0.6	4.1	0.7	2.3	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.6	9.3	2.5	5.2	0.0	0.8	2.2	7.4	1.4	2.1	2.7
LnGrp Delay(d),s/veh	49.8	29.7	30.2	49.9	27.1	0.0	23.0	24.2	31.5	44.8	46.8	51.6
LnGrp LOS	D	C	C	D	C		C	C	C	D	D	D
Approach Vol, veh/h		1280			880			447			270	
Approach Delay, s/veh		32.8			31.7			29.0			47.7	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	11.8	38.0		13.1	12.2	37.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		17.6	7.1	20.2		7.8	7.4	13.1
Green Ext Time (p_c), s		1.6	0.3	13.3		0.8	0.3	15.6

Intersection Summary	
HCM 2010 Ctrl Delay	33.2
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1055	420	145	509	0	0	0	0	387	2	663
Future Volume (vph)	0	1055	420	145	509	0	0	0	0	387	2	663
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4748	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4748	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1055	420	145	509	0	0	0	0	387	2	663
RTOR Reduction (vph)	0	8	174	0	0	0	0	0	0	0	0	368
Lane Group Flow (vph)	0	1139	154	145	509	0	0	0	0	0	389	295
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		38.6	38.6	9.9	53.0						49.8	49.8
Effective Green, g (s)		38.6	38.6	9.9	53.0						49.8	49.8
Actuated g/C Ratio		0.35	0.35	0.09	0.47						0.45	0.45
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1639	470	303	1677						790	1608
v/s Ratio Prot		c0.24		c0.04	0.14							
v/s Ratio Perm			0.11								0.22	0.08
v/c Ratio		0.70	0.33	0.48	0.30						0.49	0.18
Uniform Delay, d1		31.5	27.0	48.5	18.1						22.0	18.7
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.3	0.4	1.2	0.1						0.5	0.3
Delay (s)		32.8	27.4	49.7	18.2						22.5	19.0
Level of Service		C	C	D	B						C	B
Approach Delay (s)		31.6			25.2			0.0			20.3	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1037	416	0	3	56	76	18	10	2	75	17	565
Future Volume (vph)	1037	416	0	3	56	76	18	10	2	75	17	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.97	1.00
Satd. Flow (prot)	3433	3539		1770	3539	1583		3402		1681	1716	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.70		0.95	0.97	1.00
Satd. Flow (perm)	3433	3539		1770	3539	1583		2437		1681	1716	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1037	416	0	3	56	76	18	10	2	75	17	565
RTOR Reduction (vph)	0	0	0	0	0	71	0	2	0	0	0	233
Lane Group Flow (vph)	1037	416	0	3	56	5	0	28	0	46	46	332
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	34.7	39.0		1.1	5.4	5.4		10.8		13.9	13.9	48.6
Effective Green, g (s)	34.7	39.0		1.1	5.4	5.4		10.8		13.9	13.9	48.6
Actuated g/C Ratio	0.42	0.47		0.01	0.07	0.07		0.13		0.17	0.17	0.59
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1438	1666		23	230	103		317		282	288	1635
v/s Ratio Prot	c0.30	c0.12		0.00	c0.02					0.03	0.03	c0.08
v/s Ratio Perm						0.00		c0.01				0.03
v/c Ratio	0.72	0.25		0.13	0.24	0.05		0.09		0.16	0.16	0.20
Uniform Delay, d1	20.0	13.1		40.4	36.8	36.3		31.7		29.5	29.5	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	0.1		2.6	0.6	0.2		0.6		1.2	1.2	0.1
Delay (s)	21.8	13.2		42.9	37.3	36.5		32.2		30.7	30.6	8.1
Level of Service	C	B		D	D	D		C		C	C	A
Approach Delay (s)		19.4			37.0			32.2			11.2	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	82.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	22	15	23	33	47	70	365	55	67	88	28
Future Volume (vph)	24	22	15	23	33	47	70	365	55	67	88	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1762	1583		3261		1770	3470		1770	3411	
Flt Permitted	0.95	1.00	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1762	1583		2949		1770	3470		1770	3411	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	22	15	23	33	47	70	365	55	67	88	28
RTOR Reduction (vph)	0	0	14	0	44	0	0	16	0	0	15	0
Lane Group Flow (vph)	22	24	1	0	59	0	70	404	0	67	101	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1620		133	1593	
v/s Ratio Prot	0.01	c0.01					c0.04	c0.12		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.22	0.24	0.01		0.33		0.53	0.25		0.50	0.06	
Uniform Delay, d1	23.9	23.9	23.6		23.9		23.6	8.5		23.6	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.2	0.0		1.1		3.7	0.4		3.0	0.1	
Delay (s)	25.0	25.1	23.6		25.0		27.4	8.9		26.6	7.8	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.7			25.0			11.5			14.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	31	111	36	383	493	34
Future Volume (vph)	31	111	36	383	493	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3505	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	111	36	383	493	34
RTOR Reduction (vph)	101	0	0	0	4	0
Lane Group Flow (vph)	41	0	36	383	523	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.2		3.2	50.8	43.1	
Effective Green, g (s)	6.2		3.2	50.8	43.1	
Actuated g/C Ratio	0.09		0.05	0.77	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	154		85	2723	2288	
v/s Ratio Prot	c0.03		c0.02	0.11	c0.15	
v/s Ratio Perm						
v/c Ratio	0.27		0.42	0.14	0.23	
Uniform Delay, d1	27.8		30.5	2.0	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		3.4	0.1	0.2	
Delay (s)	28.7		33.9	2.1	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	28.7			4.8	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	4	357	17	11	5	743	220	18	12	572	174
Future Volume (vph)	137	4	357	17	11	5	743	220	18	12	572	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1460	1504		1779		3433	3499		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1460	1504		1779		3433	3499		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	137	4	357	17	11	5	743	220	18	12	572	174
RTOR Reduction (vph)	0	127	138	0	4	0	0	5	0	0	0	99
Lane Group Flow (vph)	123	62	48	0	29	0	743	233	0	12	572	75
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.9	29.9	29.9		8.6		30.6	56.7		2.6	28.7	28.7
Effective Green, g (s)	29.9	29.9	29.9		8.6		30.6	56.7		2.6	28.7	28.7
Actuated g/C Ratio	0.26	0.26	0.26		0.07		0.26	0.49		0.02	0.25	0.25
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	434	376	388		132		907	1713		39	877	392
v/s Ratio Prot	c0.07	0.04			c0.02		c0.22	0.07		0.01	c0.16	
v/s Ratio Perm			0.03									0.05
v/c Ratio	0.28	0.17	0.12		0.22		0.82	0.14		0.31	0.65	0.19
Uniform Delay, d1	34.4	33.3	32.9		50.5		40.0	16.2		55.7	39.1	34.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.9	0.7		3.8		5.8	0.0		4.4	1.8	0.2
Delay (s)	36.0	34.2	33.6		54.3		45.8	16.2		60.2	40.8	34.6
Level of Service	D	C	C		D		D	B		E	D	C
Approach Delay (s)		34.4			54.3			38.6			39.7	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	193	54	360	428	384	46	413	340	309	350	36
Future Volume (veh/h)	19	193	54	360	428	384	46	413	340	309	350	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	19	193	54	360	428	0	46	413	0	309	350	36
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	255	70	472	495	421	59	1394	624	378	781	80
Arrive On Green	0.09	0.09	0.09	0.27	0.27	0.00	0.03	0.39	0.00	0.11	0.47	0.47
Sat Flow, veh/h	1774	2750	750	1774	1863	1583	1774	3539	1583	3442	1662	171
Grp Volume(v), veh/h	19	122	125	360	428	0	46	413	0	309	0	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1730	1774	1863	1583	1774	1770	1583	1721	0	1833
Q Serve(g_s), s	1.3	8.8	9.2	24.4	28.6	0.0	3.4	10.5	0.0	11.5	0.0	18.5
Cycle Q Clear(g_c), s	1.3	8.8	9.2	24.4	28.6	0.0	3.4	10.5	0.0	11.5	0.0	18.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	165	164	161	472	495	421	59	1394	624	378	0	862
V/C Ratio(X)	0.12	0.75	0.78	0.76	0.86	0.00	0.77	0.30	0.00	0.82	0.00	0.45
Avail Cap(c_a), veh/h	278	277	271	861	904	769	156	1394	624	697	0	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.4	57.8	58.0	44.2	45.8	0.0	62.7	27.2	0.0	56.9	0.0	23.3
Incr Delay (d2), s/veh	0.3	6.5	7.8	2.6	4.6	0.0	18.9	0.5	0.0	4.4	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.6	4.7	12.3	15.4	0.0	2.0	5.2	0.0	5.7	0.0	9.7
LnGrp Delay(d),s/veh	54.7	64.4	65.8	46.8	50.4	0.0	81.6	27.8	0.0	61.3	0.0	24.9
LnGrp LOS	D	E	E	D	D		F	C		E		C
Approach Vol, veh/h		266			788			459			695	
Approach Delay, s/veh		64.3			48.8			33.2			41.1	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.9	56.0		16.6	8.9	66.0		39.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	13.5	12.5		11.2	5.4	20.5		30.6
Green Ext Time (p_c), s	0.9	6.0		0.9	0.0	6.1		4.1

Intersection Summary	
HCM 2010 Ctrl Delay	45.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	730	113	170	1087	0	77	0	207	0	0	0
Future Volume (veh/h)	0	730	113	170	1087	0	77	0	207	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	0	730	113	170	1087	0	77	0	207			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	67	1665	255	244	1722	0	763	0	681			
Arrive On Green	0.00	0.37	0.37	0.07	0.49	0.00	0.43	0.00	0.43			
Sat Flow, veh/h	517	4450	683	3442	3632	0	1774	0	1583			
Grp Volume(v), veh/h	0	555	288	170	1087	0	77	0	207			
Grp Sat Flow(s),veh/h/ln	517	1695	1742	1721	1770	0	1774	0	1583			
Q Serve(g_s), s	0.0	13.2	13.4	5.2	24.6	0.0	2.8	0.0	9.3			
Cycle Q Clear(g_c), s	0.0	13.2	13.4	5.2	24.6	0.0	2.8	0.0	9.3			
Prop In Lane	1.00		0.39	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	67	1268	652	244	1722	0	763	0	681			
V/C Ratio(X)	0.00	0.44	0.44	0.70	0.63	0.00	0.10	0.00	0.30			
Avail Cap(c_a), veh/h	234	2368	1217	780	3422	0	763	0	681			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	25.3	25.4	49.1	20.6	0.0	18.3	0.0	20.2			
Incr Delay (d2), s/veh	0.0	0.2	0.5	3.6	0.4	0.0	0.3	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.2	6.5	2.6	12.0	0.0	1.4	0.0	4.3			
LnGrp Delay(d),s/veh	0.0	25.6	25.8	52.7	21.0	0.0	18.6	0.0	21.3			
LnGrp LOS		C	C	D	C		B		C			
Approach Vol, veh/h		843			1257			284				
Approach Delay, s/veh		25.7			25.2			20.6				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	12.2	44.9				57.1
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		11.3	7.2	15.4				26.6
Green Ext Time (p_c), s		1.2	0.5	24.2				26.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	810	54	356	979	109	31	51	178	258	231	185
Future Volume (veh/h)	92	810	54	356	979	109	31	51	178	258	231	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	810	54	356	979	0	31	51	178	258	231	185
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	1327	88	449	1810	564	442	464	395	568	308	261
Arrive On Green	0.05	0.27	0.27	0.13	0.36	0.00	0.25	0.25	0.25	0.17	0.17	0.17
Sat Flow, veh/h	3442	4872	324	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	92	563	301	356	979	0	31	51	178	258	231	185
Grp Sat Flow(s),veh/h/ln	1721	1695	1806	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	2.6	14.2	14.3	9.9	15.1	0.0	1.3	2.1	9.4	6.7	11.6	10.9
Cycle Q Clear(g_c), s	2.6	14.2	14.3	9.9	15.1	0.0	1.3	2.1	9.4	6.7	11.6	10.9
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	923	492	449	1810	564	442	464	395	568	308	261
V/C Ratio(X)	0.57	0.61	0.61	0.79	0.54	0.00	0.07	0.11	0.45	0.45	0.75	0.71
Avail Cap(c_a), veh/h	298	1086	578	788	2353	733	442	464	395	998	540	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	31.2	31.2	41.5	25.3	0.0	28.2	28.5	31.2	37.0	39.1	38.8
Incr Delay (d2), s/veh	3.2	0.7	1.4	3.2	0.3	0.0	0.3	0.5	3.7	0.6	3.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.7	7.3	4.9	7.1	0.0	0.7	1.1	4.5	3.2	6.3	5.0
LnGrp Delay(d),s/veh	49.1	32.0	32.7	44.7	25.5	0.0	28.5	29.0	34.9	37.6	42.8	42.3
LnGrp LOS	D	C	C	D	C		C	C	C	D	D	D
Approach Vol, veh/h		956			1335			260			674	
Approach Delay, s/veh		33.8			30.6			33.0			40.7	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	17.3	31.3		20.7	9.1	39.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		11.4	11.9	16.3		13.6	4.6	17.1
Green Ext Time (p_c), s		0.8	1.0	10.4		2.6	0.1	15.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	829	462	300	594	0	0	0	0	178	1	876
Future Volume (vph)	0	829	462	300	594	0	0	0	0	178	1	876
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.97	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4683	1362	3433	3539						1775	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4683	1362	3433	3539						1775	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	829	462	300	594	0	0	0	0	178	1	876
RTOR Reduction (vph)	0	44	205	0	0	0	0	0	0	0	0	383
Lane Group Flow (vph)	0	956	86	300	594	0	0	0	0	0	179	493
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		18.7	18.7	9.7	32.9						21.5	21.5
Effective Green, g (s)		18.7	18.7	9.7	32.9						21.5	21.5
Actuated g/C Ratio		0.29	0.29	0.15	0.52						0.34	0.34
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1381	401	525	1836						601	1224
v/s Ratio Prot		c0.20		c0.09	0.17							
v/s Ratio Perm			0.06								0.10	c0.14
v/c Ratio		0.69	0.21	0.57	0.32						0.30	0.40
Uniform Delay, d1		19.8	16.8	24.9	8.8						15.4	16.0
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.5	0.3	1.5	0.1						0.3	1.0
Delay (s)		21.3	17.1	26.4	8.9						15.7	17.0
Level of Service		C	B	C	A						B	B
Approach Delay (s)		20.4			14.8			0.0			16.8	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	63.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	830	196	0	8	108	116	10	20	10	167	13	763
Future Volume (vph)	830	196	0	8	108	116	10	20	10	167	13	763
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3539		1770	3539	1583		3364		1681	1697	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.62		0.95	0.96	1.00
Satd. Flow (perm)	3433	3539		1770	3539	1583		2118		1681	1697	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	830	196	0	8	108	116	10	20	10	167	13	763
RTOR Reduction (vph)	0	0	0	0	0	105	0	9	0	0	0	340
Lane Group Flow (vph)	830	196	0	8	108	11	0	31	0	90	90	423
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	30.3	37.2		0.9	7.8	7.8		9.6		13.7	13.7	44.0
Effective Green, g (s)	30.3	37.2		0.9	7.8	7.8		9.6		13.7	13.7	44.0
Actuated g/C Ratio	0.38	0.47		0.01	0.10	0.10		0.12		0.17	0.17	0.55
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1310	1658		20	347	155		256		290	292	1544
v/s Ratio Prot	c0.24	0.06		0.00	c0.03					c0.05	0.05	0.10
v/s Ratio Perm						0.01		c0.01				0.05
v/c Ratio	0.63	0.12		0.40	0.31	0.07		0.12		0.31	0.31	0.27
Uniform Delay, d1	20.0	11.9		39.0	33.3	32.5		31.1		28.7	28.7	9.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0		12.6	0.5	0.2		1.0		2.8	2.7	0.1
Delay (s)	21.0	11.9		51.6	33.8	32.7		32.1		31.5	31.4	9.4
Level of Service	C	B		D	C	C		C		C	C	A
Approach Delay (s)		19.3			33.9			32.1			13.6	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	68	32	66	26	74	54	217	98	225	123	21
Future Volume (vph)	44	68	32	66	26	74	54	217	98	225	123	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1765	1583		3238		1770	3374		1770	3462	
Flt Permitted	0.95	1.00	1.00		0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1765	1583		2737		1770	3374		1770	3462	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	68	32	66	26	74	54	217	98	225	123	21
RTOR Reduction (vph)	0	0	29	0	68	0	0	53	0	0	11	0
Lane Group Flow (vph)	40	72	3	0	98	0	54	262	0	225	133	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Effective Green, g (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.09		0.06	0.36		0.20	0.50	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	165	148		240		106	1203		359	1728	
v/s Ratio Prot	0.02	c0.04					0.03	c0.08		c0.13	0.04	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.25	0.44	0.02		0.41		0.51	0.22		0.63	0.08	
Uniform Delay, d1	29.3	29.8	28.6		30.0		31.7	15.6		25.3	9.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	1.8	0.1		1.1		3.8	0.4		3.4	0.1	
Delay (s)	30.1	31.6	28.7		31.1		35.5	16.0		28.7	9.1	
Level of Service	C	C	C		C		D	B		C	A	
Approach Delay (s)		30.5			31.1			18.8			21.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	50	66	384	414	34
Future Volume (vph)	20	50	66	384	414	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3499	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3499	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	50	66	384	414	34
RTOR Reduction (vph)	47	0	0	0	4	0
Lane Group Flow (vph)	23	0	66	384	444	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	4.6		5.4	54.2	44.3	
Effective Green, g (s)	4.6		5.4	54.2	44.3	
Actuated g/C Ratio	0.07		0.08	0.80	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	112		140	2829	2286	
v/s Ratio Prot	c0.01		c0.04	0.11	c0.13	
v/s Ratio Perm						
v/c Ratio	0.21		0.47	0.14	0.19	
Uniform Delay, d1	29.9		29.8	1.5	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		2.5	0.1	0.2	
Delay (s)	30.8		32.3	1.6	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	30.8			6.1	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	426	7	418	12	10	5	816	456	7	8	255	101
Future Volume (vph)	426	7	418	12	10	5	816	456	7	8	255	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.92	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1529	1504		1777		3433	3531		1770	3539	1583
Flt Permitted	0.95	0.98	1.00		0.72		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1529	1504		1315		3433	3531		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	426	7	418	12	10	5	816	456	7	8	255	101
RTOR Reduction (vph)	0	30	176	0	5	0	0	1	0	0	0	89
Lane Group Flow (vph)	294	255	96	0	22	0	816	462	0	8	255	12
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.7	37.7	37.7		7.5		31.0	37.9		5.5	12.4	12.4
Effective Green, g (s)	37.7	37.7	37.7		7.5		31.0	37.9		5.5	12.4	12.4
Actuated g/C Ratio	0.35	0.35	0.35		0.07		0.29	0.36		0.05	0.12	0.12
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	594	540	531		92		998	1255		91	411	184
v/s Ratio Prot	c0.17	0.17					c0.24	0.13		0.00	c0.07	
v/s Ratio Perm			0.06		c0.02							0.01
v/c Ratio	0.49	0.47	0.18		0.24		0.82	0.37		0.09	0.62	0.06
Uniform Delay, d1	27.0	26.7	23.8		46.9		35.2	25.5		48.2	44.9	41.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	3.0	0.7		6.2		5.3	0.2		0.4	2.9	0.1
Delay (s)	29.9	29.7	24.5		53.0		40.5	25.7		48.6	47.8	42.1
Level of Service	C	C	C		D		D	C		D	D	D
Approach Delay (s)		28.1			53.0			35.1			46.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	106.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	393	23	325	329	264	38	361	392	457	339	13
Future Volume (veh/h)	6	393	23	325	329	264	38	361	392	457	339	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	393	23	325	329	0	38	361	0	457	339	13
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	471	27	318	334	284	51	1385	619	529	920	35
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.00	0.03	0.39	0.00	0.15	0.52	0.52
Sat Flow, veh/h	1774	3399	198	1774	1863	1583	1774	3539	1583	3442	1782	68
Grp Volume(v), veh/h	6	204	212	325	329	0	38	361	0	457	0	352
Grp Sat Flow(s),veh/h/ln	1774	1770	1828	1774	1863	1583	1774	1770	1583	1721	0	1851
Q Serve(g_s), s	0.4	14.7	14.8	23.5	23.1	0.0	2.8	9.1	0.0	17.0	0.0	14.9
Cycle Q Clear(g_c), s	0.4	14.7	14.8	23.5	23.1	0.0	2.8	9.1	0.0	17.0	0.0	14.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	246	245	253	318	334	284	51	1385	619	529	0	955
V/C Ratio(X)	0.02	0.83	0.84	1.02	0.99	0.00	0.75	0.26	0.00	0.86	0.00	0.37
Avail Cap(c_a), veh/h	321	320	330	318	334	284	176	1385	619	722	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	55.0	55.0	53.8	53.6	0.0	63.2	27.1	0.0	54.2	0.0	18.9
Incr Delay (d2), s/veh	0.0	13.3	13.5	56.3	45.2	0.0	19.6	0.5	0.0	8.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.1	8.4	16.5	16.1	0.0	1.6	4.5	0.0	8.7	0.0	7.9
LnGrp Delay(d),s/veh	48.8	68.3	68.5	110.1	98.8	0.0	82.8	27.5	0.0	62.3	0.0	20.0
LnGrp LOS	D	E	E	F	F		F	C		E		C
Approach Vol, veh/h		422			654			399			809	
Approach Delay, s/veh		68.1			104.4			32.8			43.9	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	55.8		22.7	8.2	72.2		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	19.0	11.1		16.8	4.8	16.9		25.5
Green Ext Time (p_c), s	1.1	5.3		1.4	0.0	5.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.8
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1112	162	118	845	0	72	0	299	0	0	0
Future Volume (veh/h)	1	1112	162	118	845	0	72	0	299	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	1112	162	118	845	0	72	0	299			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	281	1815	264	177	1752	0	758	0	677			
Arrive On Green	0.40	0.40	0.40	0.05	0.49	0.00	0.43	0.00	0.43			
Sat Flow, veh/h	649	4485	653	3442	3632	0	1774	0	1583			
Grp Volume(v), veh/h	1	840	434	118	845	0	72	0	299			
Grp Sat Flow(s),veh/h/ln	649	1695	1748	1721	1770	0	1774	0	1583			
Q Serve(g_s), s	0.1	22.7	22.8	3.9	18.3	0.0	2.8	0.0	15.4			
Cycle Q Clear(g_c), s	8.0	22.7	22.8	3.9	18.3	0.0	2.8	0.0	15.4			
Prop In Lane	1.00		0.37	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	281	1372	707	177	1752	0	758	0	677			
V/C Ratio(X)	0.00	0.61	0.61	0.67	0.48	0.00	0.09	0.00	0.44			
Avail Cap(c_a), veh/h	368	1829	943	431	2490	0	758	0	677			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.5	27.3	27.3	54.0	19.4	0.0	19.8	0.0	23.4			
Incr Delay (d2), s/veh	0.0	0.4	0.9	4.3	0.2	0.0	0.2	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	10.7	11.1	2.0	9.0	0.0	1.4	0.0	7.1			
LnGrp Delay(d),s/veh	25.5	27.7	28.2	58.2	19.6	0.0	20.0	0.0	25.5			
LnGrp LOS	C	C	C	E	B		C		C			
Approach Vol, veh/h		1275			963			371				
Approach Delay, s/veh		27.9			24.3			24.4				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	10.5	51.4				61.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		17.4	5.9	24.8				20.3
Green Ext Time (p_c), s		1.5	0.2	22.1				28.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1099	45	176	715	257	42	108	309	113	76	92
Future Volume (veh/h)	187	1099	45	176	715	257	42	108	309	113	76	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	1099	45	176	715	0	42	108	309	113	76	92
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1680	69	247	1688	525	593	623	529	290	157	133
Arrive On Green	0.08	0.34	0.34	0.07	0.33	0.00	0.33	0.33	0.33	0.08	0.08	0.08
Sat Flow, veh/h	3442	5012	205	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	187	743	401	176	715	0	42	108	309	113	76	92
Grp Sat Flow(s),veh/h/ln	1721	1695	1827	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	5.5	19.3	19.3	5.2	11.3	0.0	1.7	4.2	16.7	3.2	4.0	5.8
Cycle Q Clear(g_c), s	5.5	19.3	19.3	5.2	11.3	0.0	1.7	4.2	16.7	3.2	4.0	5.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1136	612	247	1688	525	593	623	529	290	157	133
V/C Ratio(X)	0.72	0.65	0.65	0.71	0.42	0.00	0.07	0.17	0.58	0.39	0.48	0.69
Avail Cap(c_a), veh/h	484	1396	752	484	2094	652	593	623	529	684	370	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	29.2	29.2	46.8	26.8	0.0	23.4	24.3	28.4	44.7	45.1	45.9
Incr Delay (d2), s/veh	3.8	0.8	1.5	3.8	0.2	0.0	0.2	0.6	4.7	0.9	2.3	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.1	9.9	2.6	5.3	0.0	0.9	2.3	8.0	1.6	2.2	2.8
LnGrp Delay(d),s/veh	50.4	30.0	30.7	50.6	27.0	0.0	23.7	24.9	33.1	45.6	47.4	52.2
LnGrp LOS	D	C	C	D	C		C	C	C	D	D	D
Approach Vol, veh/h		1331			891			459			281	
Approach Delay, s/veh		33.1			31.6			30.3			48.2	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	11.9	39.1		13.2	12.3	38.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		18.7	7.2	21.3		7.8	7.5	13.3
Green Ext Time (p_c), s		1.6	0.3	13.3		0.9	0.3	16.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1129	420	158	521	0	0	0	0	469	2	663
Future Volume (vph)	0	1129	420	158	521	0	0	0	0	469	2	663
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4760	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4760	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1129	420	158	521	0	0	0	0	469	2	663
RTOR Reduction (vph)	0	6	163	0	0	0	0	0	0	0	0	324
Lane Group Flow (vph)	0	1199	181	158	521	0	0	0	0	0	471	339
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		40.2	40.2	10.3	55.0						49.7	49.7
Effective Green, g (s)		40.2	40.2	10.3	55.0						49.7	49.7
Actuated g/C Ratio		0.35	0.35	0.09	0.48						0.44	0.44
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1682	481	310	1711						775	1577
v/s Ratio Prot		c0.25		c0.05	0.15							
v/s Ratio Perm			0.13								0.27	0.09
v/c Ratio		0.71	0.38	0.51	0.30						0.61	0.22
Uniform Delay, d1		31.8	27.4	49.3	17.8						24.5	19.9
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.5	0.5	1.3	0.1						1.4	0.3
Delay (s)		33.2	27.9	50.6	17.9						25.9	20.2
Level of Service		C	C	D	B						C	C
Approach Delay (s)		32.0			25.5			0.0			22.6	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	113.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1193	416	0	3	56	92	18	10	2	78	17	590
Future Volume (vph)	1193	416	0	3	56	92	18	10	2	78	17	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.97	1.00
Satd. Flow (prot)	3433	3539		1770	3539	1583		3402		1681	1714	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.70		0.95	0.97	1.00
Satd. Flow (perm)	3433	3539		1770	3539	1583		2447		1681	1714	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1193	416	0	3	56	92	18	10	2	78	17	590
RTOR Reduction (vph)	0	0	0	0	0	86	0	2	0	0	0	225
Lane Group Flow (vph)	1193	416	0	3	56	6	0	28	0	47	48	365
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	42.2	46.9		1.0	5.7	5.7		10.8		13.9	13.9	56.1
Effective Green, g (s)	42.2	46.9		1.0	5.7	5.7		10.8		13.9	13.9	56.1
Actuated g/C Ratio	0.47	0.52		0.01	0.06	0.06		0.12		0.15	0.15	0.62
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1599	1831		19	222	99		291		257	262	1725
v/s Ratio Prot	c0.35	0.12		0.00	c0.02					0.03	0.03	c0.10
v/s Ratio Perm						0.00		c0.01				0.03
v/c Ratio	0.75	0.23		0.16	0.25	0.06		0.10		0.18	0.18	0.21
Uniform Delay, d1	19.8	11.9		44.4	40.4	39.9		35.6		33.4	33.4	7.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1		3.9	0.6	0.2		0.7		1.6	1.5	0.1
Delay (s)	21.8	12.0		48.3	41.0	40.2		36.2		35.0	34.9	7.6
Level of Service	C	B		D	D	D		D		C	C	A
Approach Delay (s)		19.2			40.6			36.2			11.4	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	22	15	23	33	47	70	381	55	67	91	28
Future Volume (vph)	24	22	15	23	33	47	70	381	55	67	91	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1762	1583		3261		1770	3472		1770	3414	
Flt Permitted	0.95	1.00	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1762	1583		2949		1770	3472		1770	3414	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	22	15	23	33	47	70	381	55	67	91	28
RTOR Reduction (vph)	0	0	14	0	44	0	0	15	0	0	15	0
Lane Group Flow (vph)	22	24	1	0	59	0	70	421	0	67	104	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1621		133	1594	
v/s Ratio Prot	0.01	c0.01					c0.04	c0.12		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.22	0.24	0.01		0.33		0.53	0.26		0.50	0.07	
Uniform Delay, d1	23.9	23.9	23.6		23.9		23.6	8.6		23.6	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.2	0.0		1.1		3.7	0.4		3.0	0.1	
Delay (s)	25.0	25.1	23.6		25.0		27.4	9.0		26.6	7.9	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.7			25.0			11.5			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	31	111	36	410	505	34
Future Volume (vph)	31	111	36	410	505	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3506	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3506	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	111	36	410	505	34
RTOR Reduction (vph)	101	0	0	0	4	0
Lane Group Flow (vph)	41	0	36	410	535	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.2		3.2	50.8	43.1	
Effective Green, g (s)	6.2		3.2	50.8	43.1	
Actuated g/C Ratio	0.09		0.05	0.77	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	154		85	2723	2289	
v/s Ratio Prot	c0.03		c0.02	0.12	c0.15	
v/s Ratio Perm						
v/c Ratio	0.27		0.42	0.15	0.23	
Uniform Delay, d1	27.8		30.5	2.0	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		3.4	0.1	0.2	
Delay (s)	28.7		33.9	2.1	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	28.7			4.7	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	4	357	17	11	5	743	265	18	12	733	247
Future Volume (vph)	147	4	357	17	11	5	743	265	18	12	733	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1460	1504		1779		3433	3505		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1460	1504		1779		3433	3505		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	147	4	357	17	11	5	743	265	18	12	733	247
RTOR Reduction (vph)	0	130	142	0	4	0	0	4	0	0	0	104
Lane Group Flow (vph)	132	60	44	0	29	0	743	279	0	12	733	143
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.9	29.9	29.9		8.6		32.7	66.3		2.6	36.2	36.2
Effective Green, g (s)	29.9	29.9	29.9		8.6		32.7	66.3		2.6	36.2	36.2
Actuated g/C Ratio	0.24	0.24	0.24		0.07		0.26	0.53		0.02	0.29	0.29
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	400	348	358		122		895	1853		36	1021	456
v/s Ratio Prot	c0.08	0.04			c0.02		c0.22	0.08		0.01	c0.21	
v/s Ratio Perm			0.03									0.09
v/c Ratio	0.33	0.17	0.12		0.24		0.83	0.15		0.33	0.72	0.31
Uniform Delay, d1	39.5	37.9	37.5		55.3		43.7	15.1		60.5	40.0	34.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	1.1	0.7		4.6		6.6	0.0		5.4	2.4	0.4
Delay (s)	41.7	39.0	38.2		59.9		50.3	15.2		65.9	42.5	35.3
Level of Service	D	D	D		E		D	B		E	D	D
Approach Delay (s)		39.4			59.9			40.6			41.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	125.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	198	54	374	442	398	46	413	346	315	350	36
Future Volume (veh/h)	19	198	54	374	442	398	46	413	346	315	350	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	19	198	54	374	442	0	46	413	0	315	350	36
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	260	69	485	510	433	59	1365	611	383	770	79
Arrive On Green	0.09	0.09	0.09	0.27	0.27	0.00	0.03	0.39	0.00	0.11	0.46	0.46
Sat Flow, veh/h	1774	2766	736	1774	1863	1583	1774	3539	1583	3442	1662	171
Grp Volume(v), veh/h	19	125	127	374	442	0	46	413	0	315	0	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1733	1774	1863	1583	1774	1770	1583	1721	0	1833
Q Serve(g_s), s	1.3	9.1	9.5	25.8	30.0	0.0	3.4	10.8	0.0	11.9	0.0	19.0
Cycle Q Clear(g_c), s	1.3	9.1	9.5	25.8	30.0	0.0	3.4	10.8	0.0	11.9	0.0	19.0
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	167	166	163	485	510	433	59	1365	611	383	0	849
V/C Ratio(X)	0.11	0.75	0.78	0.77	0.87	0.00	0.77	0.30	0.00	0.82	0.00	0.45
Avail Cap(c_a), veh/h	274	273	268	849	891	758	154	1365	611	687	0	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.1	58.6	58.8	44.4	45.9	0.0	63.6	28.4	0.0	57.7	0.0	24.2
Incr Delay (d2), s/veh	0.3	6.7	7.9	2.6	4.6	0.0	18.9	0.6	0.0	4.5	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.8	4.9	12.9	16.1	0.0	2.0	5.4	0.0	5.9	0.0	10.0
LnGrp Delay(d),s/veh	55.4	65.3	66.7	47.0	50.5	0.0	82.5	28.9	0.0	62.1	0.0	26.0
LnGrp LOS	E	E	E	D	D		F	C		E		C
Approach Vol, veh/h		271			816			459			701	
Approach Delay, s/veh		65.3			48.9			34.3			42.2	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.3	55.7		17.0	8.9	66.0		40.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	13.9	12.8		11.5	5.4	21.0		32.0
Green Ext Time (p_c), s	0.9	6.0		0.9	0.0	6.1		4.3

Intersection Summary	
HCM 2010 Ctrl Delay	45.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	747	113	178	1129	0	77	0	208	0	0	0
Future Volume (veh/h)	0	747	113	178	1129	0	77	0	208	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	0	747	113	178	1129	0	77	0	208			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	65	1726	259	251	1769	0	743	0	663			
Arrive On Green	0.00	0.39	0.39	0.07	0.50	0.00	0.42	0.00	0.42			
Sat Flow, veh/h	497	4465	670	3442	3632	0	1774	0	1583			
Grp Volume(v), veh/h	0	566	294	178	1129	0	77	0	208			
Grp Sat Flow(s),veh/h/ln	497	1695	1745	1721	1770	0	1774	0	1583			
Q Serve(g_s), s	0.0	13.6	13.8	5.6	26.0	0.0	2.9	0.0	9.7			
Cycle Q Clear(g_c), s	0.0	13.6	13.8	5.6	26.0	0.0	2.9	0.0	9.7			
Prop In Lane	1.00		0.38	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	65	1310	674	251	1769	0	743	0	663			
V/C Ratio(X)	0.00	0.43	0.44	0.71	0.64	0.00	0.10	0.00	0.31			
Avail Cap(c_a), veh/h	211	2307	1187	760	3333	0	743	0	663			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	25.1	25.1	50.3	20.4	0.0	19.6	0.0	21.6			
Incr Delay (d2), s/veh	0.0	0.2	0.4	3.7	0.4	0.0	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.4	6.7	2.8	12.8	0.0	1.5	0.0	4.5			
LnGrp Delay(d),s/veh	0.0	25.3	25.6	54.0	20.8	0.0	19.9	0.0	22.8			
LnGrp LOS		C	C	D	C		B		C			
Approach Vol, veh/h		860			1307			285				
Approach Delay, s/veh		25.4			25.3			22.0				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	12.6	47.4				60.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		11.7	7.6	15.8				28.0
Green Ext Time (p_c), s		1.2	0.5	25.5				27.5

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	828	54	366	1029	119	31	51	181	260	231	185
Future Volume (veh/h)	92	828	54	366	1029	119	31	51	181	260	231	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	828	54	366	1029	0	31	51	181	260	231	185
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	1340	87	458	1837	572	437	459	390	567	307	261
Arrive On Green	0.05	0.27	0.27	0.13	0.36	0.00	0.25	0.25	0.25	0.16	0.16	0.16
Sat Flow, veh/h	3442	4880	317	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	92	574	308	366	1029	0	31	51	181	260	231	185
Grp Sat Flow(s),veh/h/ln	1721	1695	1807	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	2.6	14.7	14.8	10.3	16.1	0.0	1.3	2.1	9.7	6.8	11.8	11.0
Cycle Q Clear(g_c), s	2.6	14.7	14.8	10.3	16.1	0.0	1.3	2.1	9.7	6.8	11.8	11.0
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	931	496	458	1837	572	437	459	390	567	307	261
V/C Ratio(X)	0.58	0.62	0.62	0.80	0.56	0.00	0.07	0.11	0.46	0.46	0.75	0.71
Avail Cap(c_a), veh/h	294	1075	573	779	2329	725	437	459	390	987	534	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	31.5	31.5	41.8	25.4	0.0	28.7	29.0	31.8	37.5	39.6	39.3
Incr Delay (d2), s/veh	3.3	0.8	1.6	3.3	0.3	0.0	0.3	0.5	3.9	0.6	3.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.0	7.6	5.1	7.6	0.0	0.7	1.1	4.6	3.3	6.4	5.0
LnGrp Delay(d),s/veh	49.7	32.3	33.1	45.1	25.7	0.0	29.0	29.5	35.8	38.1	43.3	42.8
LnGrp LOS	D	C	C	D	C		C	C	D	D	D	D
Approach Vol, veh/h		974			1395			263			676	
Approach Delay, s/veh		34.2			30.8			33.8			41.2	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	17.7	31.8		20.9	9.1	40.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		11.7	12.3	16.8		13.8	4.6	18.1
Green Ext Time (p_c), s		0.8	1.0	10.5		2.6	0.1	16.2

Intersection Summary	
HCM 2010 Ctrl Delay	34.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	852	462	373	664	0	0	0	0	189	1	876
Future Volume (vph)	0	852	462	373	664	0	0	0	0	189	1	876
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.98	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4688	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4688	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	852	462	373	664	0	0	0	0	189	1	876
RTOR Reduction (vph)	0	40	209	0	0	0	0	0	0	0	0	322
Lane Group Flow (vph)	0	978	87	373	664	0	0	0	0	0	190	554
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		18.8	18.8	10.1	33.4						21.5	21.5
Effective Green, g (s)		18.8	18.8	10.1	33.4						21.5	21.5
Actuated g/C Ratio		0.29	0.29	0.16	0.52						0.34	0.34
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1379	400	542	1849						596	1214
v/s Ratio Prot		c0.21		c0.11	0.19							
v/s Ratio Perm			0.06								0.11	c0.15
v/c Ratio		0.71	0.22	0.69	0.36						0.32	0.46
Uniform Delay, d1		20.1	17.0	25.4	9.0						15.8	16.6
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.7	0.3	3.6	0.1						0.3	1.2
Delay (s)		21.8	17.3	29.0	9.1						16.1	17.9
Level of Service		C	B	C	A						B	B
Approach Delay (s)		20.8			16.3			0.0			17.5	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	864	196	0	8	108	127	10	20	10	185	13	906
Future Volume (vph)	864	196	0	8	108	127	10	20	10	185	13	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3539		1770	3539	1583		3364		1681	1696	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.62		0.95	0.96	1.00
Satd. Flow (perm)	3433	3539		1770	3539	1583		2118		1681	1696	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	864	196	0	8	108	127	10	20	10	185	13	906
RTOR Reduction (vph)	0	0	0	0	0	115	0	9	0	0	0	396
Lane Group Flow (vph)	864	196	0	8	108	12	0	31	0	98	100	510
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	32.2	39.2		1.0	8.0	8.0		9.6		13.7	13.7	45.9
Effective Green, g (s)	32.2	39.2		1.0	8.0	8.0		9.6		13.7	13.7	45.9
Actuated g/C Ratio	0.40	0.48		0.01	0.10	0.10		0.12		0.17	0.17	0.56
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1356	1702		21	347	155		249		282	285	1569
v/s Ratio Prot	c0.25	0.06		0.00	c0.03					0.06	c0.06	0.13
v/s Ratio Perm						0.01		c0.01				0.05
v/c Ratio	0.64	0.12		0.38	0.31	0.08		0.13		0.35	0.35	0.33
Uniform Delay, d1	19.9	11.6		39.9	34.2	33.4		32.2		30.0	30.0	9.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0		11.2	0.5	0.2		1.0		3.4	3.4	0.1
Delay (s)	20.9	11.7		51.1	34.7	33.6		33.2		33.3	33.3	9.6
Level of Service	C	B		D	C	C		C		C	C	A
Approach Delay (s)		19.2			34.7			33.2			13.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	81.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	68	32	66	26	74	54	228	98	225	141	21
Future Volume (vph)	44	68	32	66	26	74	54	228	98	225	141	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1765	1583		3238		1770	3380		1770	3470	
Flt Permitted	0.95	1.00	1.00		0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1765	1583		2737		1770	3380		1770	3470	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	68	32	66	26	74	54	228	98	225	141	21
RTOR Reduction (vph)	0	0	29	0	68	0	0	49	0	0	11	0
Lane Group Flow (vph)	40	72	3	0	98	0	54	277	0	225	151	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Effective Green, g (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.09		0.06	0.36		0.20	0.50	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	165	148		240		106	1206		359	1732	
v/s Ratio Prot	0.02	c0.04					0.03	c0.08		c0.13	0.04	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.25	0.44	0.02		0.41		0.51	0.23		0.63	0.09	
Uniform Delay, d1	29.3	29.8	28.6		30.0		31.7	15.7		25.3	9.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	1.8	0.1		1.1		3.8	0.4		3.4	0.1	
Delay (s)	30.1	31.6	28.7		31.1		35.5	16.1		28.7	9.2	
Level of Service	C	C	C		C		D	B		C	A	
Approach Delay (s)		30.5			31.1			18.9			20.5	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	50	66	379	388	34
Future Volume (vph)	20	50	66	379	388	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3496	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3496	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	50	66	379	388	34
RTOR Reduction (vph)	47	0	0	0	5	0
Lane Group Flow (vph)	23	0	66	379	417	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	4.6		5.4	54.2	44.3	
Effective Green, g (s)	4.6		5.4	54.2	44.3	
Actuated g/C Ratio	0.07		0.08	0.80	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	112		140	2829	2284	
v/s Ratio Prot	c0.01		c0.04	0.11	c0.12	
v/s Ratio Perm						
v/c Ratio	0.21		0.47	0.13	0.18	
Uniform Delay, d1	29.9		29.8	1.5	4.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		2.5	0.1	0.2	
Delay (s)	30.8		32.3	1.6	4.8	
Level of Service	C		C	A	A	
Approach Delay (s)	30.8			6.2	4.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	377	7	467	13	11	6	933	318	10	9	254	95
Future Volume (vph)	377	7	467	13	11	6	933	318	10	9	254	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.90	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1497	1504		1774		3433	3523		1770	3539	1583
Flt Permitted	0.95	0.99	1.00		0.72		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1497	1504		1312		3433	3523		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	377	7	467	13	11	6	933	318	10	9	254	95
RTOR Reduction (vph)	0	65	179	0	6	0	0	2	0	0	0	84
Lane Group Flow (vph)	298	217	92	0	24	0	933	326	0	9	254	11
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.7	37.7	37.7		7.5		35.4	42.5		5.5	12.6	12.6
Effective Green, g (s)	37.7	37.7	37.7		7.5		35.4	42.5		5.5	12.6	12.6
Actuated g/C Ratio	0.34	0.34	0.34		0.07		0.32	0.38		0.05	0.11	0.11
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	569	507	509		88		1092	1346		87	401	179
v/s Ratio Prot	c0.18	0.14					c0.27	0.09		0.01	c0.07	
v/s Ratio Perm			0.06		c0.02							0.01
v/c Ratio	0.52	0.43	0.18		0.28		0.85	0.24		0.10	0.63	0.06
Uniform Delay, d1	29.5	28.4	25.9		49.3		35.5	23.4		50.5	47.1	44.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.4	2.6	0.8		7.7		6.7	0.1		0.5	3.3	0.1
Delay (s)	33.0	31.0	26.7		56.9		42.2	23.5		51.0	50.3	44.2
Level of Service	C	C	C		E		D	C		D	D	D
Approach Delay (s)		30.3			56.9			37.3			48.7	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	111.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	342	41	331	384	265	44	281	476	409	395	28
Future Volume (veh/h)	8	342	41	331	384	265	44	281	476	409	395	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	8	342	41	331	384	0	44	281	0	409	395	28
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	420	50	325	341	290	57	1432	641	483	882	62
Arrive On Green	0.13	0.13	0.13	0.18	0.18	0.00	0.03	0.40	0.00	0.14	0.51	0.51
Sat Flow, veh/h	1774	3186	379	1774	1863	1583	1774	3539	1583	3442	1719	122
Grp Volume(v), veh/h	8	189	194	331	384	0	44	281	0	409	0	423
Grp Sat Flow(s),veh/h/ln	1774	1770	1796	1774	1863	1583	1774	1770	1583	1721	0	1841
Q Serve(g_s), s	0.5	13.3	13.5	23.5	23.5	0.0	3.2	6.6	0.0	14.9	0.0	18.6
Cycle Q Clear(g_c), s	0.5	13.3	13.5	23.5	23.5	0.0	3.2	6.6	0.0	14.9	0.0	18.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	234	233	237	325	341	290	57	1432	641	483	0	944
V/C Ratio(X)	0.03	0.81	0.82	1.02	1.13	0.00	0.77	0.20	0.00	0.85	0.00	0.45
Avail Cap(c_a), veh/h	328	327	332	325	341	290	180	1432	641	738	0	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	54.1	54.2	52.4	52.4	0.0	61.6	24.7	0.0	53.8	0.0	19.8
Incr Delay (d2), s/veh	0.1	9.9	10.7	54.8	87.2	0.0	19.7	0.3	0.0	5.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.1	7.4	16.4	20.3	0.0	1.9	3.3	0.0	7.5	0.0	9.8
LnGrp Delay(d),s/veh	48.6	64.1	65.0	107.3	139.6	0.0	81.3	25.0	0.0	59.6	0.0	21.3
LnGrp LOS	D	E	E	F	F		F	C		E		C
Approach Vol, veh/h		391			715			325			832	
Approach Delay, s/veh		64.2			124.6			32.6			40.1	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.5	56.4		21.4	8.6	70.3		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	16.9	8.6		15.5	5.2	20.6		25.5
Green Ext Time (p_c), s	1.1	5.3		1.4	0.0	5.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	69.9
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1053	187	175	909	10	71	8	297	0	0	0
Future Volume (veh/h)	7	1053	187	175	909	10	71	8	297	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	7	1053	187	175	909	10	71	8	297			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	264	1722	305	238	1805	20	673	76	665			
Arrive On Green	0.40	0.40	0.40	0.07	0.50	0.50	0.42	0.42	0.42			
Sat Flow, veh/h	605	4346	771	3442	3586	39	1602	181	1583			
Grp Volume(v), veh/h	7	821	419	175	449	470	79	0	297			
Grp Sat Flow(s),veh/h/ln	605	1695	1727	1721	1770	1856	1783	0	1583			
Q Serve(g_s), s	0.9	22.7	22.8	5.9	19.9	19.9	3.2	0.0	15.8			
Cycle Q Clear(g_c), s	8.2	22.7	22.8	5.9	19.9	19.9	3.2	0.0	15.8			
Prop In Lane	1.00		0.45	1.00		0.02	0.90		1.00			
Lane Grp Cap(c), veh/h	264	1343	684	238	891	934	749	0	665			
V/C Ratio(X)	0.03	0.61	0.61	0.74	0.50	0.50	0.11	0.00	0.45			
Avail Cap(c_a), veh/h	345	1799	916	424	1224	1284	749	0	665			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.4	28.3	28.4	53.8	19.5	19.5	20.7	0.0	24.4			
Incr Delay (d2), s/veh	0.0	0.5	0.9	4.4	0.4	0.4	0.3	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	10.7	11.0	2.9	9.8	10.3	1.6	0.0	7.3			
LnGrp Delay(d),s/veh	26.4	28.8	29.2	58.2	19.9	19.9	21.0	0.0	26.5			
LnGrp LOS	C	C	C	E	B	B	C		C			
Approach Vol, veh/h		1247			1094			376				
Approach Delay, s/veh		28.9			26.0			25.4				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	12.6	51.2				63.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		17.8	7.9	24.8				21.9
Green Ext Time (p_c), s		1.5	0.3	21.9				27.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	1169	55	202	764	286	45	118	363	115	79	99
Future Volume (veh/h)	208	1169	55	202	764	286	45	118	363	115	79	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	208	1169	55	202	764	0	45	118	363	115	79	99
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	1705	80	272	1733	540	572	601	511	302	163	139
Arrive On Green	0.08	0.34	0.34	0.08	0.34	0.00	0.32	0.32	0.32	0.09	0.09	0.09
Sat Flow, veh/h	3442	4978	234	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	208	796	428	202	764	0	45	118	363	115	79	99
Grp Sat Flow(s),veh/h/ln	1721	1695	1821	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	6.3	21.6	21.6	6.1	12.5	0.0	1.9	4.9	21.6	3.4	4.3	6.5
Cycle Q Clear(g_c), s	6.3	21.6	21.6	6.1	12.5	0.0	1.9	4.9	21.6	3.4	4.3	6.5
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	278	1161	624	272	1733	540	572	601	511	302	163	139
V/C Ratio(X)	0.75	0.69	0.69	0.74	0.44	0.00	0.08	0.20	0.71	0.38	0.48	0.71
Avail Cap(c_a), veh/h	466	1347	723	466	2020	629	572	601	511	659	357	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	30.2	30.2	48.2	27.4	0.0	25.2	26.2	31.9	46.1	46.5	47.5
Incr Delay (d2), s/veh	4.0	1.2	2.2	4.0	0.2	0.0	0.3	0.7	8.2	0.8	2.2	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	10.3	11.2	3.1	5.8	0.0	1.0	2.6	10.6	1.6	2.3	3.1
LnGrp Delay(d),s/veh	52.1	31.4	32.5	52.2	27.5	0.0	25.5	27.0	40.0	46.9	48.7	54.1
LnGrp LOS	D	C	C	D	C		C	C	D	D	D	D
Approach Vol, veh/h		1432			966			526			293	
Approach Delay, s/veh		34.7			32.7			35.8			49.8	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	13.0	41.2		13.9	13.1	41.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		23.6	8.1	23.6		8.5	8.3	14.5
Green Ext Time (p_c), s		1.6	0.3	13.0		0.9	0.3	17.1

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1197	482	161	558	0	0	0	0	423	2	731
Future Volume (vph)	0	1197	482	161	558	0	0	0	0	423	2	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4747	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4747	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1197	482	161	558	0	0	0	0	423	2	731
RTOR Reduction (vph)	0	8	172	0	0	0	0	0	0	0	0	344
Lane Group Flow (vph)	0	1295	204	161	558	0	0	0	0	0	425	387
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		41.9	41.9	10.5	56.9						49.6	49.6
Effective Green, g (s)		41.9	41.9	10.5	56.9						49.6	49.6
Actuated g/C Ratio		0.36	0.36	0.09	0.49						0.43	0.43
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1722	494	312	1743						761	1550
v/s Ratio Prot		c0.27		c0.05	0.16							
v/s Ratio Perm			0.15								0.24	0.11
v/c Ratio		0.75	0.41	0.52	0.32						0.56	0.25
Uniform Delay, d1		32.2	27.6	50.1	17.6						24.7	21.1
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.9	0.6	1.4	0.1						0.9	0.4
Delay (s)		34.1	28.1	51.5	17.8						25.6	21.4
Level of Service		C	C	D	B						C	C
Approach Delay (s)		32.8			25.3			0.0			23.0	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	115.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1174	451	6	4	60	85	20	16	4	87	22	624
Future Volume (vph)	1174	451	6	4	60	85	20	16	4	87	22	624
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	0.97	1.00
Satd. Flow (prot)	3433	3532		1770	3539	1583		3401		1681	1718	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.68		0.95	0.97	1.00
Satd. Flow (perm)	3433	3532		1770	3539	1583		2358		1681	1718	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1174	451	6	4	60	85	20	16	4	87	22	624
RTOR Reduction (vph)	0	1	0	0	0	80	0	4	0	0	0	239
Lane Group Flow (vph)	1174	456	0	4	60	5	0	36	0	54	55	385
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	41.7	46.2		1.1	5.6	5.6		10.8		13.9	13.9	55.6
Effective Green, g (s)	41.7	46.2		1.1	5.6	5.6		10.8		13.9	13.9	55.6
Actuated g/C Ratio	0.46	0.51		0.01	0.06	0.06		0.12		0.15	0.15	0.62
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1590	1813		21	220	98		282		259	265	1721
v/s Ratio Prot	c0.34	c0.13		0.00	c0.02					0.03	0.03	c0.10
v/s Ratio Perm						0.00		c0.02				0.03
v/c Ratio	0.74	0.25		0.19	0.27	0.05		0.13		0.21	0.21	0.22
Uniform Delay, d1	19.7	12.2		44.0	40.3	39.7		35.4		33.2	33.2	7.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	0.1		4.4	0.7	0.2		0.9		1.8	1.8	0.1
Delay (s)	21.5	12.3		48.4	40.9	39.9		36.3		35.1	35.0	7.7
Level of Service	C	B		D	D	D		D		D	D	A
Approach Delay (s)		18.9			40.6			36.3			11.8	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	22	15	23	33	47	70	365	55	67	88	28
Future Volume (vph)	24	22	15	23	33	47	70	365	55	67	88	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1762	1583		3261		1770	3470		1770	3411	
Flt Permitted	0.95	1.00	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1762	1583		2949		1770	3470		1770	3411	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	22	15	23	33	47	70	365	55	67	88	28
RTOR Reduction (vph)	0	0	14	0	44	0	0	16	0	0	15	0
Lane Group Flow (vph)	22	24	1	0	59	0	70	404	0	67	101	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1620		133	1593	
v/s Ratio Prot	0.01	c0.01					c0.04	c0.12		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.22	0.24	0.01		0.33		0.53	0.25		0.50	0.06	
Uniform Delay, d1	23.9	23.9	23.6		23.9		23.6	8.5		23.6	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.2	0.0		1.1		3.7	0.4		3.0	0.1	
Delay (s)	25.0	25.1	23.6		25.0		27.4	8.9		26.6	7.8	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.7			25.0			11.5			14.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	31	111	36	383	493	34
Future Volume (vph)	31	111	36	383	493	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3505	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	111	36	383	493	34
RTOR Reduction (vph)	101	0	0	0	4	0
Lane Group Flow (vph)	41	0	36	383	523	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.2		3.2	50.8	43.1	
Effective Green, g (s)	6.2		3.2	50.8	43.1	
Actuated g/C Ratio	0.09		0.05	0.77	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	154		85	2723	2288	
v/s Ratio Prot	c0.03		c0.02	0.11	c0.15	
v/s Ratio Perm						
v/c Ratio	0.27		0.42	0.14	0.23	
Uniform Delay, d1	27.8		30.5	2.0	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		3.4	0.1	0.2	
Delay (s)	28.7		33.9	2.1	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	28.7			4.8	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	4	433	18	12	6	834	248	21	14	693	194
Future Volume (vph)	154	4	433	18	12	6	834	248	21	14	693	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1457	1504		1776		3433	3498		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1457	1504		1776		3433	3498		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	154	4	433	18	12	6	834	248	21	14	693	194
RTOR Reduction (vph)	0	160	173	0	5	0	0	5	0	0	0	88
Lane Group Flow (vph)	139	67	52	0	31	0	834	264	0	14	693	106
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.9	29.9	29.9		8.6		36.9	69.5		2.6	35.2	35.2
Effective Green, g (s)	29.9	29.9	29.9		8.6		36.9	69.5		2.6	35.2	35.2
Actuated g/C Ratio	0.23	0.23	0.23		0.07		0.29	0.54		0.02	0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	390	338	349		118		985	1890		35	968	433
v/s Ratio Prot	c0.08	0.05			c0.02		c0.24	0.08		0.01	c0.20	
v/s Ratio Perm			0.03									0.07
v/c Ratio	0.36	0.20	0.15		0.27		0.85	0.14		0.40	0.72	0.25
Uniform Delay, d1	41.3	39.7	39.2		57.0		43.2	14.7		62.2	42.2	36.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	1.3	0.9		5.4		6.8	0.0		7.3	2.5	0.3
Delay (s)	43.8	41.0	40.2		62.4		50.0	14.7		69.6	44.7	36.7
Level of Service	D	D	D		E		D	B		E	D	D
Approach Delay (s)		41.4			62.4			41.4			43.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	128.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	264	72	402	521	563	134	392	393	395	409	59
Future Volume (veh/h)	24	264	72	402	521	563	134	392	393	395	409	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	24	264	72	402	521	0	134	392	0	395	409	59
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	311	83	550	578	491	129	1177	526	450	621	90
Arrive On Green	0.11	0.11	0.11	0.31	0.31	0.00	0.07	0.33	0.00	0.13	0.39	0.39
Sat Flow, veh/h	1774	2763	739	1774	1863	1583	1774	3539	1583	3442	1592	230
Grp Volume(v), veh/h	24	167	169	402	521	0	134	392	0	395	0	468
Grp Sat Flow(s),veh/h/ln	1774	1770	1732	1774	1863	1583	1774	1770	1583	1721	0	1822
Q Serve(g_s), s	1.9	14.6	15.1	31.9	42.2	0.0	11.5	13.1	0.0	17.8	0.0	33.2
Cycle Q Clear(g_c), s	1.9	14.6	15.1	31.9	42.2	0.0	11.5	13.1	0.0	17.8	0.0	33.2
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	200	199	195	550	578	491	129	1177	526	450	0	711
V/C Ratio(X)	0.12	0.84	0.87	0.73	0.90	0.00	1.04	0.33	0.00	0.88	0.00	0.66
Avail Cap(c_a), veh/h	231	230	225	715	751	638	129	1177	526	579	0	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.9	68.5	68.8	48.5	52.1	0.0	73.1	39.5	0.0	67.3	0.0	39.4
Incr Delay (d2), s/veh	0.3	20.9	25.4	2.7	11.8	0.0	88.8	0.8	0.0	11.9	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	8.3	8.6	16.1	23.6	0.0	8.8	6.5	0.0	9.2	0.0	17.7
LnGrp Delay(d),s/veh	63.2	89.5	94.1	51.2	63.9	0.0	162.3	40.2	0.0	79.2	0.0	44.2
LnGrp LOS	E	F	F	D	E		F	D		E		D
Approach Vol, veh/h		360			923			526			863	
Approach Delay, s/veh		89.9			58.4			71.3			60.2	
Approach LOS		F			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.1	56.9		22.2	16.0	66.0		53.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	19.8	15.1		17.1	13.5	35.2		44.2
Green Ext Time (p_c), s	0.8	6.5		0.6	0.0	6.2		4.6

Intersection Summary	
HCM 2010 Ctrl Delay	65.8
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	921	121	317	1368	7	115	10	374	0	0	0
Future Volume (veh/h)	9	921	121	317	1368	7	115	10	374	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	9	921	121	317	1368	7	115	10	374			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	174	1899	249	387	2039	10	597	52	577			
Arrive On Green	0.42	0.42	0.42	0.11	0.56	0.56	0.36	0.36	0.36			
Sat Flow, veh/h	393	4552	596	3442	3611	18	1638	142	1583			
Grp Volume(v), veh/h	9	685	357	317	670	705	125	0	374			
Grp Sat Flow(s),veh/h/ln	393	1695	1758	1721	1770	1859	1781	0	1583			
Q Serve(g_s), s	2.1	18.8	18.9	11.5	33.8	33.9	6.1	0.0	25.1			
Cycle Q Clear(g_c), s	17.1	18.8	18.9	11.5	33.8	33.9	6.1	0.0	25.1			
Prop In Lane	1.00		0.34	1.00		0.01	0.92		1.00			
Lane Grp Cap(c), veh/h	174	1414	733	387	999	1050	649	0	577			
V/C Ratio(X)	0.05	0.48	0.49	0.82	0.67	0.67	0.19	0.00	0.65			
Avail Cap(c_a), veh/h	243	2007	1041	661	1450	1524	649	0	577			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	27.1	27.2	55.3	19.4	19.4	27.7	0.0	33.7			
Incr Delay (d2), s/veh	0.1	0.3	0.5	4.3	0.8	0.8	0.7	0.0	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	8.8	9.3	5.7	16.6	17.4	3.1	0.0	11.8			
LnGrp Delay(d),s/veh	32.2	27.4	27.7	59.7	20.2	20.2	28.3	0.0	39.2			
LnGrp LOS	C	C	C	E	C	C	C		D			
Approach Vol, veh/h		1051			1692			499				
Approach Delay, s/veh		27.5			27.6			36.5				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	18.8	57.7				76.5
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		27.1	13.5	20.9				35.9
Green Ext Time (p_c), s		2.0	0.8	32.1				36.1

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	904	71	468	1105	122	36	58	213	299	262	214
Future Volume (veh/h)	105	904	71	468	1105	122	36	58	213	299	262	214
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	105	904	71	468	1105	0	36	58	213	299	262	214
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1297	102	549	1944	605	401	421	358	615	333	283
Arrive On Green	0.05	0.27	0.27	0.16	0.38	0.00	0.23	0.23	0.23	0.18	0.18	0.18
Sat Flow, veh/h	3442	4810	377	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	105	636	339	468	1105	0	36	58	213	299	262	214
Grp Sat Flow(s),veh/h/ln	1721	1695	1796	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	3.3	18.3	18.4	14.3	18.6	0.0	1.7	2.7	13.0	8.5	14.6	13.9
Cycle Q Clear(g_c), s	3.3	18.3	18.4	14.3	18.6	0.0	1.7	2.7	13.0	8.5	14.6	13.9
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	914	484	549	1944	605	401	421	358	615	333	283
V/C Ratio(X)	0.65	0.70	0.70	0.85	0.57	0.00	0.09	0.14	0.60	0.49	0.79	0.76
Avail Cap(c_a), veh/h	270	985	522	714	2135	665	401	421	358	905	490	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	35.6	35.6	44.3	26.4	0.0	33.1	33.5	37.5	40.0	42.6	42.3
Incr Delay (d2), s/veh	4.3	2.0	3.8	7.8	0.3	0.0	0.4	0.7	7.1	0.6	5.2	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.8	9.6	7.4	8.8	0.0	0.9	1.5	6.4	4.1	8.0	6.4
LnGrp Delay(d),s/veh	55.1	37.6	39.4	52.1	26.7	0.0	33.6	34.2	44.6	40.6	47.7	46.8
LnGrp LOS	E	D	D	D	C		C	C	D	D	D	D
Approach Vol, veh/h		1080			1573			307			775	
Approach Delay, s/veh		39.8			34.3			41.4			44.7	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	21.8	33.7		23.9	9.6	45.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		15.0	16.3	20.4		16.6	5.3	20.6
Green Ext Time (p_c), s		0.8	1.0	8.8		2.8	0.1	16.6

Intersection Summary	
HCM 2010 Ctrl Delay	38.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	938	525	357	694	0	0	0	0	192	1	1030
Future Volume (vph)	0	938	525	357	694	0	0	0	0	192	1	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.97	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4682	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4682	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	938	525	357	694	0	0	0	0	192	1	1030
RTOR Reduction (vph)	0	44	232	0	0	0	0	0	0	0	0	299
Lane Group Flow (vph)	0	1088	99	357	694	0	0	0	0	0	193	731
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		19.3	19.3	10.1	33.9						21.5	21.5
Effective Green, g (s)		19.3	19.3	10.1	33.9						21.5	21.5
Actuated g/C Ratio		0.30	0.30	0.16	0.53						0.33	0.33
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1403	408	538	1862						592	1205
v/s Ratio Prot		c0.23		c0.10	0.20							
v/s Ratio Perm			0.07								0.11	c0.20
v/c Ratio		0.78	0.24	0.66	0.37						0.33	0.61
Uniform Delay, d1		20.6	17.0	25.6	9.0						16.0	17.9
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		2.8	0.3	3.1	0.1						0.3	2.3
Delay (s)		23.3	17.3	28.6	9.1						16.4	20.2
Level of Service		C	B	C	A						B	C
Approach Delay (s)		22.0			15.7			0.0			19.6	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	219	1	9	121	130	12	24	11	222	16	905
Future Volume (vph)	930	219	1	9	121	130	12	24	11	222	16	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3537		1770	3539	1583		3372		1681	1696	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.63		0.95	0.96	1.00
Satd. Flow (perm)	3433	3537		1770	3539	1583		2135		1681	1696	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	930	219	1	9	121	130	12	24	11	222	16	905
RTOR Reduction (vph)	0	1	0	0	0	117	0	10	0	0	0	389
Lane Group Flow (vph)	930	219	0	9	121	13	0	37	0	118	120	516
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	33.8	41.0		1.0	8.2	8.2		9.6		13.6	13.6	47.4
Effective Green, g (s)	33.8	41.0		1.0	8.2	8.2		9.6		13.6	13.6	47.4
Actuated g/C Ratio	0.41	0.49		0.01	0.10	0.10		0.12		0.16	0.16	0.57
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1394	1742		21	348	156		246		274	277	1587
v/s Ratio Prot	c0.27	0.06		0.01	c0.03					0.07	c0.07	0.13
v/s Ratio Perm						0.01		c0.02				0.05
v/c Ratio	0.67	0.13		0.43	0.35	0.08		0.15		0.43	0.43	0.32
Uniform Delay, d1	20.1	11.4		40.8	35.0	34.1		33.1		31.3	31.3	9.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		13.4	0.6	0.2		1.3		4.9	4.9	0.1
Delay (s)	21.3	11.4		54.3	35.6	34.3		34.4		36.2	36.2	9.6
Level of Service	C	B		D	D	C		C		D	D	A
Approach Delay (s)		19.4			35.6			34.4			15.1	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	83.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	68	32	66	26	74	54	217	98	225	123	21
Future Volume (vph)	44	68	32	66	26	74	54	217	98	225	123	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1765	1583		3238		1770	3374		1770	3462	
Flt Permitted	0.95	1.00	1.00		0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1765	1583		2737		1770	3374		1770	3462	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	68	32	66	26	74	54	217	98	225	123	21
RTOR Reduction (vph)	0	0	29	0	68	0	0	53	0	0	11	0
Lane Group Flow (vph)	40	72	3	0	98	0	54	262	0	225	133	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Effective Green, g (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.09		0.06	0.36		0.20	0.50	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	165	148		240		106	1203		359	1728	
v/s Ratio Prot	0.02	c0.04					0.03	c0.08		c0.13	0.04	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.25	0.44	0.02		0.41		0.51	0.22		0.63	0.08	
Uniform Delay, d1	29.3	29.8	28.6		30.0		31.7	15.6		25.3	9.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	1.8	0.1		1.1		3.8	0.4		3.4	0.1	
Delay (s)	30.1	31.6	28.7		31.1		35.5	16.0		28.7	9.1	
Level of Service	C	C	C		C		D	B		C	A	
Approach Delay (s)		30.5			31.1			18.8			21.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	50	66	384	414	34
Future Volume (vph)	20	50	66	384	414	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3499	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3499	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	50	66	384	414	34
RTOR Reduction (vph)	47	0	0	0	4	0
Lane Group Flow (vph)	23	0	66	384	444	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	4.6		5.4	54.2	44.3	
Effective Green, g (s)	4.6		5.4	54.2	44.3	
Actuated g/C Ratio	0.07		0.08	0.80	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	112		140	2829	2286	
v/s Ratio Prot	c0.01		c0.04	0.11	c0.13	
v/s Ratio Perm						
v/c Ratio	0.21		0.47	0.14	0.19	
Uniform Delay, d1	29.9		29.8	1.5	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		2.5	0.1	0.2	
Delay (s)	30.8		32.3	1.6	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	30.8			6.1	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	459	7	467	13	11	6	933	490	10	9	282	108
Future Volume (vph)	459	7	467	13	11	6	933	490	10	9	282	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.92	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1522	1504		1774		3433	3529		1770	3539	1583
Flt Permitted	0.95	0.98	1.00		0.71		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1522	1504		1285		3433	3529		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	7	467	13	11	6	933	490	10	9	282	108
RTOR Reduction (vph)	0	36	195	0	6	0	0	1	0	0	0	95
Lane Group Flow (vph)	326	277	99	0	24	0	933	499	0	9	282	13
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.7	37.7	37.7		7.5		35.5	43.1		5.5	13.1	13.1
Effective Green, g (s)	37.7	37.7	37.7		7.5		35.5	43.1		5.5	13.1	13.1
Actuated g/C Ratio	0.34	0.34	0.34		0.07		0.32	0.39		0.05	0.12	0.12
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	566	513	507		86		1090	1360		87	414	185
v/s Ratio Prot	c0.19	0.18					c0.27	0.14		0.01	c0.08	
v/s Ratio Perm			0.07		c0.02							0.01
v/c Ratio	0.58	0.54	0.20		0.28		0.86	0.37		0.10	0.68	0.07
Uniform Delay, d1	30.5	30.0	26.3		49.6		35.8	24.6		50.8	47.3	43.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.2	4.0	0.9		8.1		6.8	0.2		0.5	4.6	0.2
Delay (s)	34.7	34.1	27.2		57.7		42.5	24.8		51.3	51.9	44.1
Level of Service	C	C	C		E		D	C		D	D	D
Approach Delay (s)		32.1			57.7			36.3			49.8	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	357	41	334	387	268	44	281	490	423	395	28
Future Volume (veh/h)	8	357	41	334	387	268	44	281	490	423	395	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	8	357	41	334	387	0	44	281	0	423	395	28
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	434	50	323	340	289	57	1409	630	496	878	62
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.00	0.03	0.40	0.00	0.14	0.51	0.51
Sat Flow, veh/h	1774	3203	365	1774	1863	1583	1774	3539	1583	3442	1719	122
Grp Volume(v), veh/h	8	196	202	334	387	0	44	281	0	423	0	423
Grp Sat Flow(s),veh/h/ln	1774	1770	1798	1774	1863	1583	1774	1770	1583	1721	0	1841
Q Serve(g_s), s	0.5	13.9	14.1	23.5	23.5	0.0	3.2	6.7	0.0	15.5	0.0	18.8
Cycle Q Clear(g_c), s	0.5	13.9	14.1	23.5	23.5	0.0	3.2	6.7	0.0	15.5	0.0	18.8
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	241	240	244	323	340	289	57	1409	630	496	0	940
V/C Ratio(X)	0.03	0.82	0.83	1.03	1.14	0.00	0.77	0.20	0.00	0.85	0.00	0.45
Avail Cap(c_a), veh/h	326	325	331	323	340	289	179	1409	630	734	0	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	54.2	54.2	52.7	52.7	0.0	61.9	25.4	0.0	53.8	0.0	20.1
Incr Delay (d2), s/veh	0.1	11.2	11.9	58.8	92.3	0.0	19.7	0.3	0.0	6.4	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.6	7.8	16.8	20.8	0.0	1.9	3.3	0.0	7.8	0.0	9.9
LnGrp Delay(d),s/veh	48.4	65.3	66.2	111.5	145.0	0.0	81.6	25.7	0.0	60.2	0.0	21.6
LnGrp LOS	D	E	E	F	F		F	C		E		C
Approach Vol, veh/h		406			721			325			846	
Approach Delay, s/veh		65.4			129.5			33.2			40.9	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.1	55.8		22.0	8.6	70.3		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	17.5	8.7		16.1	5.2	20.8		25.5
Green Ext Time (p_c), s	1.1	5.3		1.4	0.0	5.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	71.9
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1096	187	179	915	10	71	8	305	0	0	0
Future Volume (veh/h)	7	1096	187	179	915	10	71	8	305	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	7	1096	187	179	915	10	71	8	305			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	266	1760	300	241	1828	20	664	75	657			
Arrive On Green	0.40	0.40	0.40	0.07	0.51	0.51	0.41	0.41	0.41			
Sat Flow, veh/h	602	4375	746	3442	3586	39	1602	181	1583			
Grp Volume(v), veh/h	7	849	434	179	451	474	79	0	305			
Grp Sat Flow(s),veh/h/ln	602	1695	1731	1721	1770	1856	1783	0	1583			
Q Serve(g_s), s	0.9	23.8	23.9	6.1	20.0	20.0	3.2	0.0	16.7			
Cycle Q Clear(g_c), s	8.1	23.8	23.9	6.1	20.0	20.0	3.2	0.0	16.7			
Prop In Lane	1.00		0.43	1.00		0.02	0.90		1.00			
Lane Grp Cap(c), veh/h	266	1363	696	241	902	946	739	0	657			
V/C Ratio(X)	0.03	0.62	0.62	0.74	0.50	0.50	0.11	0.00	0.46			
Avail Cap(c_a), veh/h	339	1775	907	418	1208	1267	739	0	657			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.1	28.5	28.5	54.4	19.2	19.2	21.4	0.0	25.3			
Incr Delay (d2), s/veh	0.0	0.5	0.9	4.5	0.4	0.4	0.3	0.0	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	11.2	11.5	3.1	9.9	10.4	1.7	0.0	7.7			
LnGrp Delay(d),s/veh	26.2	28.9	29.4	58.9	19.7	19.7	21.7	0.0	27.7			
LnGrp LOS	C	C	C	E	B	B	C		C			
Approach Vol, veh/h		1290			1104			384				
Approach Delay, s/veh		29.1			26.0			26.4				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	12.9	52.5				65.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		18.7	8.1	25.9				22.0
Green Ext Time (p_c), s		1.6	0.3	22.1				28.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	1220	55	203	774	287	45	118	375	126	79	99
Future Volume (veh/h)	208	1220	55	203	774	287	45	118	375	126	79	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	208	1220	55	203	774	0	45	118	375	126	79	99
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1733	78	272	1759	548	566	594	505	302	164	139
Arrive On Green	0.08	0.35	0.35	0.08	0.35	0.00	0.32	0.32	0.32	0.09	0.09	0.09
Sat Flow, veh/h	3442	4988	225	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	208	829	446	203	774	0	45	118	375	126	79	99
Grp Sat Flow(s),veh/h/ln	1721	1695	1823	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	6.4	22.8	22.8	6.2	12.7	0.0	1.9	5.0	22.8	3.7	4.4	6.6
Cycle Q Clear(g_c), s	6.4	22.8	22.8	6.2	12.7	0.0	1.9	5.0	22.8	3.7	4.4	6.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1178	633	272	1759	548	566	594	505	302	164	139
V/C Ratio(X)	0.75	0.70	0.70	0.75	0.44	0.00	0.08	0.20	0.74	0.42	0.48	0.71
Avail Cap(c_a), veh/h	462	1333	717	462	1999	622	566	594	505	653	353	300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	30.5	30.5	48.7	27.3	0.0	25.7	26.8	32.8	46.7	47.0	48.0
Incr Delay (d2), s/veh	4.1	1.5	2.7	4.0	0.2	0.0	0.3	0.7	9.5	0.9	2.2	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	10.9	12.0	3.1	6.0	0.0	1.0	2.7	11.3	1.8	2.4	3.1
LnGrp Delay(d),s/veh	52.7	31.9	33.2	52.8	27.4	0.0	26.0	27.5	42.3	47.6	49.2	54.6
LnGrp LOS	D	C	C	D	C		C	C	D	D	D	D
Approach Vol, veh/h		1483			977			538			304	
Approach Delay, s/veh		35.2			32.7			37.7			50.3	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	13.1	42.1		14.0	13.2	41.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		24.8	8.2	24.8		8.6	8.4	14.7
Green Ext Time (p_c), s		1.6	0.3	12.7		0.9	0.3	17.5

Intersection Summary	
HCM 2010 Ctrl Delay	36.3
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1271	482	174	570	0	0	0	0	505	2	731
Future Volume (vph)	0	1271	482	174	570	0	0	0	0	505	2	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4757	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4757	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1271	482	174	570	0	0	0	0	505	2	731
RTOR Reduction (vph)	0	6	162	0	0	0	0	0	0	0	0	336
Lane Group Flow (vph)	0	1357	228	174	570	0	0	0	0	0	507	395
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		42.8	42.8	10.8	58.1						49.6	49.6
Effective Green, g (s)		42.8	42.8	10.8	58.1						49.6	49.6
Actuated g/C Ratio		0.37	0.37	0.09	0.50						0.43	0.43
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1744	499	317	1761						753	1534
v/s Ratio Prot		c0.29		c0.05	0.16							
v/s Ratio Perm			0.17								0.29	0.11
v/c Ratio		0.78	0.46	0.55	0.32						0.67	0.26
Uniform Delay, d1		32.7	28.1	50.6	17.5						27.0	21.7
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		2.3	0.7	1.9	0.1						2.4	0.4
Delay (s)		35.0	28.8	52.6	17.6						29.4	22.1
Level of Service		C	C	D	B						C	C
Approach Delay (s)		33.6			25.8			0.0			25.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	116.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1330	451	6	4	60	101	20	16	4	90	22	649
Future Volume (vph)	1330	451	6	4	60	101	20	16	4	90	22	649
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	0.97	1.00
Satd. Flow (prot)	3433	3532		1770	3539	1583		3401		1681	1717	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.68		0.95	0.97	1.00
Satd. Flow (perm)	3433	3532		1770	3539	1583		2379		1681	1717	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1330	451	6	4	60	101	20	16	4	90	22	649
RTOR Reduction (vph)	0	1	0	0	0	93	0	4	0	0	0	234
Lane Group Flow (vph)	1330	456	0	4	60	8	0	36	0	56	56	415
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	50.4	56.8		1.1	7.5	7.5		10.7		13.7	13.7	64.1
Effective Green, g (s)	50.4	56.8		1.1	7.5	7.5		10.7		13.7	13.7	64.1
Actuated g/C Ratio	0.50	0.57		0.01	0.07	0.07		0.11		0.14	0.14	0.64
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1725	2000		19	264	118		253		229	234	1781
v/s Ratio Prot	c0.39	0.13		0.00	c0.02					c0.03	0.03	0.12
v/s Ratio Perm						0.00		c0.02				0.03
v/c Ratio	0.77	0.23		0.21	0.23	0.06		0.14		0.24	0.24	0.23
Uniform Delay, d1	20.3	10.8		49.2	43.7	43.1		40.6		38.7	38.6	7.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1		5.5	0.4	0.2		1.2		2.5	2.4	0.1
Delay (s)	22.5	10.9		54.6	44.1	43.4		41.8		41.2	41.1	7.7
Level of Service	C	B		D	D	D		D		D	D	A
Approach Delay (s)		19.5			43.9			41.8			12.7	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	22	15	23	33	47	70	381	55	67	91	28
Future Volume (vph)	24	22	15	23	33	47	70	381	55	67	91	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1762	1583		3261		1770	3472		1770	3414	
Flt Permitted	0.95	1.00	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1762	1583		2949		1770	3472		1770	3414	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	22	15	23	33	47	70	381	55	67	91	28
RTOR Reduction (vph)	0	0	14	0	44	0	0	15	0	0	15	0
Lane Group Flow (vph)	22	24	1	0	59	0	70	421	0	67	104	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1621		133	1594	
v/s Ratio Prot	0.01	c0.01					c0.04	c0.12		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.22	0.24	0.01		0.33		0.53	0.26		0.50	0.07	
Uniform Delay, d1	23.9	23.9	23.6		23.9		23.6	8.6		23.6	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.2	0.0		1.1		3.7	0.4		3.0	0.1	
Delay (s)	25.0	25.1	23.6		25.0		27.4	9.0		26.6	7.9	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.7			25.0			11.5			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	31	111	36	410	505	34
Future Volume (vph)	31	111	36	410	505	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3506	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3506	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	111	36	410	505	34
RTOR Reduction (vph)	101	0	0	0	4	0
Lane Group Flow (vph)	41	0	36	410	535	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.2		3.2	50.8	43.1	
Effective Green, g (s)	6.2		3.2	50.8	43.1	
Actuated g/C Ratio	0.09		0.05	0.77	0.65	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	154		85	2723	2289	
v/s Ratio Prot	c0.03		c0.02	0.12	c0.15	
v/s Ratio Perm						
v/c Ratio	0.27		0.42	0.15	0.23	
Uniform Delay, d1	27.8		30.5	2.0	4.7	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		3.4	0.1	0.2	
Delay (s)	28.7		33.9	2.1	4.9	
Level of Service	C		C	A	A	
Approach Delay (s)	28.7			4.7	4.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	4	433	18	12	6	834	293	21	14	854	267
Future Volume (vph)	164	4	433	18	12	6	834	293	21	14	854	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1458	1504		1776		3433	3504		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1458	1504		1776		3433	3504		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	164	4	433	18	12	6	834	293	21	14	854	267
RTOR Reduction (vph)	0	163	176	0	5	0	0	3	0	0	0	94
Lane Group Flow (vph)	148	65	49	0	31	0	834	311	0	14	854	173
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.8	29.8	29.8		8.6		38.5	77.5		2.7	41.7	41.7
Effective Green, g (s)	29.8	29.8	29.8		8.6		38.5	77.5		2.7	41.7	41.7
Actuated g/C Ratio	0.22	0.22	0.22		0.06		0.28	0.57		0.02	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	366	318	328		111		967	1987		34	1080	483
v/s Ratio Prot	c0.09	0.04			c0.02		c0.24	0.09		0.01	c0.24	
v/s Ratio Perm			0.03									0.11
v/c Ratio	0.40	0.21	0.15		0.28		0.86	0.16		0.41	0.79	0.36
Uniform Delay, d1	45.8	43.7	43.2		61.1		46.5	14.0		66.2	43.5	37.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.3	1.5	1.0		6.3		8.0	0.0		7.9	4.0	0.5
Delay (s)	49.1	45.2	44.1		67.3		54.6	14.1		74.1	47.5	37.5
Level of Service	D	D	D		E		D	B		E	D	D
Approach Delay (s)		45.7			67.3			43.5			45.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	269	72	416	535	577	134	392	399	401	409	59
Future Volume (veh/h)	24	269	72	416	535	577	134	392	399	401	409	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	24	269	72	416	535	0	134	392	0	401	409	59
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	315	83	562	590	502	128	1150	515	454	613	88
Arrive On Green	0.11	0.11	0.11	0.32	0.32	0.00	0.07	0.33	0.00	0.13	0.39	0.39
Sat Flow, veh/h	1774	2775	729	1774	1863	1583	1774	3539	1583	3442	1592	230
Grp Volume(v), veh/h	24	170	171	416	535	0	134	392	0	401	0	468
Grp Sat Flow(s),veh/h/ln	1774	1770	1734	1774	1863	1583	1774	1770	1583	1721	0	1822
Q Serve(g_s), s	1.9	15.0	15.5	33.4	44.0	0.0	11.5	13.4	0.0	18.3	0.0	33.9
Cycle Q Clear(g_c), s	1.9	15.0	15.5	33.4	44.0	0.0	11.5	13.4	0.0	18.3	0.0	33.9
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	201	201	197	562	590	502	128	1150	515	454	0	702
V/C Ratio(X)	0.12	0.85	0.87	0.74	0.91	0.00	1.05	0.34	0.00	0.88	0.00	0.67
Avail Cap(c_a), veh/h	228	227	223	705	741	629	128	1150	515	571	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.6	69.4	69.7	48.7	52.3	0.0	74.1	40.9	0.0	68.1	0.0	40.6
Incr Delay (d2), s/veh	0.3	22.5	27.0	3.2	12.8	0.0	93.4	0.8	0.0	12.8	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	8.6	8.9	16.9	24.7	0.0	8.9	6.7	0.0	9.5	0.0	18.0
LnGrp Delay(d),s/veh	63.9	91.9	96.7	51.8	65.1	0.0	167.8	41.7	0.0	80.9	0.0	45.6
LnGrp LOS	E	F	F	D	E		F	D		F		D
Approach Vol, veh/h		365			951			526			869	
Approach Delay, s/veh		92.3			59.3			73.8			61.9	
Approach LOS		F			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.6	56.4		22.6	16.0	66.0		55.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	20.3	15.4		17.5	13.5	35.9		46.0
Green Ext Time (p_c), s	0.8	6.5		0.6	0.0	6.2		4.7

Intersection Summary	
HCM 2010 Ctrl Delay	67.4
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	938	121	325	1410	7	115	10	375	0	0	0
Future Volume (veh/h)	9	938	121	325	1410	7	115	10	375	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	9	938	121	325	1410	7	115	10	375			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	169	1942	250	393	2074	10	584	51	565			
Arrive On Green	0.43	0.43	0.43	0.11	0.57	0.57	0.36	0.36	0.36			
Sat Flow, veh/h	377	4563	587	3442	3611	18	1638	142	1583			
Grp Volume(v), veh/h	9	696	363	325	691	726	125	0	375			
Grp Sat Flow(s),veh/h/ln	377	1695	1759	1721	1770	1860	1781	0	1583			
Q Serve(g_s), s	2.2	19.4	19.5	12.0	35.5	35.6	6.3	0.0	26.0			
Cycle Q Clear(g_c), s	18.4	19.4	19.5	12.0	35.5	35.6	6.3	0.0	26.0			
Prop In Lane	1.00		0.33	1.00		0.01	0.92		1.00			
Lane Grp Cap(c), veh/h	169	1443	749	393	1016	1068	635	0	565			
V/C Ratio(X)	0.05	0.48	0.48	0.83	0.68	0.68	0.20	0.00	0.66			
Avail Cap(c_a), veh/h	227	1963	1019	647	1419	1491	635	0	565			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.6	27.1	27.1	56.5	19.4	19.4	29.0	0.0	35.3			
Incr Delay (d2), s/veh	0.1	0.3	0.5	4.6	0.8	0.8	0.7	0.0	6.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	9.0	9.6	6.0	17.5	18.4	3.2	0.0	12.3			
LnGrp Delay(d),s/veh	32.7	27.3	27.6	61.0	20.2	20.2	29.7	0.0	41.4			
LnGrp LOS	C	C	C	E	C	C	C		D			
Approach Vol, veh/h		1068			1742			500				
Approach Delay, s/veh		27.5			27.8			38.5				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	19.4	60.0				79.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		28.0	14.0	21.5				37.6
Green Ext Time (p_c), s		2.0	0.8	33.1				37.3

Intersection Summary	
HCM 2010 Ctrl Delay	29.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	922	71	478	1155	132	36	58	216	301	262	214
Future Volume (veh/h)	105	922	71	478	1155	132	36	58	216	301	262	214
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	105	922	71	478	1155	0	36	58	216	301	262	214
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1304	100	558	1962	611	398	418	355	613	332	282
Arrive On Green	0.05	0.27	0.27	0.16	0.39	0.00	0.22	0.22	0.22	0.18	0.18	0.18
Sat Flow, veh/h	3442	4818	370	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	105	648	345	478	1155	0	36	58	216	301	262	214
Grp Sat Flow(s),veh/h/ln	1721	1695	1797	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	3.3	18.8	18.9	14.8	19.7	0.0	1.8	2.7	13.4	8.6	14.7	14.0
Cycle Q Clear(g_c), s	3.3	18.8	18.9	14.8	19.7	0.0	1.8	2.7	13.4	8.6	14.7	14.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	917	486	558	1962	611	398	418	355	613	332	282
V/C Ratio(X)	0.65	0.71	0.71	0.86	0.59	0.00	0.09	0.14	0.61	0.49	0.79	0.76
Avail Cap(c_a), veh/h	268	978	518	709	2118	660	398	418	355	898	486	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	35.9	36.0	44.5	26.7	0.0	33.5	33.9	38.1	40.4	42.9	42.6
Incr Delay (d2), s/veh	4.3	2.2	4.2	8.4	0.4	0.0	0.4	0.7	7.5	0.6	5.3	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.1	9.9	7.7	9.3	0.0	0.9	1.5	6.6	4.1	8.1	6.5
LnGrp Delay(d),s/veh	55.5	38.1	40.1	52.9	27.0	0.0	34.0	34.6	45.6	41.0	48.2	47.3
LnGrp LOS	E	D	D	D	C		C	C	D	D	D	D
Approach Vol, veh/h		1098			1633			310			777	
Approach Delay, s/veh		40.4			34.6			42.2			45.2	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	22.2	34.1		24.0	9.6	46.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		15.4	16.8	20.9		16.7	5.3	21.7
Green Ext Time (p_c), s		0.8	0.9	8.6		2.8	0.1	16.5

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	961	525	430	764	0	0	0	0	203	1	1030
Future Volume (vph)	0	961	525	430	764	0	0	0	0	203	1	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.98	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4687	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4687	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	961	525	430	764	0	0	0	0	203	1	1030
RTOR Reduction (vph)	0	41	235	0	0	0	0	0	0	0	0	251
Lane Group Flow (vph)	0	1109	101	430	764	0	0	0	0	0	204	779
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		19.4	19.4	10.4	34.3						21.5	21.5
Effective Green, g (s)		19.4	19.4	10.4	34.3						21.5	21.5
Actuated g/C Ratio		0.30	0.30	0.16	0.53						0.33	0.33
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1403	407	550	1873						588	1197
v/s Ratio Prot		c0.24		c0.13	0.22							
v/s Ratio Perm			0.07								0.11	c0.22
v/c Ratio		0.79	0.25	0.78	0.41						0.35	0.65
Uniform Delay, d1		20.8	17.2	26.1	9.2						16.3	18.5
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.1	0.3	7.1	0.1						0.4	2.8
Delay (s)		24.0	17.5	33.2	9.3						16.7	21.2
Level of Service		C	B	C	A						B	C
Approach Delay (s)		22.5			17.9			0.0			20.5	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	964	219	1	9	121	141	12	24	11	240	16	1048
Future Volume (vph)	964	219	1	9	121	141	12	24	11	240	16	1048
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3537		1770	3539	1583		3372		1681	1695	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.63		0.95	0.96	1.00
Satd. Flow (perm)	3433	3537		1770	3539	1583		2135		1681	1695	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	964	219	1	9	121	141	12	24	11	240	16	1048
RTOR Reduction (vph)	0	0	0	0	0	127	0	10	0	0	0	443
Lane Group Flow (vph)	964	220	0	9	121	14	0	37	0	127	129	605
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	35.4	42.7		1.0	8.3	8.3		9.6		13.6	13.6	49.0
Effective Green, g (s)	35.4	42.7		1.0	8.3	8.3		9.6		13.6	13.6	49.0
Actuated g/C Ratio	0.42	0.50		0.01	0.10	0.10		0.11		0.16	0.16	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1431	1778		20	345	154		241		269	271	1608
v/s Ratio Prot	c0.28	0.06		0.01	c0.03					0.08	c0.08	0.16
v/s Ratio Perm						0.01		c0.02				0.06
v/c Ratio	0.67	0.12		0.45	0.35	0.09		0.15		0.47	0.48	0.38
Uniform Delay, d1	20.1	11.2		41.7	35.8	34.9		34.0		32.4	32.4	9.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	0.0		15.3	0.6	0.3		1.4		5.8	5.9	0.1
Delay (s)	21.3	11.2		56.9	36.4	35.1		35.3		38.2	38.3	9.8
Level of Service	C	B		E	D	D		D		D	D	A
Approach Delay (s)		19.5			36.4			35.3			15.4	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	68	32	66	26	74	54	228	98	225	141	21
Future Volume (vph)	44	68	32	66	26	74	54	228	98	225	141	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1765	1583		3238		1770	3380		1770	3470	
Flt Permitted	0.95	1.00	1.00		0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1765	1583		2737		1770	3380		1770	3470	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	68	32	66	26	74	54	228	98	225	141	21
RTOR Reduction (vph)	0	0	29	0	68	0	0	49	0	0	11	0
Lane Group Flow (vph)	40	72	3	0	98	0	54	277	0	225	151	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Effective Green, g (s)	6.5	6.5	6.5		6.1		4.2	24.8		14.1	34.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.09		0.06	0.36		0.20	0.50	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	165	148		240		106	1206		359	1732	
v/s Ratio Prot	0.02	c0.04					0.03	c0.08		c0.13	0.04	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.25	0.44	0.02		0.41		0.51	0.23		0.63	0.09	
Uniform Delay, d1	29.3	29.8	28.6		30.0		31.7	15.7		25.3	9.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	1.8	0.1		1.1		3.8	0.4		3.4	0.1	
Delay (s)	30.1	31.6	28.7		31.1		35.5	16.1		28.7	9.2	
Level of Service	C	C	C		C		D	B		C	A	
Approach Delay (s)		30.5			31.1			18.9			20.5	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	55	73	419	429	38
Future Volume (vph)	22	55	73	419	429	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3496	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3496	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	55	73	419	429	38
RTOR Reduction (vph)	50	0	0	0	5	0
Lane Group Flow (vph)	27	0	73	419	462	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	5.7		6.9	52.2	40.8	
Effective Green, g (s)	5.7		6.9	52.2	40.8	
Actuated g/C Ratio	0.09		0.10	0.78	0.61	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	141		182	2761	2132	
v/s Ratio Prot	c0.02		c0.04	0.12	c0.13	
v/s Ratio Perm						
v/c Ratio	0.19		0.40	0.15	0.22	
Uniform Delay, d1	28.5		28.1	1.8	5.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7		1.4	0.1	0.2	
Delay (s)	29.1		29.5	1.9	6.1	
Level of Service	C		C	A	A	
Approach Delay (s)	29.1			6.0	6.1	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	413	8	511	14	12	7	1018	348	11	10	278	104
Future Volume (vph)	413	8	511	14	12	7	1018	348	11	10	278	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.90	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1498	1504		1772		3433	3523		1770	3539	1583
Flt Permitted	0.95	0.99	1.00		0.71		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1498	1504		1285		3433	3523		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	413	8	511	14	12	7	1018	348	11	10	278	104
RTOR Reduction (vph)	0	66	199	0	7	0	0	2	0	0	0	92
Lane Group Flow (vph)	326	244	97	0	26	0	1018	357	0	10	278	12
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.6	37.6	37.6		7.5		38.2	45.8		5.5	13.1	13.1
Effective Green, g (s)	37.6	37.6	37.6		7.5		38.2	45.8		5.5	13.1	13.1
Actuated g/C Ratio	0.33	0.33	0.33		0.07		0.33	0.40		0.05	0.11	0.11
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	552	492	494		84		1146	1410		85	405	181
v/s Ratio Prot	c0.19	0.16					c0.30	0.10		0.01	c0.08	
v/s Ratio Perm			0.06		c0.02							0.01
v/c Ratio	0.59	0.49	0.20		0.31		0.89	0.25		0.12	0.69	0.07
Uniform Delay, d1	32.0	30.8	27.6		51.0		36.1	22.9		52.1	48.7	45.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	3.5	0.9		9.6		8.6	0.1		0.6	4.8	0.2
Delay (s)	36.6	34.3	28.5		60.6		44.7	23.0		52.7	53.5	45.3
Level of Service	D	C	C		E		D	C		D	D	D
Approach Delay (s)		33.2			60.6			39.0			51.3	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	114.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	382	43	365	418	292	48	319	516	455	430	29
Future Volume (veh/h)	9	382	43	365	418	292	48	319	516	455	430	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	382	43	365	418	0	48	319	0	455	430	29
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	456	51	317	333	283	62	1380	617	526	876	59
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.00	0.03	0.39	0.00	0.15	0.51	0.51
Sat Flow, veh/h	1774	3210	359	1774	1863	1583	1774	3539	1583	3442	1726	116
Grp Volume(v), veh/h	9	210	215	365	418	0	48	319	0	455	0	459
Grp Sat Flow(s),veh/h/ln	1774	1770	1799	1774	1863	1583	1774	1770	1583	1721	0	1842
Q Serve(g_s), s	0.6	15.2	15.4	23.5	23.5	0.0	3.5	8.0	0.0	17.0	0.0	21.5
Cycle Q Clear(g_c), s	0.6	15.2	15.4	23.5	23.5	0.0	3.5	8.0	0.0	17.0	0.0	21.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	252	251	256	317	333	283	62	1380	617	526	0	935
V/C Ratio(X)	0.04	0.83	0.84	1.15	1.26	0.00	0.77	0.23	0.00	0.86	0.00	0.49
Avail Cap(c_a), veh/h	319	319	324	317	333	283	175	1380	617	719	0	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.7	55.0	55.0	54.1	54.1	0.0	63.0	26.9	0.0	54.4	0.0	21.2
Incr Delay (d2), s/veh	0.1	14.0	14.8	98.4	137.8	0.0	18.1	0.4	0.0	8.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.4	8.7	20.1	24.7	0.0	2.0	4.0	0.0	8.7	0.0	11.3
LnGrp Delay(d),s/veh	48.7	69.0	69.9	152.5	191.8	0.0	81.1	27.3	0.0	62.6	0.0	23.1
LnGrp LOS	D	E	E	F	F		F	C		E		C
Approach Vol, veh/h		434			783			367			914	
Approach Delay, s/veh		69.0			173.5			34.4			42.7	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	55.8		23.2	9.1	71.3		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	19.0	10.0		17.4	5.5	23.5		25.5
Green Ext Time (p_c), s	1.1	6.0		1.3	0.0	6.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	87.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1165	204	187	997	10	79	8	327	0	0	0
Future Volume (veh/h)	7	1165	204	187	997	10	79	8	327	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	7	1165	204	187	997	10	79	8	327			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	249	1816	318	247	1885	19	650	66	636			
Arrive On Green	0.42	0.42	0.42	0.07	0.53	0.53	0.40	0.40	0.40			
Sat Flow, veh/h	557	4356	763	3442	3590	36	1618	164	1583			
Grp Volume(v), veh/h	7	907	462	187	491	516	87	0	327			
Grp Sat Flow(s),veh/h/ln	557	1695	1728	1721	1770	1856	1782	0	1583			
Q Serve(g_s), s	1.0	26.2	26.2	6.6	22.5	22.5	3.8	0.0	19.2			
Cycle Q Clear(g_c), s	10.2	26.2	26.2	6.6	22.5	22.5	3.8	0.0	19.2			
Prop In Lane	1.00		0.44	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	249	1413	720	247	929	975	716	0	636			
V/C Ratio(X)	0.03	0.64	0.64	0.76	0.53	0.53	0.12	0.00	0.51			
Avail Cap(c_a), veh/h	300	1720	877	405	1171	1228	716	0	636			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.0	28.6	28.6	56.1	19.2	19.2	23.2	0.0	27.8			
Incr Delay (d2), s/veh	0.0	0.6	1.2	4.7	0.5	0.4	0.3	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	12.3	12.7	3.3	11.0	11.6	1.9	0.0	8.9			
LnGrp Delay(d),s/veh	27.0	29.2	29.7	60.8	19.7	19.7	23.5	0.0	30.7			
LnGrp LOS	C	C	C	E	B	B	C		C			
Approach Vol, veh/h		1376			1194			414				
Approach Delay, s/veh		29.4			26.1			29.2				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	13.3	55.9				69.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		21.2	8.6	28.2				24.5
Green Ext Time (p_c), s		1.7	0.3	23.1				31.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	1279	60	220	838	313	49	129	394	126	87	109
Future Volume (veh/h)	228	1279	60	220	838	313	49	129	394	126	87	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	228	1279	60	220	838	0	49	129	394	126	87	109
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1746	82	287	1771	552	551	578	491	322	174	148
Arrive On Green	0.09	0.35	0.35	0.08	0.35	0.00	0.31	0.31	0.31	0.09	0.09	0.09
Sat Flow, veh/h	3442	4978	234	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	228	871	468	220	838	0	49	129	394	126	87	109
Grp Sat Flow(s),veh/h/ln	1721	1695	1822	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	7.2	25.0	25.0	7.0	14.3	0.0	2.2	5.7	25.4	3.8	4.9	7.4
Cycle Q Clear(g_c), s	7.2	25.0	25.0	7.0	14.3	0.0	2.2	5.7	25.4	3.8	4.9	7.4
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	1189	639	287	1771	552	551	578	491	322	174	148
V/C Ratio(X)	0.77	0.73	0.73	0.77	0.47	0.00	0.09	0.22	0.80	0.39	0.50	0.74
Avail Cap(c_a), veh/h	449	1296	696	449	1944	605	551	578	491	635	344	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	31.5	31.5	49.9	28.3	0.0	27.2	28.4	35.2	47.4	47.9	49.0
Incr Delay (d2), s/veh	4.5	2.0	3.6	4.2	0.2	0.0	0.3	0.9	12.9	0.8	2.2	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	11.9	13.1	3.5	6.7	0.0	1.1	3.1	12.9	1.9	2.6	3.5
LnGrp Delay(d),s/veh	54.2	33.5	35.2	54.1	28.5	0.0	27.5	29.3	48.1	48.2	50.1	56.0
LnGrp LOS	D	C	D	D	C		C	C	D	D	D	E
Approach Vol, veh/h		1567			1058			572			322	
Approach Delay, s/veh		37.0			33.8			42.1			51.3	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	13.8	43.5		14.9	14.0	43.2
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		27.4	9.0	27.0		9.4	9.2	16.3
Green Ext Time (p_c), s		1.4	0.3	12.0		0.9	0.3	17.9

Intersection Summary	
HCM 2010 Ctrl Delay	38.2
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1307	526	176	611	0	0	0	0	463	2	800
Future Volume (vph)	0	1307	526	176	611	0	0	0	0	463	2	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4747	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4747	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1307	526	176	611	0	0	0	0	463	2	800
RTOR Reduction (vph)	0	8	169	0	0	0	0	0	0	0	0	303
Lane Group Flow (vph)	0	1415	241	176	611	0	0	0	0	0	465	497
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		43.6	43.6	10.9	59.0						49.5	49.5
Effective Green, g (s)		43.6	43.6	10.9	59.0						49.5	49.5
Actuated g/C Ratio		0.37	0.37	0.09	0.50						0.42	0.42
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1761	505	318	1777						747	1520
v/s Ratio Prot		c0.30		c0.05	0.17							
v/s Ratio Perm			0.18								0.26	0.14
v/c Ratio		0.80	0.48	0.55	0.34						0.62	0.33
Uniform Delay, d1		33.1	28.2	51.0	17.6						26.7	22.8
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		2.8	0.7	2.1	0.1						1.6	0.6
Delay (s)		35.9	28.9	53.1	17.7						28.3	23.4
Level of Service		D	C	D	B						C	C
Approach Delay (s)		34.3			25.6			0.0			25.2	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1282	495	6	4	66	93	22	17	4	95	24	683
Future Volume (vph)	1282	495	6	4	66	93	22	17	4	95	24	683
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	0.97	1.00
Satd. Flow (prot)	3433	3533		1770	3539	1583		3403		1681	1718	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.69		0.95	0.97	1.00
Satd. Flow (perm)	3433	3533		1770	3539	1583		2403		1681	1718	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1282	495	6	4	66	93	22	17	4	95	24	683
RTOR Reduction (vph)	0	1	0	0	0	86	0	4	0	0	0	251
Lane Group Flow (vph)	1282	500	0	4	66	7	0	39	0	59	60	432
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	48.6	55.0		1.1	7.5	7.5		10.7		13.7	13.7	62.3
Effective Green, g (s)	48.6	55.0		1.1	7.5	7.5		10.7		13.7	13.7	62.3
Actuated g/C Ratio	0.49	0.56		0.01	0.08	0.08		0.11		0.14	0.14	0.63
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1693	1972		19	269	120		261		233	238	1762
v/s Ratio Prot	c0.37	0.14		0.00	c0.02					c0.04	0.03	0.12
v/s Ratio Perm						0.00		c0.02				0.03
v/c Ratio	0.76	0.25		0.21	0.25	0.06		0.15		0.25	0.25	0.25
Uniform Delay, d1	20.2	11.2		48.3	42.8	42.2		39.8		37.8	37.8	7.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1		5.5	0.5	0.2		1.2		2.6	2.5	0.1
Delay (s)	22.2	11.3		53.7	43.3	42.4		41.0		40.4	40.4	7.9
Level of Service	C	B		D	D	D		D		D	D	A
Approach Delay (s)		19.1			43.1			41.0			12.8	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	98.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	24	17	25	36	52	77	403	61	74	97	31
Future Volume (vph)	27	24	17	25	36	52	77	403	61	74	97	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1760	1583		3259		1770	3469		1770	3411	
Flt Permitted	0.95	0.99	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1760	1583		2947		1770	3469		1770	3411	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	24	17	25	36	52	77	403	61	74	97	31
RTOR Reduction (vph)	0	0	16	0	49	0	0	16	0	0	17	0
Lane Group Flow (vph)	24	27	1	0	64	0	77	448	0	74	111	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1620		133	1593	
v/s Ratio Prot	0.01	c0.02					c0.04	c0.13		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.24	0.26	0.01		0.36		0.58	0.28		0.56	0.07	
Uniform Delay, d1	23.9	23.9	23.6		24.0		23.7	8.7		23.7	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.4	0.0		1.3		6.0	0.4		5.0	0.1	
Delay (s)	25.2	25.3	23.6		25.2		29.7	9.1		28.7	7.9	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.8			25.2			12.0			15.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	123	40	423	545	38
Future Volume (vph)	34	123	40	423	545	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3505	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	123	40	423	545	38
RTOR Reduction (vph)	109	0	0	0	4	0
Lane Group Flow (vph)	48	0	40	423	579	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.5		3.4	49.9	42.0	
Effective Green, g (s)	7.5		3.4	49.9	42.0	
Actuated g/C Ratio	0.11		0.05	0.75	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	186		90	2659	2217	
v/s Ratio Prot	c0.03		c0.02	0.12	c0.17	
v/s Ratio Perm						
v/c Ratio	0.26		0.44	0.16	0.26	
Uniform Delay, d1	26.9		30.6	2.3	5.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7		3.5	0.1	0.3	
Delay (s)	27.6		34.1	2.5	5.7	
Level of Service	C		C	A	A	
Approach Delay (s)	27.6			5.2	5.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	4	470	20	13	7	912	271	23	15	753	212
Future Volume (vph)	168	4	470	20	13	7	912	271	23	15	753	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1457	1504		1774		3433	3498		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1457	1504		1774		3433	3498		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	168	4	470	20	13	7	912	271	23	15	753	212
RTOR Reduction (vph)	0	177	191	0	5	0	0	4	0	0	0	88
Lane Group Flow (vph)	151	70	53	0	35	0	912	290	0	15	753	124
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.9	29.9	29.9		8.6		41.9	77.7		2.7	38.5	38.5
Effective Green, g (s)	29.9	29.9	29.9		8.6		41.9	77.7		2.7	38.5	38.5
Actuated g/C Ratio	0.22	0.22	0.22		0.06		0.31	0.57		0.02	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	367	318	328		111		1050	1985		34	995	445
v/s Ratio Prot	c0.09	0.05			c0.02		c0.27	0.08		0.01	c0.21	
v/s Ratio Perm			0.04									0.08
v/c Ratio	0.41	0.22	0.16		0.32		0.87	0.15		0.44	0.76	0.28
Uniform Delay, d1	45.9	43.9	43.4		61.3		44.9	14.0		66.4	44.9	38.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.4	1.6	1.1		7.4		7.8	0.0		8.9	3.3	0.3
Delay (s)	49.3	45.5	44.4		68.7		52.7	14.0		75.2	48.3	38.7
Level of Service	D	D	D		E		D	B		E	D	D
Approach Delay (s)		46.0			68.7			43.2			46.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	136.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	284	78	440	566	603	139	435	429	427	446	63
Future Volume (veh/h)	26	284	78	440	566	603	139	435	429	427	446	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	26	284	78	440	566	0	139	435	0	427	446	63
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	324	87	587	617	524	124	1076	482	476	595	84
Arrive On Green	0.12	0.12	0.12	0.33	0.33	0.00	0.07	0.30	0.00	0.14	0.37	0.37
Sat Flow, veh/h	1774	2757	744	1774	1863	1583	1774	3539	1583	3442	1597	226
Grp Volume(v), veh/h	26	180	182	440	566	0	139	435	0	427	0	509
Grp Sat Flow(s),veh/h/ln	1774	1770	1731	1774	1863	1583	1774	1770	1583	1721	0	1823
Q Serve(g_s), s	2.2	16.5	17.1	36.4	48.2	0.0	11.5	16.1	0.0	20.1	0.0	40.1
Cycle Q Clear(g_c), s	2.2	16.5	17.1	36.4	48.2	0.0	11.5	16.1	0.0	20.1	0.0	40.1
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	208	208	203	587	617	524	124	1076	482	476	0	679
V/C Ratio(X)	0.12	0.87	0.89	0.75	0.92	0.00	1.12	0.40	0.00	0.90	0.00	0.75
Avail Cap(c_a), veh/h	220	220	215	683	717	609	124	1076	482	553	0	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.2	71.5	71.8	49.1	53.0	0.0	76.8	45.5	0.0	69.9	0.0	45.0
Incr Delay (d2), s/veh	0.3	27.8	33.0	3.9	15.4	0.0	118.2	1.1	0.0	15.8	0.0	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	9.7	10.0	18.5	27.5	0.0	9.7	8.0	0.0	10.7	0.0	21.6
LnGrp Delay(d),s/veh	65.5	99.4	104.8	53.0	68.5	0.0	194.9	46.7	0.0	85.8	0.0	52.5
LnGrp LOS	E	F	F	D	E		F	D		F		D
Approach Vol, veh/h		388			1006			574			936	
Approach Delay, s/veh		99.6			61.7			82.6			67.7	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.3	54.7		23.9	16.0	66.0		59.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	22.1	18.1		19.1	13.5	42.1		50.2
Green Ext Time (p_c), s	0.7	7.2		0.3	0.0	6.3		4.4

Intersection Summary	
HCM 2010 Ctrl Delay	72.8
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	997	133	335	1482	7	123	10	396	0	0	0
Future Volume (veh/h)	9	997	133	335	1482	7	123	10	396	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	9	997	133	335	1482	7	123	10	396			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	161	2010	268	400	2138	10	563	46	541			
Arrive On Green	0.44	0.44	0.44	0.12	0.59	0.59	0.34	0.34	0.34			
Sat Flow, veh/h	352	4542	605	3442	3612	17	1647	134	1583			
Grp Volume(v), veh/h	9	744	386	335	726	763	133	0	396			
Grp Sat Flow(s),veh/h/ln	352	1695	1756	1721	1770	1860	1780	0	1583			
Q Serve(g_s), s	2.5	21.3	21.4	13.0	38.6	38.6	7.2	0.0	29.8			
Cycle Q Clear(g_c), s	20.8	21.3	21.4	13.0	38.6	38.6	7.2	0.0	29.8			
Prop In Lane	1.00		0.34	1.00		0.01	0.92		1.00			
Lane Grp Cap(c), veh/h	161	1500	777	400	1047	1101	609	0	541			
V/C Ratio(X)	0.06	0.50	0.50	0.84	0.69	0.69	0.22	0.00	0.73			
Avail Cap(c_a), veh/h	201	1882	975	620	1360	1429	609	0	541			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.4	27.1	27.1	58.8	19.2	19.2	31.8	0.0	39.3			
Incr Delay (d2), s/veh	0.1	0.3	0.5	6.0	1.0	1.0	0.8	0.0	8.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	10.0	10.4	6.5	19.1	20.0	3.7	0.0	14.3			
LnGrp Delay(d),s/veh	33.6	27.3	27.6	64.8	20.2	20.2	32.6	0.0	47.7			
LnGrp LOS	C	C	C	E	C	C	C		D			
Approach Vol, veh/h		1139			1824			529				
Approach Delay, s/veh		27.5			28.4			43.9				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	20.3	64.7				85.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		31.8	15.0	23.4				40.6
Green Ext Time (p_c), s		2.0	0.8	35.1				39.8

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	989	77	505	1207	133	39	63	232	326	286	233
Future Volume (veh/h)	115	989	77	505	1207	133	39	63	232	326	286	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	115	989	77	505	1207	0	39	63	232	326	286	233
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	1291	100	578	1965	612	383	402	342	651	352	300
Arrive On Green	0.05	0.27	0.27	0.17	0.39	0.00	0.22	0.22	0.22	0.19	0.19	0.19
Sat Flow, veh/h	3442	4813	374	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	115	696	370	505	1207	0	39	63	232	326	286	233
Grp Sat Flow(s),veh/h/ln	1721	1695	1797	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	3.7	21.4	21.5	16.2	21.7	0.0	2.0	3.1	15.3	9.6	16.7	15.9
Cycle Q Clear(g_c), s	3.7	21.4	21.5	16.2	21.7	0.0	2.0	3.1	15.3	9.6	16.7	15.9
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	909	482	578	1965	612	383	402	342	651	352	300
V/C Ratio(X)	0.67	0.77	0.77	0.87	0.61	0.00	0.10	0.16	0.68	0.50	0.81	0.78
Avail Cap(c_a), veh/h	258	941	499	683	2040	635	383	402	342	865	468	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	38.2	38.2	46.0	28.0	0.0	35.6	36.1	40.8	41.2	44.0	43.7
Incr Delay (d2), s/veh	4.5	3.7	6.9	10.7	0.5	0.0	0.5	0.8	10.4	0.6	7.9	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.5	11.6	8.6	10.3	0.0	1.0	1.7	7.7	4.6	9.3	7.5
LnGrp Delay(d),s/veh	57.5	41.9	45.1	56.8	28.5	0.0	36.2	36.9	51.2	41.8	51.9	50.6
LnGrp LOS	E	D	D	E	C		D	D	D	D	D	D
Approach Vol, veh/h		1181			1712			334			845	
Approach Delay, s/veh		44.4			36.9			46.8			47.6	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	23.5	34.9		26.0	10.1	48.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		17.3	18.2	23.5		18.7	5.7	23.7
Green Ext Time (p_c), s		0.7	0.8	6.9		2.8	0.1	16.3

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1025	573	388	756	0	0	0	0	211	1	1122
Future Volume (vph)	0	1025	573	388	756	0	0	0	0	211	1	1122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.97	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4682	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4682	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1025	573	388	756	0	0	0	0	211	1	1122
RTOR Reduction (vph)	0	44	252	0	0	0	0	0	0	0	0	256
Lane Group Flow (vph)	0	1193	109	388	756	0	0	0	0	0	212	866
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		19.5	19.5	10.2	34.2						21.5	21.5
Effective Green, g (s)		19.5	19.5	10.2	34.2						21.5	21.5
Actuated g/C Ratio		0.30	0.30	0.16	0.53						0.33	0.33
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1411	410	541	1870						589	1199
v/s Ratio Prot		c0.25		c0.11	0.21							
v/s Ratio Perm			0.08								0.12	c0.24
v/c Ratio		0.85	0.27	0.72	0.40						0.36	0.72
Uniform Delay, d1		21.2	17.2	25.9	9.1						16.4	19.0
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		4.9	0.3	4.5	0.1						0.4	3.8
Delay (s)		26.0	17.5	30.4	9.3						16.8	22.8
Level of Service		C	B	C	A						B	C
Approach Delay (s)		24.1			16.4			0.0			21.8	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1017	240	1	10	132	142	13	26	12	239	17	985
Future Volume (vph)	1017	240	1	10	132	142	13	26	12	239	17	985
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3537		1770	3539	1583		3371		1681	1696	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.63		0.95	0.96	1.00
Satd. Flow (perm)	3433	3537		1770	3539	1583		2138		1681	1696	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1017	240	1	10	132	142	13	26	12	239	17	985
RTOR Reduction (vph)	0	0	0	0	0	128	0	11	0	0	0	413
Lane Group Flow (vph)	1017	241	0	10	132	14	0	40	0	127	129	572
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	36.3	43.8		1.0	8.5	8.5		9.6		13.6	13.6	49.9
Effective Green, g (s)	36.3	43.8		1.0	8.5	8.5		9.6		13.6	13.6	49.9
Actuated g/C Ratio	0.42	0.51		0.01	0.10	0.10		0.11		0.16	0.16	0.58
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1449	1801		20	349	156		238		265	268	1617
v/s Ratio Prot	c0.30	0.07		0.01	c0.04					0.08	c0.08	0.15
v/s Ratio Perm						0.01		c0.02				0.06
v/c Ratio	0.70	0.13		0.50	0.38	0.09		0.17		0.48	0.48	0.35
Uniform Delay, d1	20.4	11.1		42.3	36.3	35.2		34.6		33.0	33.0	9.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.0		18.3	0.7	0.3		1.5		6.1	6.1	0.1
Delay (s)	22.0	11.1		60.6	37.0	35.5		36.1		39.1	39.1	9.7
Level of Service	C	B		E	D	D		D		D	D	A
Approach Delay (s)		19.9			37.1			36.1			15.7	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	75	35	73	29	82	60	240	108	249	136	23
Future Volume (vph)	49	75	35	73	29	82	60	240	108	249	136	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1764	1583		3238		1770	3374		1770	3462	
Flt Permitted	0.95	1.00	1.00		0.82		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1764	1583		2709		1770	3374		1770	3462	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	75	35	73	29	82	60	240	108	249	136	23
RTOR Reduction (vph)	0	0	32	0	73	0	0	56	0	0	12	0
Lane Group Flow (vph)	44	80	3	0	111	0	60	292	0	249	147	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.9	6.9	6.9		8.1		4.4	22.9		14.9	33.4	
Effective Green, g (s)	6.9	6.9	6.9		8.1		4.4	22.9		14.9	33.4	
Actuated g/C Ratio	0.10	0.10	0.10		0.11		0.06	0.32		0.21	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	163	171	154		309		110	1091		372	1633	
v/s Ratio Prot	0.03	c0.05					0.03	c0.09		c0.14	0.04	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.27	0.47	0.02		0.36		0.55	0.27		0.67	0.09	
Uniform Delay, d1	29.6	30.2	28.9		29.0		32.2	17.7		25.7	10.3	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	2.0	0.1		0.7		5.4	0.6		4.5	0.1	
Delay (s)	30.5	32.2	29.0		29.7		37.7	18.3		30.2	10.4	
Level of Service	C	C	C		C		D	B		C	B	
Approach Delay (s)		31.0			29.7			21.2			22.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	55	73	424	455	38
Future Volume (vph)	22	55	73	424	455	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.90		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1659		1770	3539	3498	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1659		1770	3539	3498	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	55	73	424	455	38
RTOR Reduction (vph)	50	0	0	0	5	0
Lane Group Flow (vph)	27	0	73	424	488	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	5.7		6.9	52.2	40.8	
Effective Green, g (s)	5.7		6.9	52.2	40.8	
Actuated g/C Ratio	0.09		0.10	0.78	0.61	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	141		182	2761	2133	
v/s Ratio Prot	c0.02		c0.04	0.12	c0.14	
v/s Ratio Perm						
v/c Ratio	0.19		0.40	0.15	0.23	
Uniform Delay, d1	28.5		28.1	1.8	5.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7		1.4	0.1	0.3	
Delay (s)	29.1		29.5	2.0	6.2	
Level of Service	C		C	A	A	
Approach Delay (s)	29.1			6.0	6.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	495	8	511	14	12	7	1018	520	11	10	306	117
Future Volume (vph)	495	8	511	14	12	7	1018	520	11	10	306	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.92	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1522	1504		1772		3433	3528		1770	3539	1583
Flt Permitted	0.95	0.98	1.00		0.70		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1522	1504		1259		3433	3528		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	495	8	511	14	12	7	1018	520	11	10	306	117
RTOR Reduction (vph)	0	36	217	0	7	0	0	1	0	0	0	103
Lane Group Flow (vph)	351	305	105	0	26	0	1018	530	0	10	306	14
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2			6		3	8		7	4	
Permitted Phases			2	6								4
Actuated Green, G (s)	37.6	37.6	37.6		7.5		38.3	46.3		5.5	13.5	13.5
Effective Green, g (s)	37.6	37.6	37.6		7.5		38.3	46.3		5.5	13.5	13.5
Actuated g/C Ratio	0.33	0.33	0.33		0.07		0.33	0.40		0.05	0.12	0.12
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	550	498	492		82		1144	1421		84	415	185
v/s Ratio Prot	c0.21	0.20					c0.30	0.15		0.01	c0.09	
v/s Ratio Perm			0.07		c0.02							0.01
v/c Ratio	0.64	0.61	0.21		0.32		0.89	0.37		0.12	0.74	0.07
Uniform Delay, d1	32.9	32.5	28.0		51.3		36.3	24.1		52.4	49.0	45.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.6	5.5	1.0		10.1		8.7	0.2		0.6	6.7	0.2
Delay (s)	38.4	38.0	29.0		61.4		45.0	24.3		53.0	55.7	45.3
Level of Service	D	D	C		E		D	C		D	E	D
Approach Delay (s)		35.3			61.4			37.9			52.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	114.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	397	43	368	421	295	48	319	530	469	430	29
Future Volume (veh/h)	9	397	43	368	421	295	48	319	530	469	430	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	397	43	368	421	0	48	319	0	469	430	29
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	469	50	314	329	280	62	1366	611	539	876	59
Arrive On Green	0.15	0.15	0.15	0.18	0.18	0.00	0.03	0.39	0.00	0.16	0.51	0.51
Sat Flow, veh/h	1774	3224	347	1774	1863	1583	1774	3539	1583	3442	1726	116
Grp Volume(v), veh/h	9	217	223	368	421	0	48	319	0	469	0	459
Grp Sat Flow(s),veh/h/ln	1774	1770	1801	1774	1863	1583	1774	1770	1583	1721	0	1842
Q Serve(g_s), s	0.6	15.9	16.1	23.5	23.5	0.0	3.6	8.1	0.0	17.7	0.0	21.7
Cycle Q Clear(g_c), s	0.6	15.9	16.1	23.5	23.5	0.0	3.6	8.1	0.0	17.7	0.0	21.7
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	258	257	262	314	329	280	62	1366	611	539	0	935
V/C Ratio(X)	0.03	0.84	0.85	1.17	1.28	0.00	0.77	0.23	0.00	0.87	0.00	0.49
Avail Cap(c_a), veh/h	316	315	321	314	329	280	173	1366	611	712	0	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	55.3	55.4	54.7	54.7	0.0	63.6	27.6	0.0	54.7	0.0	21.5
Incr Delay (d2), s/veh	0.1	15.7	16.5	106.5	146.8	0.0	18.1	0.4	0.0	9.0	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.9	9.2	20.8	25.5	0.0	2.1	4.0	0.0	9.1	0.0	11.4
LnGrp Delay(d),s/veh	48.9	71.0	71.9	161.2	201.5	0.0	81.7	28.0	0.0	63.8	0.0	23.3
LnGrp LOS	D	E	E	F	F		F	C		E		C
Approach Vol, veh/h		449			789			367			928	
Approach Delay, s/veh		71.0			182.7			35.0			43.8	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.3	55.8		23.8	9.2	72.0		28.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	27.5	51.3		23.7	13.0	65.8		23.5
Max Q Clear Time (g_c+I1), s	19.7	10.1		18.1	5.6	23.7		25.5
Green Ext Time (p_c), s	1.1	6.0		1.3	0.0	6.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	90.6
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1208	204	191	1003	10	79	8	335	0	0	0
Future Volume (veh/h)	7	1208	204	191	1003	10	79	8	335	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	7	1208	204	191	1003	10	79	8	335			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	251	1847	312	250	1904	19	643	65	629			
Arrive On Green	0.42	0.42	0.42	0.07	0.53	0.53	0.40	0.40	0.40			
Sat Flow, veh/h	554	4382	740	3442	3590	36	1618	164	1583			
Grp Volume(v), veh/h	7	935	477	191	494	519	87	0	335			
Grp Sat Flow(s),veh/h/ln	554	1695	1732	1721	1770	1856	1782	0	1583			
Q Serve(g_s), s	1.0	27.4	27.4	6.8	22.7	22.7	3.9	0.0	20.1			
Cycle Q Clear(g_c), s	10.2	27.4	27.4	6.8	22.7	22.7	3.9	0.0	20.1			
Prop In Lane	1.00		0.43	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	251	1429	730	250	938	984	708	0	629			
V/C Ratio(X)	0.03	0.65	0.65	0.76	0.53	0.53	0.12	0.00	0.53			
Avail Cap(c_a), veh/h	295	1701	869	401	1158	1215	708	0	629			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.8	28.8	28.8	56.7	19.1	19.1	23.8	0.0	28.7			
Incr Delay (d2), s/veh	0.0	0.7	1.4	4.8	0.5	0.4	0.4	0.0	3.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	13.0	13.4	3.4	11.1	11.6	2.0	0.0	9.3			
LnGrp Delay(d),s/veh	26.8	29.5	30.1	61.5	19.5	19.5	24.1	0.0	31.9			
LnGrp LOS	C	C	C	E	B	B	C		C			
Approach Vol, veh/h		1419			1204			422				
Approach Delay, s/veh		29.7			26.2			30.3				
Approach LOS		C			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		54.0	13.6	57.0				70.5
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		49.5	14.5	62.5				81.5
Max Q Clear Time (g_c+I1), s		22.1	8.8	29.4				24.7
Green Ext Time (p_c), s		1.7	0.3	23.1				32.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	1330	60	221	848	314	49	129	406	137	87	109
Future Volume (veh/h)	228	1330	60	221	848	314	49	129	406	137	87	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	228	1330	60	221	848	0	49	129	406	137	87	109
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1766	80	288	1790	557	546	574	488	322	174	148
Arrive On Green	0.09	0.35	0.35	0.08	0.35	0.00	0.31	0.31	0.31	0.09	0.09	0.09
Sat Flow, veh/h	3442	4988	225	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	228	904	486	221	848	0	49	129	406	137	87	109
Grp Sat Flow(s),veh/h/ln	1721	1695	1823	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	7.3	26.3	26.3	7.0	14.5	0.0	2.2	5.8	26.7	4.2	5.0	7.5
Cycle Q Clear(g_c), s	7.3	26.3	26.3	7.0	14.5	0.0	2.2	5.8	26.7	4.2	5.0	7.5
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	1200	645	288	1790	557	546	574	488	322	174	148
V/C Ratio(X)	0.77	0.75	0.75	0.77	0.47	0.00	0.09	0.22	0.83	0.43	0.50	0.74
Avail Cap(c_a), veh/h	445	1286	692	445	1929	601	546	574	488	630	341	290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	31.9	31.9	50.3	28.2	0.0	27.6	28.8	36.1	47.9	48.3	49.4
Incr Delay (d2), s/veh	4.7	2.4	4.4	4.3	0.2	0.0	0.3	0.9	15.3	0.9	2.2	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	12.7	14.0	3.5	6.8	0.0	1.1	3.1	13.7	2.0	2.7	3.6
LnGrp Delay(d),s/veh	54.8	34.3	36.2	54.5	28.4	0.0	27.9	29.7	51.3	48.8	50.5	56.3
LnGrp LOS	D	C	D	D	C		C	C	D	D	D	E
Approach Vol, veh/h		1618			1069			584			333	
Approach Delay, s/veh		37.7			33.8			44.6			51.7	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	13.9	44.2		15.0	14.1	43.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	14.5	42.5		20.5	14.5	42.5
Max Q Clear Time (g_c+I1), s		28.7	9.0	28.3		9.5	9.3	16.5
Green Ext Time (p_c), s		1.3	0.3	11.4		1.0	0.3	18.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1381	526	189	623	0	0	0	0	545	2	800
Future Volume (vph)	0	1381	526	189	623	0	0	0	0	545	2	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.99	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4757	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4757	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1381	526	189	623	0	0	0	0	545	2	800
RTOR Reduction (vph)	0	6	161	0	0	0	0	0	0	0	0	295
Lane Group Flow (vph)	0	1475	265	189	623	0	0	0	0	0	547	505
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		44.1	44.1	11.1	59.7						49.5	49.5
Effective Green, g (s)		44.1	44.1	11.1	59.7						49.5	49.5
Actuated g/C Ratio		0.37	0.37	0.09	0.51						0.42	0.42
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1774	508	322	1787						742	1511
v/s Ratio Prot		c0.31		c0.06	0.18							
v/s Ratio Perm			0.19								0.31	0.14
v/c Ratio		0.83	0.52	0.59	0.35						0.74	0.33
Uniform Delay, d1		33.7	28.8	51.4	17.6						28.9	23.2
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.5	1.0	2.7	0.1						3.8	0.6
Delay (s)		37.2	29.8	54.1	17.7						32.7	23.8
Level of Service		D	C	D	B						C	C
Approach Delay (s)		35.5			26.2			0.0			27.4	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	118.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1438	495	6	4	66	109	22	17	4	98	24	708
Future Volume (vph)	1438	495	6	4	66	109	22	17	4	98	24	708
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	0.97	1.00
Satd. Flow (prot)	3433	3533		1770	3539	1583		3403		1681	1718	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.69		0.95	0.97	1.00
Satd. Flow (perm)	3433	3533		1770	3539	1583		2421		1681	1718	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1438	495	6	4	66	109	22	17	4	98	24	708
RTOR Reduction (vph)	0	1	0	0	0	101	0	4	0	0	0	244
Lane Group Flow (vph)	1438	500	0	4	66	8	0	39	0	61	61	464
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	55.2	61.8		1.1	7.7	7.7		10.6		13.7	13.7	68.9
Effective Green, g (s)	55.2	61.8		1.1	7.7	7.7		10.6		13.7	13.7	68.9
Actuated g/C Ratio	0.52	0.59		0.01	0.07	0.07		0.10		0.13	0.13	0.65
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1801	2075		18	259	115		243		218	223	1825
v/s Ratio Prot	c0.42	0.14		0.00	c0.02					c0.04	0.04	0.13
v/s Ratio Perm						0.01		c0.02				0.03
v/c Ratio	0.80	0.24		0.22	0.25	0.07		0.16		0.28	0.27	0.25
Uniform Delay, d1	20.4	10.4		51.6	46.0	45.4		43.2		41.3	41.3	7.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.1		6.2	0.5	0.3		1.4		3.2	3.0	0.1
Delay (s)	23.0	10.5		57.8	46.6	45.7		44.7		44.5	44.3	7.6
Level of Service	C	B		E	D	D		D		D	D	A
Approach Delay (s)		19.8			46.3			44.7			13.0	
Approach LOS		B			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	105.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	24	17	25	36	52	77	419	61	74	100	31
Future Volume (vph)	27	24	17	25	36	52	77	419	61	74	100	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.98		1.00	0.96	
Flt Protected	0.95	0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1760	1583		3259		1770	3472		1770	3414	
Flt Permitted	0.95	0.99	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1760	1583		2947		1770	3472		1770	3414	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	24	17	25	36	52	77	419	61	74	100	31
RTOR Reduction (vph)	0	0	16	0	49	0	0	15	0	0	17	0
Lane Group Flow (vph)	24	27	1	0	64	0	77	465	0	74	114	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Effective Green, g (s)	3.1	3.1	3.1		3.2		4.0	24.8		4.0	24.8	
Actuated g/C Ratio	0.06	0.06	0.06		0.06		0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	102	92		177		133	1621		133	1594	
v/s Ratio Prot	0.01	c0.02					c0.04	c0.13		0.04	0.03	
v/s Ratio Perm			0.00		c0.02							
v/c Ratio	0.24	0.26	0.01		0.36		0.58	0.29		0.56	0.07	
Uniform Delay, d1	23.9	23.9	23.6		24.0		23.7	8.7		23.7	7.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.4	0.0		1.3		6.0	0.4		5.0	0.1	
Delay (s)	25.2	25.3	23.6		25.2		29.7	9.2		28.7	7.9	
Level of Service	C	C	C		C		C	A		C	A	
Approach Delay (s)		24.8			25.2			12.0			15.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	123	40	450	557	38
Future Volume (vph)	34	123	40	450	557	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.89		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1648		1770	3539	3505	
Flt Permitted	0.99		0.95	1.00	1.00	
Satd. Flow (perm)	1648		1770	3539	3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	123	40	450	557	38
RTOR Reduction (vph)	109	0	0	0	4	0
Lane Group Flow (vph)	48	0	40	450	591	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.5		3.4	49.9	42.0	
Effective Green, g (s)	7.5		3.4	49.9	42.0	
Actuated g/C Ratio	0.11		0.05	0.75	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	186		90	2659	2217	
v/s Ratio Prot	c0.03		c0.02	0.13	c0.17	
v/s Ratio Perm						
v/c Ratio	0.26		0.44	0.17	0.27	
Uniform Delay, d1	26.9		30.6	2.3	5.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7		3.5	0.1	0.3	
Delay (s)	27.6		34.1	2.5	5.7	
Level of Service	C		C	A	A	
Approach Delay (s)	27.6			5.1	5.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	4	470	20	13	7	912	316	23	15	914	285
Future Volume (vph)	178	4	470	20	13	7	912	316	23	15	914	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95		1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	0.86	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1458	1504		1774		3433	3503		1770	3539	1583
Flt Permitted	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1458	1504		1774		3433	3503		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	178	4	470	20	13	7	912	316	23	15	914	285
RTOR Reduction (vph)	0	179	194	0	5	0	0	3	0	0	0	94
Lane Group Flow (vph)	160	69	50	0	35	0	912	336	0	15	914	191
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	29.6	29.6	29.6		8.5		43.2	84.4		2.8	44.0	44.0
Effective Green, g (s)	29.6	29.6	29.6		8.5		43.2	84.4		2.8	44.0	44.0
Actuated g/C Ratio	0.21	0.21	0.21		0.06		0.30	0.59		0.02	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	347	301	310		105		1034	2063		34	1086	486
v/s Ratio Prot	c0.10	0.05			c0.02		c0.27	0.10		0.01	c0.26	
v/s Ratio Perm			0.03									0.12
v/c Ratio	0.46	0.23	0.16		0.34		0.88	0.16		0.44	0.84	0.39
Uniform Delay, d1	49.9	47.3	46.7		64.7		47.6	13.4		69.5	46.4	39.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	1.8	1.1		8.4		9.0	0.0		8.9	6.0	0.5
Delay (s)	54.2	49.1	47.8		73.1		56.6	13.4		78.4	52.4	39.7
Level of Service	D	D	D		E		E	B		E	D	D
Approach Delay (s)		49.9			73.1			44.9			49.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	143.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	289	78	454	580	617	139	435	435	433	446	63
Future Volume (veh/h)	26	289	78	454	580	617	139	435	435	433	446	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	26	289	78	454	580	0	139	435	0	433	446	63
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	327	87	598	628	534	122	1053	471	480	588	83
Arrive On Green	0.12	0.12	0.12	0.34	0.34	0.00	0.07	0.30	0.00	0.14	0.37	0.37
Sat Flow, veh/h	1774	2768	734	1774	1863	1583	1774	3539	1583	3442	1597	226
Grp Volume(v), veh/h	26	183	184	454	580	0	139	435	0	433	0	509
Grp Sat Flow(s),veh/h/ln	1774	1770	1733	1774	1863	1583	1774	1770	1583	1721	0	1823
Q Serve(g_s), s	2.2	17.0	17.5	38.1	50.1	0.0	11.5	16.4	0.0	20.7	0.0	40.9
Cycle Q Clear(g_c), s	2.2	17.0	17.5	38.1	50.1	0.0	11.5	16.4	0.0	20.7	0.0	40.9
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	210	209	205	598	628	534	122	1053	471	480	0	671
V/C Ratio(X)	0.12	0.87	0.90	0.76	0.92	0.00	1.14	0.41	0.00	0.90	0.00	0.76
Avail Cap(c_a), veh/h	218	217	213	674	708	602	122	1053	471	546	0	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.9	72.4	72.7	49.3	53.3	0.0	77.8	47.0	0.0	70.7	0.0	46.3
Incr Delay (d2), s/veh	0.3	29.6	34.9	4.4	16.7	0.0	123.3	1.2	0.0	16.8	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.1	10.4	19.4	28.7	0.0	9.8	8.2	0.0	11.0	0.0	22.1
LnGrp Delay(d),s/veh	66.2	102.0	107.5	53.8	70.1	0.0	201.1	48.2	0.0	87.6	0.0	54.1
LnGrp LOS	E	F	F	D	E		F	D		F		D
Approach Vol, veh/h		393			1034			574			942	
Approach Delay, s/veh		102.2			62.9			85.2			69.5	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.8	54.2		24.2	16.0	66.0		60.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	26.5	46.5		20.5	11.5	61.5		63.5
Max Q Clear Time (g_c+I1), s	22.7	18.4		19.5	13.5	42.9		52.1
Green Ext Time (p_c), s	0.6	7.1		0.2	0.0	6.2		4.2

Intersection Summary	
HCM 2010 Ctrl Delay	74.6
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1014	133	343	1524	7	123	10	397	0	0	0
Future Volume (veh/h)	9	1014	133	343	1524	7	123	10	397	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	9	1014	133	343	1524	7	123	10	397			
Adj No. of Lanes	1	3	0	2	2	0	0	1	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	156	2043	267	406	2165	10	553	45	531			
Arrive On Green	0.45	0.45	0.45	0.12	0.60	0.60	0.34	0.34	0.34			
Sat Flow, veh/h	338	4552	596	3442	3613	17	1647	134	1583			
Grp Volume(v), veh/h	9	755	392	343	746	785	133	0	397			
Grp Sat Flow(s),veh/h/ln	338	1695	1758	1721	1770	1860	1780	0	1583			
Q Serve(g_s), s	2.6	21.9	21.9	13.5	40.5	40.5	7.4	0.0	30.8			
Cycle Q Clear(g_c), s	22.3	21.9	21.9	13.5	40.5	40.5	7.4	0.0	30.8			
Prop In Lane	1.00		0.34	1.00		0.01	0.92		1.00			
Lane Grp Cap(c), veh/h	156	1522	789	406	1061	1115	598	0	531			
V/C Ratio(X)	0.06	0.50	0.50	0.84	0.70	0.70	0.22	0.00	0.75			
Avail Cap(c_a), veh/h	188	1848	958	609	1335	1403	598	0	531			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	34.2	27.1	27.1	59.8	19.2	19.2	33.0	0.0	40.8			
Incr Delay (d2), s/veh	0.2	0.3	0.5	6.9	1.2	1.2	0.9	0.0	9.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	10.2	10.8	6.8	20.1	21.1	3.8	0.0	14.8			
LnGrp Delay(d),s/veh	34.3	27.3	27.6	66.7	20.5	20.4	33.9	0.0	50.1			
LnGrp LOS	C	C	C	E	C	C	C		D			
Approach Vol, veh/h		1156			1874			530				
Approach Delay, s/veh		27.5			28.9			46.0				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		51.0	20.9	66.7				87.5
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		46.5	24.5	75.5				104.5
Max Q Clear Time (g_c+I1), s		32.8	15.5	24.3				42.5
Green Ext Time (p_c), s		1.9	0.8	35.7				40.5

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1007	77	515	1257	143	39	63	235	328	286	233
Future Volume (veh/h)	115	1007	77	515	1257	143	39	63	235	328	286	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	115	1007	77	515	1257	0	39	63	235	328	286	233
Adj No. of Lanes	2	3	0	2	3	1	1	1	1	2	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	1293	99	586	1978	616	381	400	340	650	352	299
Arrive On Green	0.05	0.27	0.27	0.17	0.39	0.00	0.21	0.21	0.21	0.19	0.19	0.19
Sat Flow, veh/h	3442	4820	368	3442	5085	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	115	708	376	515	1257	0	39	63	235	328	286	233
Grp Sat Flow(s),veh/h/ln	1721	1695	1798	1721	1695	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	3.7	22.0	22.1	16.7	22.9	0.0	2.0	3.1	15.6	9.7	16.8	16.0
Cycle Q Clear(g_c), s	3.7	22.0	22.1	16.7	22.9	0.0	2.0	3.1	15.6	9.7	16.8	16.0
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	910	482	586	1978	616	381	400	340	650	352	299
V/C Ratio(X)	0.67	0.78	0.78	0.88	0.64	0.00	0.10	0.16	0.69	0.50	0.81	0.78
Avail Cap(c_a), veh/h	256	936	496	679	2028	631	381	400	340	860	465	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	38.6	38.6	46.2	28.3	0.0	36.0	36.4	41.3	41.5	44.3	44.0
Incr Delay (d2), s/veh	4.5	4.1	7.6	11.4	0.6	0.0	0.5	0.8	11.0	0.6	8.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.8	12.0	8.9	10.8	0.0	1.0	1.7	7.9	4.7	9.4	7.5
LnGrp Delay(d),s/veh	57.8	42.7	46.2	57.6	28.9	0.0	36.5	37.3	52.3	42.1	52.4	51.1
LnGrp LOS	E	D	D	E	C		D	D	D	D	D	D
Approach Vol, veh/h		1199			1772			337			847	
Approach Delay, s/veh		45.3			37.3			47.7			48.0	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	23.9	35.1		26.1	10.2	48.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	22.5	31.5		28.5	8.5	45.5
Max Q Clear Time (g_c+I1), s		17.6	18.7	24.1		18.8	5.7	24.9
Green Ext Time (p_c), s		0.7	0.8	6.5		2.8	0.1	15.9

Intersection Summary	
HCM 2010 Ctrl Delay	42.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1048	573	461	826	0	0	0	0	222	1	1122
Future Volume (vph)	0	1048	573	461	826	0	0	0	0	222	1	1122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Lane Util. Factor		0.86	0.86	0.97	0.95						1.00	0.76
Frt		0.98	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		4687	1362	3433	3539						1774	3610
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		4687	1362	3433	3539						1774	3610
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1048	573	461	826	0	0	0	0	222	1	1122
RTOR Reduction (vph)	0	41	257	0	0	0	0	0	0	0	0	214
Lane Group Flow (vph)	0	1213	110	461	826	0	0	0	0	0	223	908
Turn Type		NA	Perm	Prot	NA					Prot	NA	Perm
Protected Phases		4		3	8					1	6	
Permitted Phases			4									6
Actuated Green, G (s)		19.5	19.5	10.5	34.5						21.5	21.5
Effective Green, g (s)		19.5	19.5	10.5	34.5						21.5	21.5
Actuated g/C Ratio		0.30	0.30	0.16	0.53						0.33	0.33
Clearance Time (s)		4.5	4.5	4.5	4.5						4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1406	408	554	1878						586	1194
v/s Ratio Prot		c0.26		c0.13	0.23							
v/s Ratio Perm			0.08								0.13	c0.25
v/c Ratio		0.86	0.27	0.83	0.44						0.38	0.76
Uniform Delay, d1		21.5	17.3	26.4	9.3						16.7	19.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		5.7	0.4	10.3	0.2						0.4	4.6
Delay (s)		27.2	17.7	36.7	9.5						17.1	24.0
Level of Service		C	B	D	A						B	C
Approach Delay (s)		25.1			19.2			0.0			22.9	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1051	240	1	10	132	153	13	26	12	257	17	1128
Future Volume (vph)	1051	240	1	10	132	153	13	26	12	257	17	1128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		0.95		0.95	0.95	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3537		1770	3539	1583		3371		1681	1695	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.63		0.95	0.96	1.00
Satd. Flow (perm)	3433	3537		1770	3539	1583		2139		1681	1695	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1051	240	1	10	132	153	13	26	12	257	17	1128
RTOR Reduction (vph)	0	0	0	0	0	138	0	11	0	0	0	467
Lane Group Flow (vph)	1051	241	0	10	132	15	0	40	0	136	138	661
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Split	NA	pm+ov
Protected Phases	7	4		3	8			2		6	6	7
Permitted Phases						8	2					6
Actuated Green, G (s)	37.6	45.2		1.0	8.6	8.6		9.6		13.6	13.6	51.2
Effective Green, g (s)	37.6	45.2		1.0	8.6	8.6		9.6		13.6	13.6	51.2
Actuated g/C Ratio	0.43	0.52		0.01	0.10	0.10		0.11		0.16	0.16	0.59
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1476	1829		20	348	155		234		261	263	1632
v/s Ratio Prot	c0.31	0.07		0.01	c0.04					0.08	c0.08	0.17
v/s Ratio Perm						0.01		c0.02				0.06
v/c Ratio	0.71	0.13		0.50	0.38	0.10		0.17		0.52	0.52	0.40
Uniform Delay, d1	20.5	10.9		43.0	36.9	35.9		35.3		33.9	33.9	9.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.0		18.3	0.7	0.3		1.6		7.3	7.3	0.2
Delay (s)	22.1	11.0		61.3	37.6	36.1		36.9		41.2	41.2	10.0
Level of Service	C	B		E	D	D		D		D	D	A
Approach Delay (s)		20.0			37.6			36.9			16.1	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	75	35	73	29	82	60	251	108	249	154	23
Future Volume (vph)	49	75	35	73	29	82	60	251	108	249	154	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1764	1583		3238		1770	3380		1770	3470	
Flt Permitted	0.95	1.00	1.00		0.82		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1764	1583		2709		1770	3380		1770	3470	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	75	35	73	29	82	60	251	108	249	154	23
RTOR Reduction (vph)	0	0	32	0	73	0	0	52	0	0	12	0
Lane Group Flow (vph)	44	80	3	0	111	0	60	307	0	249	165	0
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	6.9	6.9	6.9		8.1		4.4	22.9		14.9	33.4	
Effective Green, g (s)	6.9	6.9	6.9		8.1		4.4	22.9		14.9	33.4	
Actuated g/C Ratio	0.10	0.10	0.10		0.11		0.06	0.32		0.21	0.47	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	163	171	154		309		110	1093		372	1636	
v/s Ratio Prot	0.03	c0.05					0.03	c0.09		c0.14	0.05	
v/s Ratio Perm			0.00		c0.04							
v/c Ratio	0.27	0.47	0.02		0.36		0.55	0.28		0.67	0.10	
Uniform Delay, d1	29.6	30.2	28.9		29.0		32.2	17.8		25.7	10.4	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	2.0	0.1		0.7		5.4	0.6		4.5	0.1	
Delay (s)	30.5	32.2	29.0		29.7		37.7	18.5		30.2	10.5	
Level of Service	C	C	C		C		D	B		C	B	
Approach Delay (s)		31.0			29.7			21.2			22.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix C
Signal Warrant Analysis

Old Bayshore Highway/South Project Driveway

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LK date: 10/12/17

Major Street: Old Bayshore Highway — Critical Approach Speed* (mph) 35

Minor Street: South Project Driveway — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)..... ☐

In built up area of isolated community of < 10,000 population..... ☐ } or **Rural (R)**

☑ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	Background	Existing + Proj	Background + Proj				
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB				
Highest Minor Street Average Delay (sec/veh)	14.0	14.7	16.5	17.6				
Corresponding Minor Street Approach Volume (veh/hr)	4	4	42	42				
Minor Street Total Delay (veh-hrs)	0.0	0.0	0.2	0.2				
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No				
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No				
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes				
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**				

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	Background	Existing + Proj	Background + Proj				
Major Street - Both Approaches	Old Bayshore Highway		X	966	1069	1238	1341				
Minor Street - Highest Approach	South Project Driveway	X		4	4	42	42				
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**				

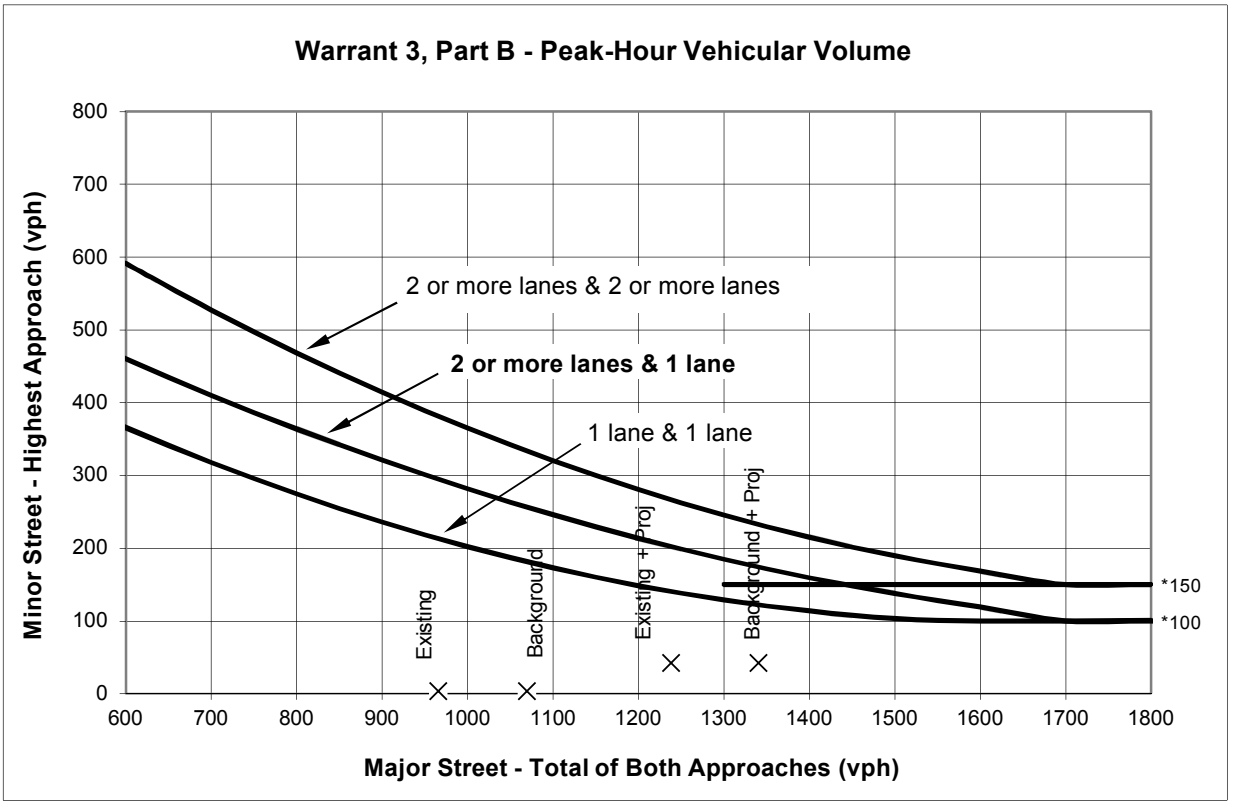
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways 2014 Edition (FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California).

Notes:

Old Bayshore Highway/South Project Driveway

Old Bayshore Highway and South Project Driveway **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		AM PEAK PERIOD									
		Approach Lanes		Existing	Background	Existing + Proj	Background + Proj				
		One	2 or More								
Major Street - Both Approaches	Old Bayshore Highway		X	966	1069	1238	1341				
Minor Street - Highest Approach	South Project Driveway	X		4	4	42	42				
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**				

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Old Bayshore Highway/South Project Driveway

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LK date: 10/12/17

Major Street: Old Bayshore Highway — Critical Approach Speed* (mph) 35

Minor Street: South Project Driveway — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)..... ☐ or ☐ **Rural (R)**

In built up area of isolated community of < 10,000 population.....

☑ **Urban (U)**

PM PEAK HOUR

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

	PM PEAK HOUR							
	Existing	Background	Existing + Proj	Background + Proj				
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB				
Highest Minor Street Average Delay (sec/veh)	12.4	13.2	21.1	24.8				
Corresponding Minor Street Approach Volume (veh/hr)	15	15	236	236				
Minor Street Total Delay (veh-hrs)	0.1	0.1	1.4	1.6				
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No				
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	Yes	Yes				
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes				
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**				

PART B

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj				
Major Street - Both Approaches	Old Bayshore Highway		X	1129	1318	1210	1399				
Minor Street - Highest Approach	South Project Driveway	X		15	15	236	236				
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**				

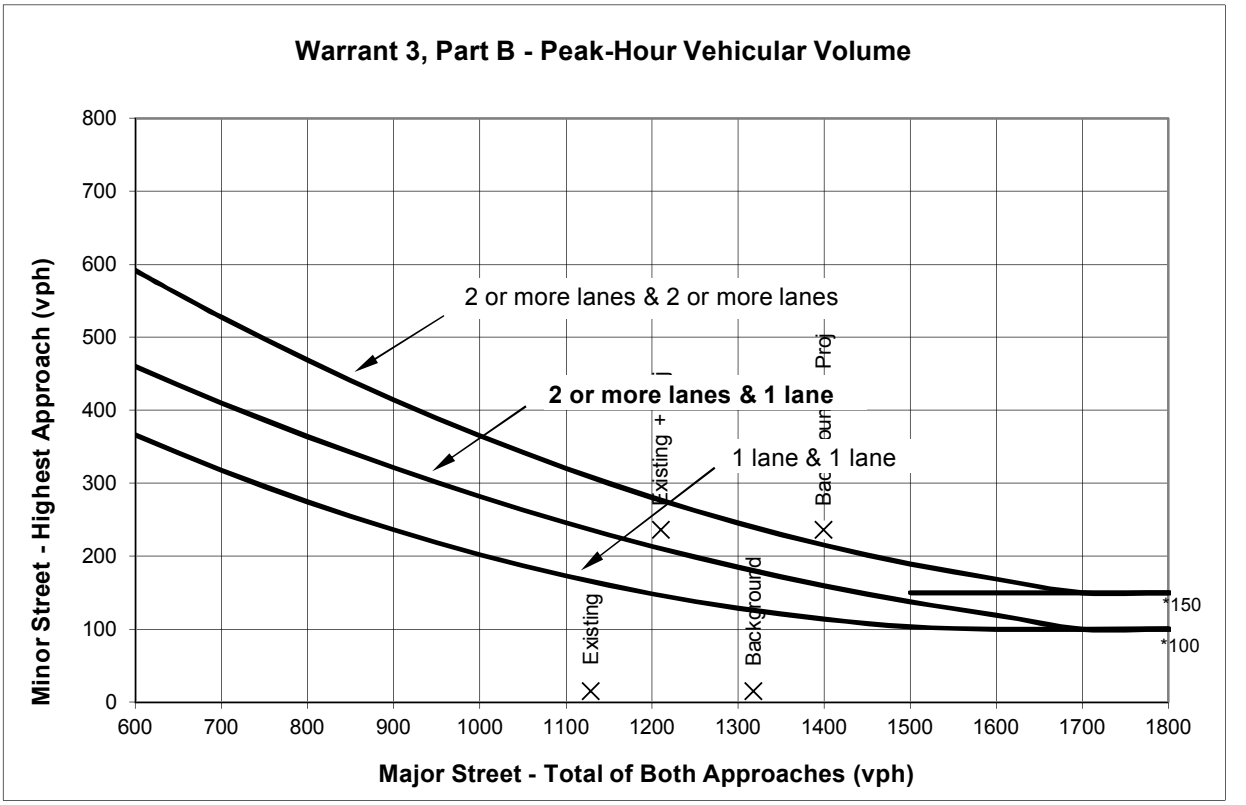
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways 2014 Edition (FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California).

Notes:

Old Bayshore Highway/South Project Driveway

Old Bayshore Highway and South Project Driveway **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj				
Major Street - Both Approaches	Old Bayshore Highway		X	1129	1318	1210	1399				
Minor Street - Highest Approach	South Project Driveway	X		15	15	236	236				
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**				

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Appendix D
Valet Parking Proposal



Valet Parking Proposal

for SFO Tech Center,

Burlingame

December 10th, 2017

Submitted by Steve Sirianni

"Specializing in first and last impressions"

ALL ABOUT PARKING
"Specializing in first and last impressions"

December 10th, 2017

Dear Gary,

Thank you for the opportunity to provide this proposal for valet parking services for the SFO Tech Center project. Our ownership has over 50 years combined experience in the valet parking industry. We have developed proven parking solutions for any parking challenges we may encounter at your property. We currently service Adobe, Facebook, Apple and many other Fortune 50 companies, with similar parking strategies. We appreciate this opportunity to add you to our list of satisfied customers.

We look forward to discussing the following proposal with you at your earliest convenience.

Sincerely,

Steve Sirianni

ALL ABOUT PARKING
"Specializing in first and last impressions"

TABLE OF CONTENTS

COSTS AND SERVICES **4**
OUR PARKING PLAN **5**
OUR HISTORY **5**
OUR TRAINING **6**
LEGAL INFORMATION **7**
ORGANIZATIONAL STRUCTURE **7**
INSURANCE **8**
REFERENCES **9**
CERTIFICATIONS **10**
Exhibit A **11**

ALL ABOUT PARKING
"Specializing in first and last impressions"

COSTS AND SERVICES

SCOPE OF SERVICE: All About Parking will provide professional and qualified valets to oversee and handle all aspects of the valet parking services at your building at **1300 Old Bayshore**. This includes managing tandem parking areas, providing proven systems to increase the parking lot capacity for stack parking, providing efficient pick up and drop off services, ensuring successful safety policies and excellent first-class customer service practices. Our valets will maintain hourly records of car counts to better understand peak hours and trends to become more efficient and cost effective. Our valets will submit monthly reports with our data and feedback on the service.

DAYS AND TIME OF SERVICE: For the Office parking areas, we will operate weekdays from 9:00 a.m. to 5:30 p.m. For the retail areas, we would also operate on weekends as needed.

SERVICE INCLUSIONS: The Owners and management will be regular visitors on site to ensure our Supervisor and valet attendants are exceeding your expectations. We will review data from our monthly reports and make suggestions to you when necessary. We will be conducting monthly performance evaluations on our valets. In addition, our valet parking services include payment of wages, workers' compensation insurance, employers' taxes, standard Garage Keepers' policy and all overhead costs to manage the account. We will also include all the equipment necessary for the valet operations, including radios, cones, tickets and podiums. We will provide a system for key drops.

HOURLY RATE: Twenty-Eight Dollars ($28.00) per hour per Valet Attendant and Thirty-Three Dollars ($33) per hour for the Manager.

MONTHLY MANAGEMENT/EQUIPMENT FEE: One hundred fifty Dollars ($500.00) per month, which will be prorated for any partial month.

STAFFING: Building A - When fully operational, we will have two (2) Valets for the Surface Lot. We would need three (3) valets – one stationed on each Level (level 2, 3, and 4), plus one (1) roving valet who will move up the floors as each level becomes full. For building B, we will have one (1) valet for Level 3. We will also supply one (1) Manager to supervise the entire project. After 30 days of service we will review daily volume numbers and trends and recommend if there can be a more efficient staffing schedule. Lastly, when needed, we can increase the parking capacity by at least 25% with only a couple additional attendants by employing stack parking techniques.

ALL ABOUT PARKING
"Specializing in first and last impressions"

OUR PARKING PLAN

All About Parking will provide a complimentary valet parking service to employees, visitors and guests. Our valet station will be setup in the best location on each floor so that guests and employees can see us from the level entrance. Our attendants will greet, ticket visitors and guide cars in the stackable areas within the lot. Our attendants will move and adjust cars as needed, and retrieve and return cars to the valet stand when requested.

OUR HISTORY

All About Parking has been a locally owned and operated company since 1995. We quickly grew to become the Premier Valet Parking Company in the San Francisco Bay Area, providing services to many of the prestigious top 100 restaurants. Concurrently, we developed a very successful private events business, eventually providing our services to heads of state, royalty, celebrities, religious figures, and CEO's. In 2005, we were asked to become partners with the Vi in Palo Alto. They are an ultra-high-end aging facility whose residents expect the best service. These successful relationships and our unparalleled service has led to our company being awarded other exclusive contracts to prestigious companies all over the Bay Area.

In 2012, the American Ratings Corporation, an independent company, surveyed and interviewed over 400 current and past clients about the quality of our service. All About Parking received some of the highest scores in the history of American Ratings Corporation and became the first and only Diamond Certified Valet parking company in the Bay Area.

Currently we operate valet for some of the most successful businesses in the world, parking millions of cars per year around the Bay Area. They demand high end customer service and we deliver.

ALL ABOUT PARKING
"Specializing in first and last impressions"

OUR TRAINING

We know having a company of employees who always go above and beyond is only possible with intelligent hiring and exceptional training. Our applicants must have clean driving records, solid references, a working cell phone and e-mail address, and must be English-language proficient.



Prior to working their first day, all our new hires are considered “Novices” and are required to go through our orientation training, which introduces them to our company handbook, company policies and company expectations. The next day all our “Novices” go through a rigorous vehicle operations training, parking and driving training, and customer service training.

Our valets are always dressed in client-approved uniforms, which includes a smile; they understand that flawless etiquette is our distinction. Our employees open doors and are trained to enhance employees’ and visitors' experiences upon arrival and departure. And, because of their FAQ training, our valets are knowledgeable and helpful to your employees.

Our ownership’s combined 50 years’ experience in the valet parking industry has allowed us to develop proven parking solutions to improve efficiencies and overcome any parking challenges you may be facing. Taking the time to track and understand trends allows us to anticipate demand, which allows us to staff intelligently and ensures that you will be getting the most effective service for your budget.

ALL ABOUT PARKING
"Specializing in first and last impressions"

LEGAL INFORMATION

All About Parking Inc., a California based Corporation, is owned by Roy Nickolai and Kal Sonawala. All About Parking Inc. was incorporated in 2004 and is headquartered at 1139 San Carlos Ave Ste. 311, San Carlos CA 94070. The owners of All About Parking Inc. are also owners of a parking consulting company called Silicon Valet Inc.

ORGANIZATIONAL STRUCTURE

All About Parking is owned and operated by Roy Nickolai and Kal Sonawala. Our office manager and head of finance is Tim Costello. We currently have 150 full-time and part-time employees working throughout the Bay Area with a high concentration of accounts and services being provided in Silicon Valley.



ALL ABOUT PARKING
"Specializing in first and last impressions"

INSURANCE

Our insurance policies are listed below. We will provide you with a certificate of insurance naming you as additional insured on our policy.

One Million Dollar General Commercial Liability Policy:

- $1,000,000 Each Occurrence.
- $100,000 Damage to Premises
- $1,000,000 Personal and ADV injury
- $2,000,000 General Aggregate
- $1,000,000 Products-COMP/OP AGG

Umbrella Liability Policy:

- $5,000,000 Each Occurrence
- $5,000,000 Aggregate

Garage Keepers Liability:

- $1,000,000 Per Vehicle
- $1,000,000 Per Location

Errors and Omissions:

- $1,000,000 E&O Aggregate

Workers Compensation Policy:

- $1,000,000 Each Accident
- $1,000,000 Each Disease-Each Employee
- $1,000,000 Disease Policy Limit

ALL ABOUT PARKING
"Specializing in first and last impressions"

REFERENCES

Ward Thomas
Operations Manager, Facebook
ward@fb.com
423.600.9273

Alex O'Hearn
Project Engineer, Vantage Data Systems
aohearn@vantagedatasystems.com
530.400.3494

John Koselak
Executive Director, Vi Palo Alto
jkoselak@viliving.com
650 853 5003

Jimmy Knauf
Director of Global Workplace, Telsa Motors
jknauf@teslamotors.com
650-823-4744

ALL ABOUT PARKING
"Specializing in first and last impressions"

CERTIFICATIONS

Diamond Certified Company

A++ Rating in Better Business Bureau

#1 Rating on Yelp