Appendix A

CalEEMod Greenhouse Gas Emissions Calculation Outputs

Salinas Airport Lease Project

Monterey County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.64
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.64
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.64

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					
2020	0.0954	0.8696	0.7327	1.6900e-003	0.0924	0.0376	0.1300	0.0374	0.0352	0.0727	0.0000	151.9403	151.9403	0.0221	0.0000	152.4936
2021	1.2998	2.3610	2.2705	5.3700e-003	0.1521	0.0950	0.2471	0.0413	0.0893	0.1306	0.0000	481.7775	481.7775	0.0667	0.0000	483.4448
Maximum	**1.2998**	**2.3610**	**2.2705**	**5.3700e-003**	**0.1521**	**0.0950**	**0.2471**	**0.0413**	**0.0893**	**0.1306**	**0.0000**	**481.7775**	**481.7775**	**0.0667**	**0.0000**	**483.4448**

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					
2020	0.0954	0.8695	0.7327	1.6900e-003	0.0924	0.0376	0.1300	0.0374	0.0352	0.0727	0.0000	151.9402	151.9402	0.0221	0.0000	152.4935
2021	1.2998	2.3610	2.2705	5.3700e-003	0.1521	0.0950	0.2471	0.0413	0.0893	0.1306	0.0000	481.7773	481.7773	0.0667	0.0000	483.4446
Maximum	**1.2998**	**2.3610**	**2.2705**	**5.3700e-003**	**0.1521**	**0.0950**	**0.2471**	**0.0413**	**0.0893**	**0.1306**	**0.0000**	**481.7773**	**481.7773**	**0.0667**	**0.0000**	**483.4446**

	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	**9-7-2020**	**12-6-2020**	0.6865	0.6865
2	**12-7-2020**	**3-6-2021**	0.9271	0.9271
3	**3-7-2021**	**6-6-2021**	0.9155	0.9155
4	**6-7-2021**	**9-6-2021**	0.8994	0.8994
5	**9-7-2021**	**9-30-2021**	0.1286	0.1286
		Highest	0.9271	0.9271

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	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Energy	3.9700e-003	0.0361	0.0304	2.2000e-004		2.7500e-003	2.7500e-003		2.7500e-003	2.7500e-003	0.0000	143.3871	143.3871	5.4900e-003	1.7200e-003	144.0362
Mobile	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Waste						0.0000	0.0000		0.0000	0.0000	27.5865	0.0000	27.5865	1.6303	0.0000	68.3443
Water						0.0000	0.0000		0.0000	0.0000	10.3540	33.4523	43.8063	1.0650	0.0254	78.0091
Total	**0.7924**	**0.5816**	**1.3798**	**5.5000e-003**	**0.5186**	**6.3700e-003**	**0.5250**	**0.1392**	**6.1100e-003**	**0.1453**	**37.9405**	**663.4981**	**701.4386**	**2.7200**	**0.0272**	**777.5296**

2.2 Overall Operational

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	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Energy	2.9100e-003	0.0265	0.0223	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	129.6067	129.6067	5.1400e-003	1.4900e-003	130.1803
Mobile	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Waste						0.0000	0.0000		0.0000	0.0000	27.5865	0.0000	27.5865	1.6303	0.0000	68.3443
Water						0.0000	0.0000		0.0000	0.0000	10.3540	33.4523	43.8063	1.0650	0.0254	78.0091
Total	**0.7914**	**0.5720**	**1.3717**	**5.4400e-003**	**0.5186**	**5.6300e-003**	**0.5242**	**0.1392**	**5.3700e-003**	**0.1445**	**37.9405**	**649.7177**	**687.6582**	**2.7197**	**0.0269**	**763.6737**

	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	**0.13**	**1.66**	**0.59**	**1.09**	**0.00**	**11.62**	**0.14**	**0.00**	**12.11**	**0.51**	**0.00**	**2.08**	**1.96**	**0.01**	**0.85**	**1.78**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Site Preparation	2	5.00	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
Building Construction	9	160.00	63.00	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
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4400e-003	0.0672	0.0321	6.0000e-005		3.4400e-003	3.4400e-003		3.1700e-003	3.1700e-003	0.0000	5.1170	5.1170	1.6500e-003	0.0000	5.1584
Total	**6.4400e-003**	**0.0672**	**0.0321**	**6.0000e-005**	**0.0301**	**3.4400e-003**	**0.0336**	**0.0166**	**3.1700e-003**	**0.0197**	**0.0000**	**5.1170**	**5.1170**	**1.6500e-003**	**0.0000**	**5.1584**

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	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.2 Site Preparation - 2020

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					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4400e-003	0.0672	0.0321	6.0000e-005		3.4400e-003	3.4400e-003		3.1700e-003	3.1700e-003	0.0000	5.1170	5.1170	1.6500e-003	0.0000	5.1584
Total	**6.4400e-003**	**0.0672**	**0.0321**	**6.0000e-005**	**0.0301**	**3.4400e-003**	**0.0336**	**0.0166**	**3.1700e-003**	**0.0197**	**0.0000**	**5.1170**	**5.1170**	**1.6500e-003**	**0.0000**	**5.1584**

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	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.3 Grading - 2020

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					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0554	0.0287	6.0000e-005		2.5200e-003	2.5200e-003		2.3200e-003	2.3200e-003	0.0000	5.1504	5.1504	1.6700e-003	0.0000	5.1921
Total	**5.0200e-003**	**0.0554**	**0.0287**	**6.0000e-005**	**0.0164**	**2.5200e-003**	**0.0189**	**8.4200e-003**	**2.3200e-003**	**0.0107**	**0.0000**	**5.1504**	**5.1504**	**1.6700e-003**	**0.0000**	**5.1921**

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	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.3 Grading - 2020

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					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0554	0.0287	6.0000e-005		2.5200e-003	2.5200e-003		2.3200e-003	2.3200e-003	0.0000	5.1504	5.1504	1.6700e-003	0.0000	5.1921
Total	**5.0200e-003**	**0.0554**	**0.0287**	**6.0000e-005**	**0.0164**	**2.5200e-003**	**0.0189**	**8.4200e-003**	**2.3200e-003**	**0.0107**	**0.0000**	**5.1504**	**5.1504**	**1.6700e-003**	**0.0000**	**5.1921**

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	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.4 Building Construction - 2020

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	0.0572	0.5180	0.4549	7.3000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	62.5347	62.5347	0.0153	0.0000	62.9161
Total	**0.0572**	**0.5180**	**0.4549**	**7.3000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**62.5347**	**62.5347**	**0.0153**	**0.0000**	**62.9161**

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	7.5900e-003	0.2111	0.0578	4.8000e-004	0.0112	1.1500e-003	0.0124	3.2400e-003	1.1000e-003	4.3400e-003	0.0000	46.1080	46.1080	2.1300e-003	0.0000	46.1613
Worker	0.0189	0.0176	0.1573	3.6000e-004	0.0343	3.1000e-004	0.0346	9.1300e-003	2.8000e-004	9.4100e-003	0.0000	32.6523	32.6523	1.4100e-003	0.0000	32.6874
Total	**0.0265**	**0.2287**	**0.2151**	**8.4000e-004**	**0.0455**	**1.4600e-003**	**0.0470**	**0.0124**	**1.3800e-003**	**0.0138**	**0.0000**	**78.7603**	**78.7603**	**3.5400e-003**	**0.0000**	**78.8487**

3.4 Building Construction - 2020

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	0.0572	0.5180	0.4549	7.3000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	62.5346	62.5346	0.0153	0.0000	62.9160
Total	**0.0572**	**0.5180**	**0.4549**	**7.3000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**62.5346**	**62.5346**	**0.0153**	**0.0000**	**62.9160**

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	7.5900e-003	0.2111	0.0578	4.8000e-004	0.0112	1.1500e-003	0.0124	3.2400e-003	1.1000e-003	4.3400e-003	0.0000	46.1080	46.1080	2.1300e-003	0.0000	46.1613
Worker	0.0189	0.0176	0.1573	3.6000e-004	0.0343	3.1000e-004	0.0346	9.1300e-003	2.8000e-004	9.4100e-003	0.0000	32.6523	32.6523	1.4100e-003	0.0000	32.6874
Total	**0.0265**	**0.2287**	**0.2151**	**8.4000e-004**	**0.0455**	**1.4600e-003**	**0.0470**	**0.0124**	**1.3800e-003**	**0.0138**	**0.0000**	**78.7603**	**78.7603**	**3.5400e-003**	**0.0000**	**78.8487**

3.4 Building Construction - 2021

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	0.1673	1.5340	1.4586	2.3700e-003		0.0844	0.0844		0.0793	0.0793	0.0000	203.8408	203.8408	0.0492	0.0000	205.0703
Total	**0.1673**	**1.5340**	**1.4586**	**2.3700e-003**		**0.0844**	**0.0844**		**0.0793**	**0.0793**	**0.0000**	**203.8408**	**203.8408**	**0.0492**	**0.0000**	**205.0703**

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	0.0205	0.6297	0.1656	1.5600e-003	0.0365	1.9300e-003	0.0384	0.0106	1.8500e-003	0.0124	0.0000	149.0704	149.0704	6.6500e-003	0.0000	149.2365
Worker	0.0568	0.0511	0.4660	1.1400e-003	0.1119	9.7000e-004	0.1128	0.0298	8.9000e-004	0.0306	0.0000	102.8562	102.8562	4.0800e-003	0.0000	102.9582
Total	**0.0773**	**0.6808**	**0.6316**	**2.7000e-003**	**0.1484**	**2.9000e-003**	**0.1513**	**0.0403**	**2.7400e-003**	**0.0430**	**0.0000**	**251.9266**	**251.9266**	**0.0107**	**0.0000**	**252.1948**

3.4 Building Construction - 2021

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	0.1673	1.5340	1.4586	2.3700e-003		0.0844	0.0844		0.0793	0.0793	0.0000	203.8406	203.8406	0.0492	0.0000	205.0700
Total	**0.1673**	**1.5340**	**1.4586**	**2.3700e-003**		**0.0844**	**0.0844**		**0.0793**	**0.0793**	**0.0000**	**203.8406**	**203.8406**	**0.0492**	**0.0000**	**205.0700**

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	0.0205	0.6297	0.1656	1.5600e-003	0.0365	1.9300e-003	0.0384	0.0106	1.8500e-003	0.0124	0.0000	149.0704	149.0704	6.6500e-003	0.0000	149.2365
Worker	0.0568	0.0511	0.4660	1.1400e-003	0.1119	9.7000e-004	0.1128	0.0298	8.9000e-004	0.0306	0.0000	102.8562	102.8562	4.0800e-003	0.0000	102.9582
Total	**0.0773**	**0.6808**	**0.6316**	**2.7000e-003**	**0.1484**	**2.9000e-003**	**0.1513**	**0.0403**	**2.7400e-003**	**0.0430**	**0.0000**	**251.9266**	**251.9266**	**0.0107**	**0.0000**	**252.1948**

3.5 Paving - 2021

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

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	6.1000e-004	5.4000e-004	4.9600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0958	1.0958	4.0000e-005	0.0000	1.0969
Total	**6.1000e-004**	**5.4000e-004**	**4.9600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0958**	**1.0958**	**4.0000e-005**	**0.0000**	**1.0969**

3.5 Paving - 2021

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

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	6.1000e-004	5.4000e-004	4.9600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0958	1.0958	4.0000e-005	0.0000	1.0969
Total	**6.1000e-004**	**5.4000e-004**	**4.9600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0958**	**1.0958**	**4.0000e-005**	**0.0000**	**1.0969**

3.6 Architectural Coating - 2021

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	1.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.0336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

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	1.2900e-003	1.1600e-003	0.0106	3.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3376	2.3376	9.0000e-005	0.0000	2.3400
Total	**1.2900e-003**	**1.1600e-003**	**0.0106**	**3.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.3376**	**2.3376**	**9.0000e-005**	**0.0000**	**2.3400**

3.6 Architectural Coating - 2021

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	1.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.0336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

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	1.2900e-003	1.1600e-003	0.0106	3.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3376	2.3376	9.0000e-005	0.0000	2.3400
Total	**1.2900e-003**	**1.1600e-003**	**0.0106**	**3.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.3376**	**2.3376**	**9.0000e-005**	**0.0000**	**2.3400**

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	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Unmitigated	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	474.40	474.40	474.40	1,385,020	1,385,020
Total	474.40	474.40	474.40	1,385,020	1,385,020

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	100.7712	100.7712	4.5800e-003	9.7000e-004	101.1735
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	104.0497	104.0497	4.7300e-003	1.0000e-003	104.4650
NaturalGas Mitigated	2.9100e-003	0.0265	0.0223	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.8355	28.8355	5.5000e-004	5.3000e-004	29.0069
NaturalGas Unmitigated	3.9700e-003	0.0361	0.0304	2.2000e-004		2.7500e-003	2.7500e-003		2.7500e-003	2.7500e-003	0.0000	39.3375	39.3375	7.5000e-004	7.2000e-004	39.5712

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 Light Industry	284904	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003	0.0000	15.2036	15.2036	2.9000e-004	2.8000e-004	15.2939
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	452252	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	24.1339	24.1339	4.6000e-004	4.4000e-004	24.2773
Total		**3.9800e-003**	**0.0361**	**0.0304**	**2.1000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.3375**	**39.3375**	**7.5000e-004**	**7.2000e-004**	**39.5712**

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 Light Industry	221044	1.1900e-003	0.0108	9.1000e-003	7.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.7957	11.7957	2.3000e-004	2.2000e-004	11.8658
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	319313	1.7200e-003	0.0157	0.0132	9.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	17.0398	17.0398	3.3000e-004	3.1000e-004	17.1410
Total		**2.9100e-003**	**0.0265**	**0.0223**	**1.6000e-004**		**2.0100e-003**	**2.0100e-003**		**2.0100e-003**	**2.0100e-003**	**0.0000**	**28.8355**	**28.8355**	**5.6000e-004**	**5.3000e-004**	**29.0069**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	89208	16.8986	7.7000e-004	1.6000e-004	16.9661
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	460072	87.1511	3.9700e-003	8.3000e-004	87.4990
Total		**104.0497**	**4.7400e-003**	**9.9000e-004**	**104.4650**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	84412.8	15.9903	7.3000e-004	1.5000e-004	16.0541
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	447560	84.7810	3.8600e-003	8.1000e-004	85.1194
Total		**100.7712**	**4.5900e-003**	**9.6000e-004**	**101.1735**

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	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Unmitigated	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-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	0.1031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Total	**0.6700**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**1.0000e-005**	**0.0000**	**3.8700e-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	0.1031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Total	**0.6700**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**1.0000e-005**	**0.0000**	**3.8700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.8063	1.0650	0.0254	78.0091
Unmitigated	43.8063	1.0650	0.0254	78.0091

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.4975 / 0	3.3523	0.0815	1.9500e-003	5.9697
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	30.1388 / 0	40.4540	0.9835	0.0235	72.0394
Total		**43.8063**	**1.0650**	**0.0254**	**78.0091**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.4975 / 0	3.3523	0.0815	1.9500e-003	5.9697
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	30.1388 / 0	40.4540	0.9835	0.0235	72.0394
Total		**43.8063**	**1.0650**	**0.0254**	**78.0091**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.5865	1.6303	0.0000	68.3443
Unmitigated	27.5865	1.6303	0.0000	68.3443

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	13.39	2.7181	0.1606	0.0000	6.7339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	122.51	24.8684	1.4697	0.0000	61.6105
Total		**27.5865**	**1.6303**	**0.0000**	**68.3443**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	13.39	2.7181	0.1606	0.0000	6.7339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	122.51	24.8684	1.4697	0.0000	61.6105
Total		**27.5865**	**1.6303**	**0.0000**	**68.3443**

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

Salinas Airport Lease Project

Monterey County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.65
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.65
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.65

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	3.1796	27.7054	25.1967	0.0578	6.6345	1.1717	7.6424	3.3893	1.1022	4.3165	0.0000	5,728.8367	5,728.8367	0.7717	0.0000	5,748.1291
2021	103.4980	25.2054	24.0933	0.0572	1.7405	0.9921	2.7327	0.4713	0.9330	1.4043	0.0000	5,669.5231	5,669.5231	0.7548	0.0000	5,688.3920
Maximum	**103.4980**	**27.7054**	**25.1967**	**0.0578**	**6.6345**	**1.1717**	**7.6424**	**3.3893**	**1.1022**	**4.3165**	**0.0000**	**5,728.8367**	**5,728.8367**	**0.7717**	**0.0000**	**5,748.1291**

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	lb/day										lb/day					
2020	3.1796	27.7054	25.1967	0.0578	6.6345	1.1717	7.6424	3.3893	1.1022	4.3165	0.0000	5,728.8367	5,728.8367	0.7717	0.0000	5,748.1291
2021	103.4980	25.2054	24.0933	0.0572	1.7405	0.9921	2.7327	0.4713	0.9330	1.4043	0.0000	5,669.5231	5,669.5231	0.7548	0.0000	5,688.3920
Maximum	**103.4980**	**27.7054**	**25.1967**	**0.0578**	**6.6345**	**1.1717**	**7.6424**	**3.3893**	**1.1022**	**4.3165**	**0.0000**	**5,728.8367**	**5,728.8367**	**0.7717**	**0.0000**	**5,748.1291**

	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**

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	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126
Mobile	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Total	**4.3390**	**3.2604**	**7.9690**	**0.0301**	**2.9522**	**0.0350**	**2.9872**	**0.7900**	**0.0336**	**0.8236**		**3,171.6438**	**3,171.6438**	**0.1243**	**4.3600e-003**	**3,176.0492**

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	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
Mobile	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Total	**4.3332**	**3.2076**	**7.9246**	**0.0298**	**2.9522**	**0.0310**	**2.9832**	**0.7900**	**0.0296**	**0.8196**		**3,108.2114**	**3,108.2114**	**0.1231**	**3.1900e-003**	**3,112.2399**

	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	**0.13**	**1.62**	**0.56**	**1.06**	**0.00**	**11.48**	**0.13**	**0.00**	**11.95**	**0.49**	**0.00**	**2.00**	**2.00**	**0.97**	**26.83**	**2.01**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Site Preparation	2	5.00	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
Building Construction	9	160.00	63.00	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
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**		**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

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	lb/day										lb/day					
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
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
Worker	0.0240	0.0224	0.1890	4.2000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		41.4165	41.4165	1.8000e-003		41.4615
Total	**0.0240**	**0.0224**	**0.1890**	**4.2000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**41.4165**	**41.4165**	**1.8000e-003**		**41.4615**

3.2 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**	**0.0000**	**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

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	lb/day										lb/day					
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
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
Worker	0.0240	0.0224	0.1890	4.2000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		41.4165	41.4165	1.8000e-003		41.4615
Total	**0.0240**	**0.0224**	**0.1890**	**4.2000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**41.4165**	**41.4165**	**1.8000e-003**		**41.4615**

3.3 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**		**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

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	lb/day										lb/day					
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
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
Worker	0.0481	0.0448	0.3781	8.3000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		82.8331	82.8331	3.6000e-003		82.9231
Total	**0.0481**	**0.0448**	**0.3781**	**8.3000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**82.8331**	**82.8331**	**3.6000e-003**		**82.9231**

3.3 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**	**0.0000**	**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

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	lb/day										lb/day					
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
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
Worker	0.0481	0.0448	0.3781	8.3000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		82.8331	82.8331	3.6000e-003		82.9231
Total	**0.0481**	**0.0448**	**0.3781**	**8.3000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**82.8331**	**82.8331**	**3.6000e-003**		**82.9231**

3.4 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	lb/day										lb/day					
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
Vendor	0.2907	7.8031	2.2988	0.0176	0.4261	0.0433	0.4694	0.1227	0.0414	0.1640		1,850.4448	1,850.4448	0.0912		1,852.7254
Worker	0.7691	0.7162	6.0494	0.0133	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,325.3289	1,325.3289	0.0576		1,326.7693
Total	**1.0598**	**8.5193**	**8.3482**	**0.0309**	**1.7405**	**0.0546**	**1.7951**	**0.4713**	**0.0519**	**0.5231**		**3,175.7737**	**3,175.7737**	**0.1488**		**3,179.4946**

3.4 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	lb/day										lb/day					
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
Vendor	0.2907	7.8031	2.2988	0.0176	0.4261	0.0433	0.4694	0.1227	0.0414	0.1640		1,850.4448	1,850.4448	0.0912		1,852.7254
Worker	0.7691	0.7162	6.0494	0.0133	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,325.3289	1,325.3289	0.0576		1,326.7693
Total	**1.0598**	**8.5193**	**8.3482**	**0.0309**	**1.7405**	**0.0546**	**1.7951**	**0.4713**	**0.0519**	**0.5231**		**3,175.7737**	**3,175.7737**	**0.1488**		**3,179.4946**

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	lb/day										lb/day					
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
Vendor	0.2414	7.1341	2.0270	0.0174	0.4262	0.0226	0.4487	0.1227	0.0216	0.1442		1,835.2399	1,835.2399	0.0875		1,837.4271
Worker	0.7092	0.6392	5.4911	0.0129	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,280.9193	1,280.9193	0.0513		1,282.2007
Total	**0.9505**	**7.7733**	**7.5181**	**0.0303**	**1.7405**	**0.0335**	**1.7741**	**0.4713**	**0.0317**	**0.5030**		**3,116.1592**	**3,116.1592**	**0.1387**		**3,119.6278**

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	lb/day										lb/day					
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
Vendor	0.2414	7.1341	2.0270	0.0174	0.4262	0.0226	0.4487	0.1227	0.0216	0.1442		1,835.2399	1,835.2399	0.0875		1,837.4271
Worker	0.7092	0.6392	5.4911	0.0129	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,280.9193	1,280.9193	0.0513		1,282.2007
Total	**0.9505**	**7.7733**	**7.5181**	**0.0303**	**1.7405**	**0.0335**	**1.7741**	**0.4713**	**0.0317**	**0.5030**		**3,116.1592**	**3,116.1592**	**0.1387**		**3,119.6278**

3.5 Paving - 2021

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	lb/day										lb/day					
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
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
Worker	0.0665	0.0599	0.5148	1.2100e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		120.0862	120.0862	4.8100e-003		120.2063
Total	**0.0665**	**0.0599**	**0.5148**	**1.2100e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**120.0862**	**120.0862**	**4.8100e-003**		**120.2063**

3.5 Paving - 2021

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	lb/day										lb/day					
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
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
Worker	0.0665	0.0599	0.5148	1.2100e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		120.0862	120.0862	4.8100e-003		120.2063
Total	**0.0665**	**0.0599**	**0.5148**	**1.2100e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**120.0862**	**120.0862**	**4.8100e-003**		**120.2063**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.1418	0.1278	1.0982	2.5800e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		256.1839	256.1839	0.0103		256.4401
Total	**0.1418**	**0.1278**	**1.0982**	**2.5800e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**256.1839**	**256.1839**	**0.0103**		**256.4401**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.1418	0.1278	1.0982	2.5800e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		256.1839	256.1839	0.0103		256.4401
Total	**0.1418**	**0.1278**	**1.0982**	**2.5800e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**256.1839**	**256.1839**	**0.0103**		**256.4401**

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	lb/day										lb/day					
Mitigated	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Unmitigated	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	475.70	475.70	475.70	1,388,825	1,388,825
Total	475.70	475.70	475.70	1,388,825	1,388,825

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	lb/day										lb/day					
NaturalGas Mitigated	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
NaturalGas Unmitigated	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126

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	lb/day										lb/day					
General Light Industry	780.559	8.4200e-003	0.0765	0.0643	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8305	91.8305	1.7600e-003	1.6800e-003	92.3762
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	1239.05	0.0134	0.1215	0.1020	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003		145.7702	145.7702	2.7900e-003	2.6700e-003	146.6364
Total		**0.0218**	**0.1980**	**0.1663**	**1.1900e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**		**237.6007**	**237.6007**	**4.5500e-003**	**4.3500e-003**	**239.0126**

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	lb/day										lb/day					
General Light Industry	0.605599	6.5300e-003	0.0594	0.0499	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003		71.2469	71.2469	1.3700e-003	1.3100e-003	71.6703
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	0.874831	9.4300e-003	0.0858	0.0720	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003		102.9213	102.9213	1.9700e-003	1.8900e-003	103.5329
Total		**0.0160**	**0.1451**	**0.1219**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**174.1683**	**174.1683**	**3.3400e-003**	**3.2000e-003**	**175.2032**

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	lb/day										lb/day					
Mitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Unmitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342

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	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

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	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Salinas Airport Lease Project

Monterey County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.65
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.65
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.65

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	3.1013	27.4686	25.0099	0.0593	6.6345	1.1706	7.6424	3.3893	1.1012	4.3165	0.0000	5,874.1425	5,874.1425	0.7669	0.0000	5,893.3153
2021	103.4865	25.0120	23.9377	0.0586	1.7405	0.9912	2.7317	0.4713	0.9320	1.4033	0.0000	5,811.9499	5,811.9499	0.7498	0.0000	5,830.6945
Maximum	**103.4865**	**27.4686**	**25.0099**	**0.0593**	**6.6345**	**1.1706**	**7.6424**	**3.3893**	**1.1012**	**4.3165**	**0.0000**	**5,874.1425**	**5,874.1425**	**0.7669**	**0.0000**	**5,893.3153**

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	lb/day										lb/day					
2020	3.1013	27.4686	25.0099	0.0593	6.6345	1.1706	7.6424	3.3893	1.1012	4.3165	0.0000	5,874.1425	5,874.1425	0.7669	0.0000	5,893.3153
2021	103.4865	25.0120	23.9377	0.0586	1.7405	0.9912	2.7317	0.4713	0.9320	1.4033	0.0000	5,811.9499	5,811.9499	0.7498	0.0000	5,830.6945
Maximum	**103.4865**	**27.4686**	**25.0099**	**0.0593**	**6.6345**	**1.1706**	**7.6424**	**3.3893**	**1.1012**	**4.3165**	**0.0000**	**5,874.1425**	**5,874.1425**	**0.7669**	**0.0000**	**5,893.3153**

	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**

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	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126
Mobile	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Total	**4.4038**	**3.1072**	**7.8151**	**0.0317**	**2.9522**	**0.0350**	**2.9872**	**0.7900**	**0.0336**	**0.8236**		**3,329.3387**	**3,329.3387**	**0.1218**	**4.3600e-003**	**3,333.6815**

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	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
Mobile	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Total	**4.3980**	**3.0544**	**7.7707**	**0.0313**	**2.9522**	**0.0310**	**2.9832**	**0.7900**	**0.0296**	**0.8195**		**3,265.9063**	**3,265.9063**	**0.1206**	**3.1900e-003**	**3,269.8721**

	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	**0.13**	**1.70**	**0.57**	**1.01**	**0.00**	**11.49**	**0.13**	**0.00**	**11.97**	**0.49**	**0.00**	**1.91**	**1.91**	**0.99**	**26.83**	**1.91**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Site Preparation	2	5.00	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
Building Construction	9	160.00	63.00	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
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**		**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

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	lb/day										lb/day					
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
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
Worker	0.0221	0.0178	0.1921	4.4000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		44.2335	44.2335	1.8900e-003		44.2807
Total	**0.0221**	**0.0178**	**0.1921**	**4.4000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**44.2335**	**44.2335**	**1.8900e-003**		**44.2807**

3.2 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**	**0.0000**	**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

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	lb/day										lb/day					
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
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
Worker	0.0221	0.0178	0.1921	4.4000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		44.2335	44.2335	1.8900e-003		44.2807
Total	**0.0221**	**0.0178**	**0.1921**	**4.4000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**44.2335**	**44.2335**	**1.8900e-003**		**44.2807**

3.3 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**		**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

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	lb/day										lb/day					
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
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
Worker	0.0442	0.0356	0.3842	8.9000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		88.4670	88.4670	3.7800e-003		88.5614
Total	**0.0442**	**0.0356**	**0.3842**	**8.9000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**88.4670**	**88.4670**	**3.7800e-003**		**88.5614**

3.3 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**	**0.0000**	**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

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	lb/day										lb/day					
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
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
Worker	0.0442	0.0356	0.3842	8.9000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		88.4670	88.4670	3.7800e-003		88.5614
Total	**0.0442**	**0.0356**	**0.3842**	**8.9000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**88.4670**	**88.4670**	**3.7800e-003**		**88.5614**

3.4 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	lb/day										lb/day					
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
Vendor	0.2749	7.7136	2.0136	0.0181	0.4261	0.0422	0.4683	0.1227	0.0403	0.1630		1,905.6073	1,905.6073	0.0836		1,907.6978
Worker	0.7066	0.5689	6.1478	0.0142	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,415.4722	1,415.4722	0.0604		1,416.9831
Total	**0.9815**	**8.2826**	**8.1614**	**0.0323**	**1.7405**	**0.0535**	**1.7940**	**0.4713**	**0.0508**	**0.5221**		**3,321.0795**	**3,321.0795**	**0.1441**		**3,324.6808**

3.4 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	lb/day										lb/day					
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
Vendor	0.2749	7.7136	2.0136	0.0181	0.4261	0.0422	0.4683	0.1227	0.0403	0.1630		1,905.6073	1,905.6073	0.0836		1,907.6978
Worker	0.7066	0.5689	6.1478	0.0142	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,415.4722	1,415.4722	0.0604		1,416.9831
Total	**0.9815**	**8.2826**	**8.1614**	**0.0323**	**1.7405**	**0.0535**	**1.7940**	**0.4713**	**0.0508**	**0.5221**		**3,321.0795**	**3,321.0795**	**0.1441**		**3,324.6808**

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	lb/day										lb/day					
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
Vendor	0.2267	7.0721	1.7626	0.0180	0.4262	0.0216	0.4477	0.1227	0.0206	0.1433		1,890.5386	1,890.5386	0.0799		1,892.5353
Worker	0.6517	0.5079	5.6000	0.0138	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,368.0473	1,368.0473	0.0539		1,369.3950
Total	**0.8784**	**7.5799**	**7.3625**	**0.0317**	**1.7405**	**0.0326**	**1.7731**	**0.4713**	**0.0308**	**0.5020**		**3,258.5860**	**3,258.5860**	**0.1338**		**3,261.9302**

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	lb/day										lb/day					
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
Vendor	0.2267	7.0721	1.7626	0.0180	0.4262	0.0216	0.4477	0.1227	0.0206	0.1433		1,890.5386	1,890.5386	0.0799		1,892.5353
Worker	0.6517	0.5079	5.6000	0.0138	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,368.0473	1,368.0473	0.0539		1,369.3950
Total	**0.8784**	**7.5799**	**7.3625**	**0.0317**	**1.7405**	**0.0326**	**1.7731**	**0.4713**	**0.0308**	**0.5020**		**3,258.5860**	**3,258.5860**	**0.1338**		**3,261.9302**

3.5 Paving - 2021

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	lb/day										lb/day					
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
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
Worker	0.0611	0.0476	0.5250	1.2900e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		128.2544	128.2544	5.0500e-003		128.3808
Total	**0.0611**	**0.0476**	**0.5250**	**1.2900e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**128.2544**	**128.2544**	**5.0500e-003**		**128.3808**

3.5 Paving - 2021

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	lb/day										lb/day					
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
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
Worker	0.0611	0.0476	0.5250	1.2900e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		128.2544	128.2544	5.0500e-003		128.3808
Total	**0.0611**	**0.0476**	**0.5250**	**1.2900e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**128.2544**	**128.2544**	**5.0500e-003**		**128.3808**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.1304	0.1016	1.1200	2.7500e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		273.6095	273.6095	0.0108		273.8790
Total	**0.1304**	**0.1016**	**1.1200**	**2.7500e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**273.6095**	**273.6095**	**0.0108**		**273.8790**

3.6 Architectural Coating - 2021

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	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.1304	0.1016	1.1200	2.7500e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		273.6095	273.6095	0.0108		273.8790
Total	**0.1304**	**0.1016**	**1.1200**	**2.7500e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**273.6095**	**273.6095**	**0.0108**		**273.8790**

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	lb/day										lb/day					
Mitigated	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Unmitigated	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	475.70	475.70	475.70	1,388,825	1,388,825
Total	475.70	475.70	475.70	1,388,825	1,388,825

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	lb/day										lb/day					
NaturalGas Mitigated	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
NaturalGas Unmitigated	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126

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	lb/day										lb/day					
General Light Industry	780.559	8.4200e-003	0.0765	0.0643	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8305	91.8305	1.7600e-003	1.6800e-003	92.3762
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	1239.05	0.0134	0.1215	0.1020	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003		145.7702	145.7702	2.7900e-003	2.6700e-003	146.6364
Total		**0.0218**	**0.1980**	**0.1663**	**1.1900e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**		**237.6007**	**237.6007**	**4.5500e-003**	**4.3500e-003**	**239.0126**

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	lb/day										lb/day					
General Light Industry	0.605599	6.5300e-003	0.0594	0.0499	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003		71.2469	71.2469	1.3700e-003	1.3100e-003	71.6703
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	0.874831	9.4300e-003	0.0858	0.0720	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003		102.9213	102.9213	1.9700e-003	1.8900e-003	103.5329
Total		**0.0160**	**0.1451**	**0.1219**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**174.1683**	**174.1683**	**3.3400e-003**	**3.2000e-003**	**175.2032**

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	lb/day										lb/day					
Mitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Unmitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342

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	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

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	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: Salinas Airport Least Project

Vehicle Population Breakdown*	
263889	Gasoline vehicles
6438	Diesel vehicles
97.6%	Gasoline vehicle %
2.4%	Diesel vehicle %

VMT per Vehicle Type	
1388825	Project VMT (CalEEMod output)
1355750	Gasoline vehicle VMT
33075	Diesel vehicle VMT

Gasoline Vehicles	
97.6%	Gasoline vehicle %
0.572	Tons per year mobile NOX emissions (annual output in CalEEMod)
0.56	Gasoline vehicle tons per year NOX emissions
4.16%	Percentage to convert NOX emissions to N2O **
0.0232	Tons per year N2O emissions for gasoline vehicles
0.0211	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
0.3316	grams N2O per gallon of fuel for diesel vehicles**
27.13	Diesel average miles per gallon*
0.01222	grams per mile N2O for diesel vehicles
404.3	grams per year N2O for diesel vehicles
0.0004043	Metric tons per year N2O emissions for diesel vehicles

CO2E Emissions from N2O	
0.0215	Metric tons per year from gasoline + diesel vehicles
265	GWP of N2O***
5.7	**CO2E emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:** EMFAC2014 (v1.0.7) Emissions Inventory Region Type: Air District Region: SCAQMD Calendar Year: 2022 Season: Annual Vehicle Classification: EMFAC2011 Categories ****Methodology source:** EMFAC2011 Frequently Asked Questions https://www.arb.ca.gov/msei/emfac2011-faq.htm *****GWP source:** Intergovernmental Panel on Climate Change (IPCC). 2014. AR5 Climate Change 2014 Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Appendix B

Traffic Impact Analysis, Kimley-Horn

TRANSPORTATION IMPACT ANALYSIS - DRAFT

AIRPORT INDUSTRIAL PARK

SALINAS, CALIFORNIA

Prepared for:
City of Salinas
200 Lincoln Avenue
Salinas, California 93901

Prepared by:

Kimley»Horn

September 2019
095936010

TRANSPORTATION IMPACT ANALYSIS - DRAFT

FOR

AIRPORT INDUSTRIAL PARK

Prepared for:
City of Salinas
200 Lincoln Avenue
Salinas, California 93901

Prepared by:
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EXECUTIVE SUMMARY

This Transportation Impact Analysis (TIA) presents the findings of a transportation evaluation that was conducted to analyze the development of an industrial park project at the Salinas Municipal Airport and potential effects it could have on the local transportation network. The project includes the relocation of an existing city public works building from the northwest corner of John Street & Work Street onto the project site, as well as the proposed construction of 65,166 square feet of warehousing and 65,166 square feet of light industrial land uses.

The TIA was conducted for the following analysis scenarios:

- **Scenario 1: Existing Conditions**
- **Scenario 2: Existing Plus Project Conditions**
- **Scenario 3: Background Conditions**
- **Scenario 4: Background Project Conditions**
- **Scenario 5: Cumulative Conditions**
- **Scenario 6: Cumulative Plus Project Conditions**

This study complies with traffic impact study guidelines and criteria set forth by the City of Salinas and study intersections were selected based on discussion with City of Salinas staff.

Study Intersections

The study intersections identified below were selected based on the proposed trip generation, estimated trip distribution, and guidance from City of Salinas Public Works staff. The Project trip distribution was developed based on traffic patterns in the study area and knowledge of the study area.

#	Intersection	Maintaining Agency
1	NB US 101 Ramps & Roy Diaz Street	Caltrans
2	Terven Avenue & Airport Boulevard	Caltrans
3	Roy Diaz Street & Airport Boulevard	City of Salinas
4	Skyway Boulevard & Airport Boulevard	City of Salinas
5	East Alisal Street & Skyway Boulevard	City of Salinas

Trip Generation Estimates

The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works site from its existing location at the northeast corner of the intersection of Work Street & John Street in the City of Salinas. Based on the Project description, Public Works Yard driveway counts, and ITE data and methodologies, the ***net new Project trip generation would be 1,214 daily trips, 153 AM peak hour trips (114 IN / 39 OUT) and 94 PM peak hour trips (20 IN / 74 OUT)***.

Impacts and Mitigation Measures

Construction of the Project would result in level of service impacts at the study intersections primarily where intersections are already failing in base (without project) conditions.

The following recommendations are provided to mitigate any potential project impacts on intersections that are operating below city/state LOS standards for each of the following scenarios:

Existing Plus Project Conditions

HCM analysis results show that most of the study intersections will operate at acceptable LOS during the AM and PM peak hours under Existing Plus Project conditions when measured against the maintaining agency's LOS standard, with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps would operate at LOS E during the AM peak hour and LOS D during the PM peak hour.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under Existing and Existing Plus Project conditions. Because this project is included in the City's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has, however, substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with Caltrans District 5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the US 101 southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the intersection of <u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that the following mitigations will result in the intersection operating at LOS D during the AM peak hour and LOS C during the PM peak hour under existing plus project conditions. While the AM peak hour is still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Existing Conditions control delay eliminating any significant impacts from the Project.

Background Plus Project Conditions

Many study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.
- The intersection of Airport Boulevard & Skyway Boulevard is anticipated to operate at unacceptable LOS E during the PM peak hour under Background Plus Project conditions.

Roy Diaz Street & US 101 Northbound Ramps Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS C during PM peak hour under background plus project conditions eliminating any significant project impacts.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under existing and plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with CaltransD5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the <u>Airport Boulevard/Terven Avenue & Us 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.

- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that this mitigation will result in improved intersection operations at LOS E and LOS D during the AM and PM peak hours under Background Plus Project conditions. While the AM and PM peak hours are still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Background Conditions control delay eliminating any significant impacts from the Project.

Airport Boulevard & Skyway Boulevard Mitigation: The Airport Boulevard & Skyway Boulevard intersection is anticipated to operate at an unacceptable LOS E during the PM peak hour under Background Plus Project conditions. The addition of Project traffic causes the unsignalized intersection to operate below the City's LOS standard until a signal is installed. A signal will be installed at this intersection as part of the Travel Center's mitigations prior to completion of the Travel Center. As an alternative a roundabout could also be installed at this intersection to mitigate project impacts.

Cumulative Plus Project Conditions

The planned US 101 / Harris Road interchange, which is assumed to be built by the year 2035 is anticipated to alter traffic patterns by shifting some traffic from Airport Boulevard and Sanborn Road interchanges as well as the Blanco Road / Sanborn Road corridor to the new interchange. This improvement is expected to reduce traffic volumes along Airport Boulevard by approximately 25% compared to no interchange conditions. As a result of this assumption all intersections are anticipated to operate at acceptable LOS under Cumulative Plus Project conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS D on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Roy Diaz Street & US 101 Northbound Ramps Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS B during AM peak hour under Cumulative plus project conditions eliminating any significant project impacts.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The new Airport Boulevard Interchange project should be constructed. The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard.

Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under cumulative plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

It is anticipated that after the completion of the Airport Boulevard Interchange Project the study intersection will operate at LOS C during the AM and PM peak hours under Cumulative Plus Project conditions.

Freeway Segment Level of Service

The Project was evaluated to determine if it would adversely affect freeway mainline operations as a result of project trips added to US 101 within the city of Salinas. The following freeway segments were identified to be analyzed:

Freeway Segment (From – To)	Maintaining Agency	LOS Standard
Fairview Ave – Airport Blvd	Caltrans	C/D
Airport Blvd – Roy Diaz St	Caltrans	C/D

The project will have no impacts on the study freeway segments under Existing or Background Plus Project conditions. Freeway segment conditions were evaluated based on cumulative condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour.

Mitigation: The City of Salinas TFO identifies a US 101 widening project along Northbound US 101 between Fairview Avenue and Airport Boulevard which would increase service to 3 lanes. This lane would improve the segment LOS to acceptable standards and result in no significant project impacts. As this project is included in the City of Salinas TFO and the TAMC regional TIF program, payment of traffic impact fees is an appropriate mitigation for the proposed project as the City of Salinas continues to work with Caltrans in implementing this improvement.

Site Circulation and Access

The Project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting access management, site circulation and alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans.

The Project proposes to construct pedestrian facility improvements, in compliance with adopted City standards, that would improve pedestrian mobility within the City. Although the City of Salinas

has no threshold of significance pedestrian, bicycle, and transit mobility, the project plans to improve these facilities to have a positive impact on these modes. In addition, it is recommended in accordance with good site circulation and access management practice that the proposed project remove any planed driveways on Airport Boulevard and instead use Skyway Boulevard and Mercer Way to provide access to the Project.

Traffic Impact Fees

The City of Salinas does have a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the City of Salinas TFO. Developments must pay the current rate of $390 per daily trip as outlined in the annually adjusted traffic fee schedule. The total fee for the proposed project generating 1,214 daily trips is $473,460.

The Transportation Agency for Monterey County (TAMC) also has a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the Regional Development Impact Fee Program Nexus Study Update (2018). Salinas developments must pay the rate of $346 per daily trip. The total fee for the proposed project generating 1,214 daily trips is $420,044.

1. INTRODUCTION

This Transportation Impact Analysis (TIA) presents the findings of a transportation evaluation that was conducted to analyze the development of an industrial park project at the Salinas Municipal Airport and potential effects it could have on the local transportation network. The project includes the relocation of an existing city public works building from the northwest corner of John Street & Work Street onto the project site, as well as the proposed construction of 65,166 square feet of warehousing and 65,166 square feet of light industrial land uses.

This study complies with traffic impact study guidelines and criteria set forth by the City of Salinas and study intersections were selected based on discussion with City of Salinas staff.

Figure 1 shows the proposed project site location.

Analysis Methodology

Development Conditions

This transportation impact analysis is based on the following development conditions:

Scenario 1: Existing Conditions

This scenario represents current traffic count data that was collected on Thursday, August 1, 2019 and existing roadway geometry and traffic control.

Scenario 2: Existing Plus Project Conditions

This scenario represents existing traffic conditions with the addition of the proposed Project.

Scenario 3: Background Conditions

This scenario represents existing conditions lane geometries and traffic control plus background development estimated for approved and pending projects that are anticipated to occur by the time the Project is constructed. The volume forecasts are based on a list of pending and approved development projects provided by City of Salinas staff.

Scenario 4: Background Plus Project Conditions

This scenario represents background traffic conditions with the addition of the proposed Project.

Scenario 5: Cumulative Conditions

This scenario is based on the cumulative roadway network and traffic conditions that would occur with the buildout of the City of Salinas General Plan by the year 2040.

Scenario 6: Cumulative Plus Project Conditions

This scenario represents cumulative year traffic conditions with the addition of the proposed Project.

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Airport Industrial Park TIA

Figure 1

Project Location Map

Operating Conditions and Criteria for Intersections

Analysis of potential impacts at roadway intersections is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 6th Edition* and *Synchro 10, HCS 7* and *Sidra Intersection 8* traffic analyses software.

HCM methodologies include procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the overall intersection. **Table 1** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle sec/veh.)	Unsignalized (Avg. control delay per vehicle sec/veh.)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	Less than 10	less than 10
B	Stable traffic. Traffic flows smoothly with few delays.	less than or equal to 10 to 20	less than or equal to 10 to 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	less than or equal to 20 to 35	less than or equal to 15 to 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	less than or equal to 35 to 55	less than or equal to 25 to 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	less than or equal to 55 to 80	less than or equal to 35 to 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	greater than or equal to 80	greater than or equal to 50
Sources: Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Research Council.			

Operating Conditions and Criteria for Roundabouts

Analysis of potential impacts at roundabouts is based on the concept of Level of Service (LOS). The LOS of roundabouts is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst). Levels of Service for this study were determined using methods defined in the Highway Capacity Manual (HCM) and SIDRA 8 traffic analysis software. Roundabout analysis often requires careful calibration of the software model to conditions observed in the field to obtain accurate LOS. SIDRA 8 allows for this level of calibration to reflect actual operating conditions observed at study roundabouts. Table 2 shows the level of service criteria for automobiles in roundabouts.

Table 2 – Roundabout Level of Service Criteria

Control Delay (s/veh)	LOS by Volumes-to-Capacity Ratio	
	v/c ≤ 0.85	v/c > 0.85
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Source: Highway Capacity Manual, Transportation Research Board.

Project impacts are determined by comparing “no project” conditions to “plus project” conditions, which indicates whether or not proposed projects are anticipated to cause significant impacts to the transportation network. Significant impacts for intersections are created when traffic from the proposed Project causes the LOS to fall below the maintaining agency’s LOS threshold or causes deficient intersections to deteriorate further.

All study intersections are located within the City of Salinas and are maintained by either the City of Salinas or Caltrans. The City and Caltrans LOS standards and impact criteria are described below.

City of Salinas (City)

The City of Salinas Traffic Level of Service (LOS) Criteria Policy C-1.2 (2002) establishes LOS D as the minimum acceptable LOS for all intersections and roadways within the city limits. Significant impacts occur when the addition of project traffic cause an intersection to operate at LOS E or LOS F. New developments are required to contribute to any improvements to the roadway network that are necessitated by the additional traffic generated by the new development.

Caltrans

Caltrans establishes the transition between LOS C and LOS D as the minimum acceptable LOS at signalized intersections. Significant impacts occur when the intersection degrades from a LOS C or better to a LOS D or worse with the addition of the project, or when the intersection is at an unacceptable LOS D or worse under baseline conditions and the addition of the project further increases vehicle delay. If an un-signalized intersection is LOS D or worse in baseline conditions and meets or exceeds the CAMUTCD peak hour signal warrant threshold under plus project conditions, it is a significant impact.

Freeway segment LOS is determined based on density in the form of passenger cars per mile per lane on each segment. The freeway segment capacities are based on the Highway Capacity Manual 6th Edition (HCM6) by considering inputs of number of lanes, free flow speed, terrain, truck percentage and other factors. Caltrans defines an acceptable level of service as the transition between LOS C and D for freeway segments.

Study Intersections and Freeway Segments

The proposed Project would generate new vehicular trips that would increase traffic volumes on the local street network and on the US 101 freeway. To assess changes in traffic conditions, the intersections listed in **Table 3** and the freeway segments listed in **Table 4** were selected for evaluation in consultation with City of Salinas staff. These study intersections are illustrated in **Figure 2**.

Table 3 – Study Intersections

#	Intersection	Maintaining Agency	LOS Standard	Intersection Control
1	NB US 101 Ramps & Roy Diaz St	Caltrans	C/D	SSSC
2	Terven Ave / Airport Blvd & SB US 101 Ramps	Caltrans	C/D	Signalized
3	Roy Diaz St & Airport Blvd	City of Salinas	D	Signalized
4	Skyway Blvd & Airport Blvd	City of Salinas	D	AWSC
5	East Alisal St & Skyway Blvd	City of Salinas	D	Roundabout

Table 4 – Study Freeway Segments

Freeway Segment (From – To)	Maintaining Agency	LOS Standard
Fairview Ave – Airport Blvd	Caltrans	C/D
Airport Blvd – Roy Diaz St	Caltrans	C/D

Traffic Impact Fees

Section 7 of the 2010 City of Salinas Traffic Improvement Program outlines a Traffic Impact Fee (TIF) program for projects to pay into to help mitigate transportation related impacts throughout the city. The Transportation Agency for Monterey County (TAMC) also utilizes a TIF program for

projects to pay into to help mitigate regional transportation related impacts throughout the County. It is anticipated the proposed Project would pay into the transportation impact fee programs to help fund mitigations for the Project. When a cumulative impact mitigation in this report is included in either the City of Salinas TIF or the TAMC TIF, it is identified as eligible for mitigation through the payment of a TIF by the project.

TIA fees are discussed further in Chapter 8 of this report.

Report Organization

This transportation impact analysis includes the following chapters:

Chapter 2 describes the existing pedestrian, bike, transit, and motorist transportation system in the Project vicinity, as well as current operating conditions at study intersections.

Chapter 3 discusses the proposed Project's trip generation characteristics, as well as methodologies and assumptions used to estimate the net Project traffic added to study intersections.

Chapter 4 discusses Existing Plus Project Conditions and analysis.

Chapter 5 discusses Background Conditions with and without the Project.

Chapter 6 discusses Cumulative Conditions with and without the Project.

Chapter 7 presents potential impacts on pedestrian, bicycle, and transit mobility due to the Project.

Chapter 8 describes traffic impact fee (TIF) programs within the city and calculates the TIF for the proposed development.

A technical **Appendix** is also attached containing traffic count data, and intersection level of service analysis output sheets.

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Airport Industrial Park TIA

Figure 2

Study Intersection Map

2. EXISTING CONDITIONS

This chapter describes existing transportation network conditions including local roadways, traffic count data, and nearby transit stops, as well as connectivity of pedestrian and bicyclist facilities.

Existing Roadway Network

The following describes the principal roadways located in the study area:

East Alisal Street is in the southern portion of the city beginning as West Alisal Street at West Blanco Road and curving northeast toward Main Street. East Alisal Street continues east of Main Street under US 101 to the Hartnell College East Campus, curving south and changing names to Alisal Road at the eastern city limits. Alisal Street is owned and maintained by the City of Salinas and is generally classified as a four-lane major arterial street; with separate left-turn pockets provided at most intersections. The City has adopted plans which recommend a road-diet option to convert East Alisal Street to a 3-lane facility with bike lanes. The posted speed limit is 30 miles per hour west of the study area and 35 miles per hour in the study area.

Skyway Boulevard is a north/south four-lane undivided minor arterial extending from Mortensen Avenue in the south to East Alisal Street in the north. The street is approximately one-half mile long and provides access to the Salinas Airport from the north. This street is owned and maintained by the City of Salinas with an existing speed limit of 35 miles per hour. For the purpose of analysis in this report the existing speed limit was used. However, it is acknowledged that this speed limit will soon expire and may be changed pursuant to findings of an ongoing study.

Airport Boulevard is an east/west undivided two-lane minor arterial extending from Hansen Street in the west to Skyway Boulevard in the east. The street is approximately one mile long and provides access between the airport and Southbound US 101 as well as access to the southwest side of the city. This street is owned and maintained by the City of Salinas with a speed limit of 45 miles per hour.

Roy Diaz Street is a north/south two-lane undivided collector extending from Airport Boulevard in the north to the Northbound US 101 Ramps in the south. The street is approximately one-third mile long and provides access to the Salinas Airport from Northbound US 101. This street is owned and maintained by the City of Salinas with a speed limit of 35 miles per hour.

Terven Avenue is a north/south two-lane undivided collector extending from Airport Boulevard in the south to South Sanborn Road in the north. The street is approximately one-half mile long and provides access to industrial businesses on the west side of US 101. This street is owned and maintained by the City of Salinas with a speed limit of 35 miles per hour.

US 101 is a north/south four-lane divided freeway serving as the major arterial connecting Salinas to the surrounding region. It provides access to Roy Diaz Street and Airport Boulevard near the study area. This street is owned and maintained by the State of California Department of Transportation with a speed limit of 65 miles per hour.

Existing Peak-Hour Turning Movement Volumes

Weekday intersection turning movement volumes for three of the five existing study intersections were collected on Thursday, August 1, 2019. In addition, a site visit was conducted on Tuesday August 13, 2019 to document current conditions at each study intersection. Traffic volume count data for intersections was collected from 6:30 to 9:00 AM and 4:00 to 6:00 PM to include peak AM and PM commute times. The count data includes vehicles, bicycles, and pedestrians and all traffic counts were collected when the weather was fair. A 15% seasonal adjustment factor was applied to the collected data to account for increased volumes under school year traffic, since traffic counts were collected when school was not in session. Based on existing counts at study intersections reported in the Travel Center TIA (2017) the 15% seasonal adjustment factor is a conservative assumption resulting in turning movement volumes greater than existing conditions in 2017. For the two intersections not counted, traffic counts from previous studies were provided by the City and volumes were increased by an annual growth rate of 0.75% to reflect existing 2019 conditions at these intersections.

The highest one-hour morning (AM) and one-hour evening (PM) peaks were selected for analysis, consistent with City and State guidelines. Peak hour volumes at each intersection's respective peak were conservatively used in this analysis, therefore, some volume imbalances were observed between study intersections. Existing study intersection geometries are shown in **Figure 3** while peak hour turning movement volumes are shown in **Figure 4**,

The peak hour factor (PHF) is a measure that reflects peak 15-minute traffic volumes that occur during an analysis hour at intersection *i* and can be calculated using the following formula:

$$PHF_i = \frac{Peak\ Hour\ Volume_i}{4 * (15\ Minute\ Peak\ Volume_i)}$$

Traffic count data indicates that PHF at the study intersections range from 0.74 to 0.82 during the AM peak hour and 0.92 to 0.94 during the PM peak hour.

U-turns are analyzed (and illustrated in all figures) as left-turns as HCM methodologies do not support analysis of u-turns. Intersection volume data sheets for all traffic counts are provided in the **Appendix**.

Existing Study Freeway Segment Volumes

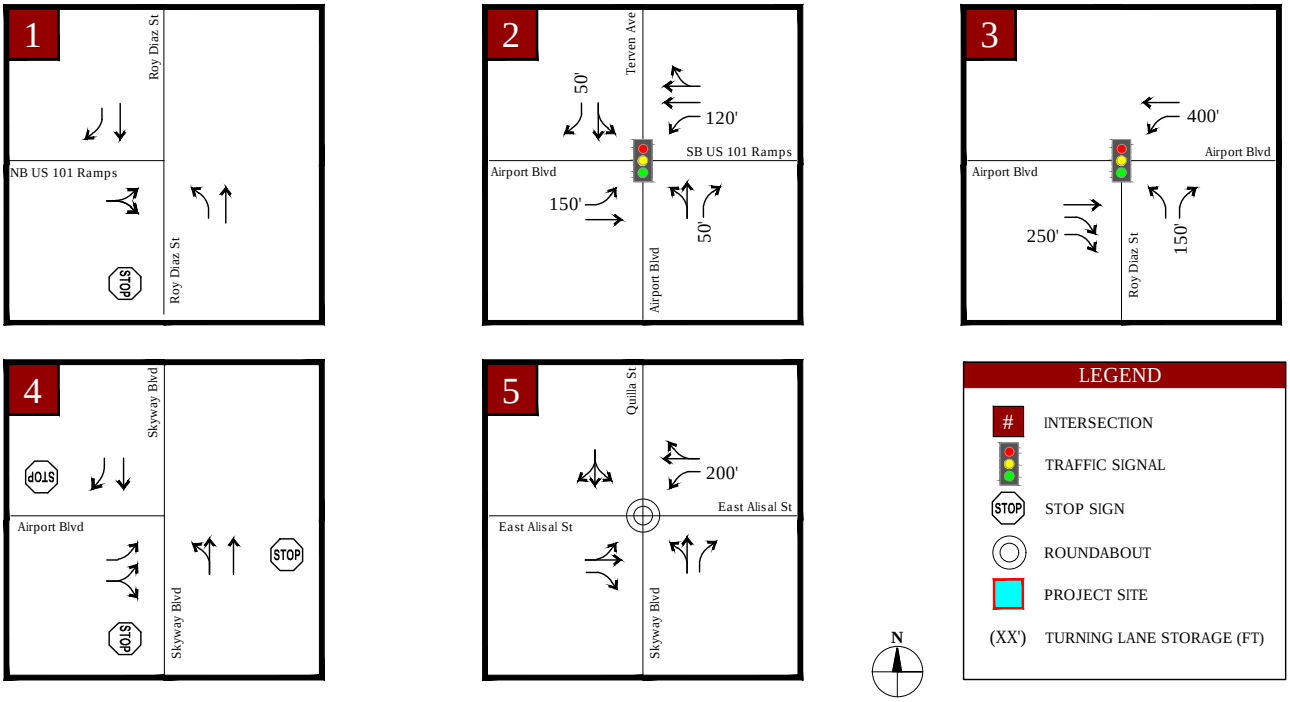
Average annual daily traffic (AADT) volumes for the northbound and southbound lanes of the study freeway segments were obtained from the Caltrans Performance Measurement System published on the Caltrans website. These volumes are estimated based of a series of sampled volume counts over the course of the year that are adjusted to represent the overall average daily traffic that is expected to occur on the freeway segment. The most recent data available was 2017 AADT data. To adjust for 2019 existing freeway volumes an average growth rate of 0.75% per year was applied to 2017 volumes. Looking at the past decade of traffic volumes along the US 101 corridor in the City of Salinas, the average growth was 0.5% annually. Therefore, it was assumed that an annual growth rate of 0.75% per year is conservative.

Caltrans also publishes an indexed table of factors to use in converting AADT values to weekday AM and PM peak hour volumes. This is done by identifying the percent distribution (D) of traffic in the northbound versus southbound direction of the freeway as well as the proportion of AADT traffic that occurs during the peak hour (K-factor). Using these two values, the peak hour segment volume is calculated as AADT*D*K for each study freeway segment.

Existing Conditions Field Review

A site visit in the study area was conducted on Tuesday August 13, 2019 from 4:30PM to 6:30PM to observe existing traffic conditions including vehicle queuing and parking, as well as pedestrian and bicycle circulation. The following was observed:

- The intersection of US 101 Northbound Ramps & Roy Diaz Street had very few vehicles traveling through it and experienced minimal queues. There is a sidewalk along the west side of Roy Diaz Street and a crosswalk along the US 101 Northbound Ramps.
- The intersection of Terven Avenue & Airport Boulevard / Southbound US 101 Ramps was observed to be operating at or above capacity with long queues at multiple approaches. Queues were observed along the Airport Boulevard US 101 overpass and the Southbound US 101 Off-Ramp in excess of 15 vehicles. Queues on the Southbound US 101 Off-Ramp did not spill onto the US 101 main line but did reduce the overall length for deceleration off the freeway. A very high occurrence of truck traffic was observed at this intersection. When semi-truck trailers performed left turn movements there was usually not enough room to perform the movement without oversteering on the part of the driver resulting in long clearance times for one truck to travel through the intersection. Pedestrian crossing is prohibited on the US 101 Ramp leg of this intersection requiring pedestrians to cross Terven Avenue instead. Crosswalk and intersection striping including stop bars are no longer visible at this intersection.
- The intersection of Roy Diaz Street & Airport Boulevard is a signalized T-intersection. No carryover queues were observed at this intersection from one signal cycle to the next. Pedestrian sidewalks are provided on the south side of Airport Boulevard and along the west side of Roy Diaz Street. Evidence of crosswalk striping exists but has been almost completely worn off by traffic and no longer is visible to traveling motorists.
- The intersection of Skyway Boulevard & Airport Boulevard experiences minimal queues at each stop-controlled approach. There are no pedestrian or bike facilities at this intersection.
- The intersection of Skyway Boulevard / Quilla Street & East Alisal Street experiences minimal queues at each approach of the roundabout at any given time during observation. Spillback from downstream intersections on Quilla Street was visible at the roundabout but never entered or affected roundabout operation. Pedestrian facilities including crosswalks, sidewalks and ADA ramps are in good conditions and clearly visible. Roadway striping for lanes and movement patterns in the roundabout is in good condition. No bicycles were observed using the roundabout.



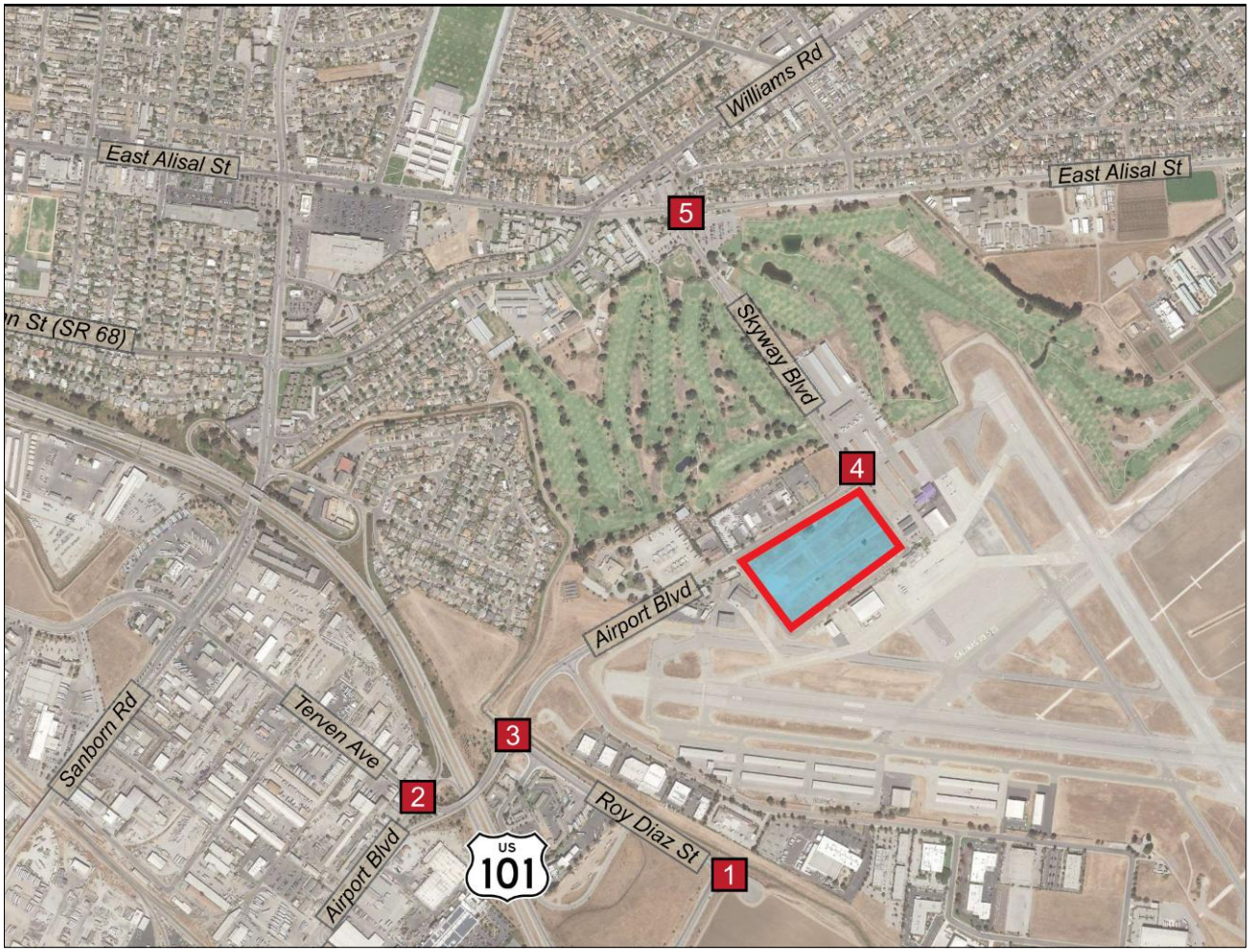


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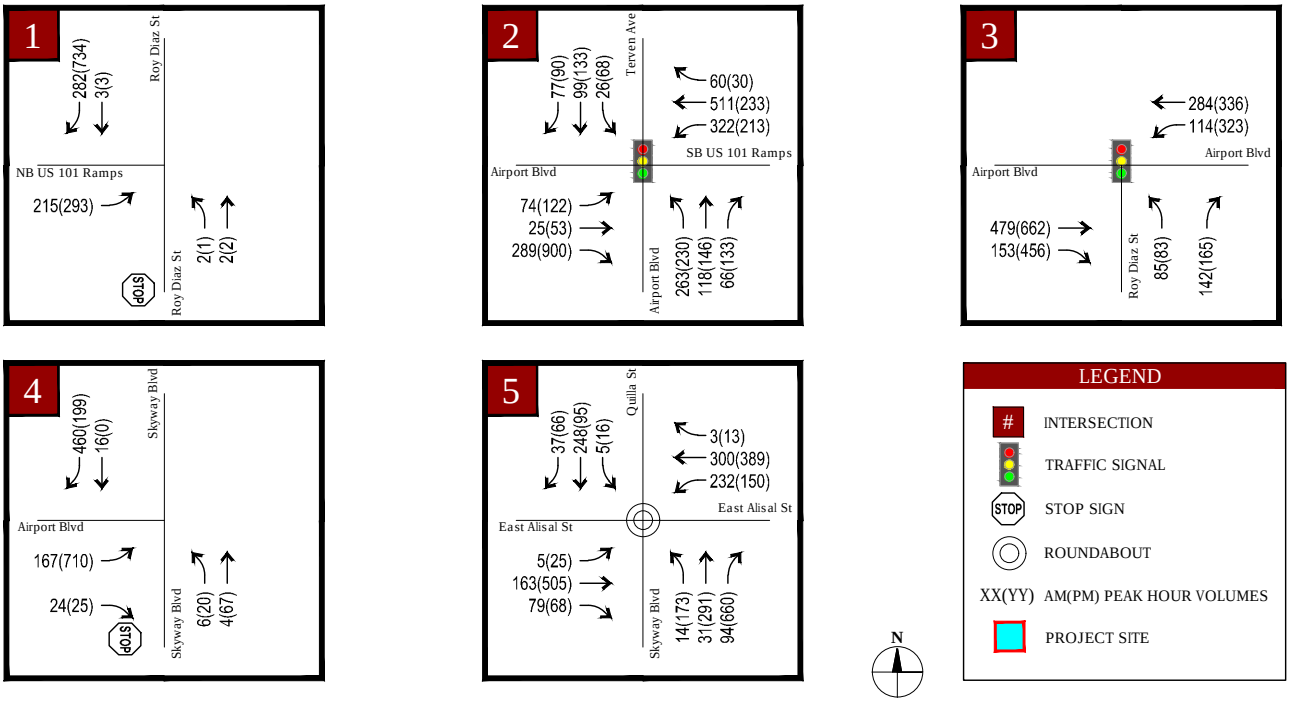
FIGURE 3
EXISTING CONDITIONS
LANE GEOMETRY AND TRAFFIC CONTROL



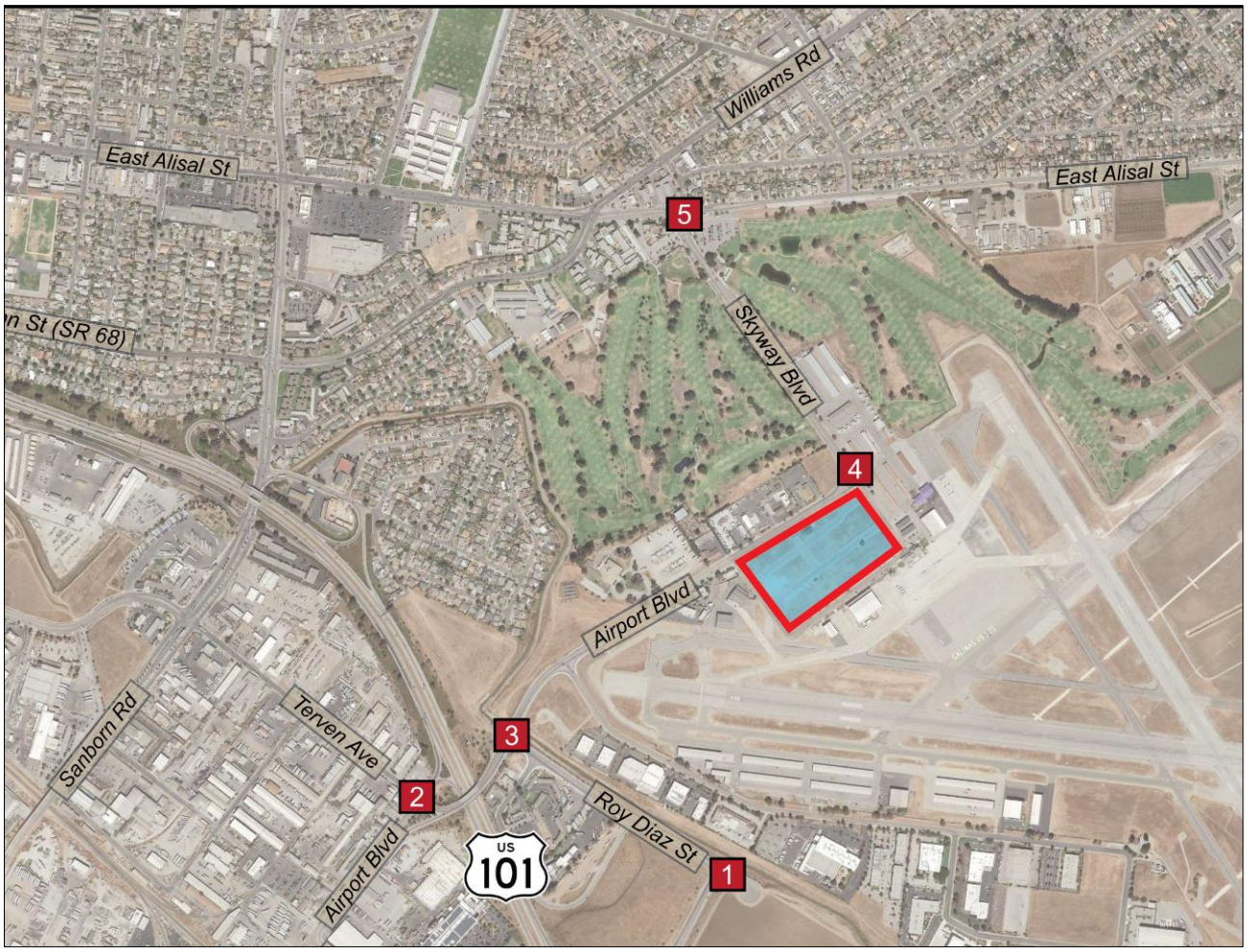


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FIGURE 4
EXISTING CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Existing Transit Facilities

Monterey-Salinas Transit (MST) provides bus services throughout the greater Monterey and Salinas areas specifically providing bus service within the Project study area.

The ***MST Salinas - Airport Business Center Route 48*** extends from the Salinas Transit Center along East Alisal Street to the intersection of Skyway Boulevard / Quilla Street & East Alisal Street where it continues south along Skyway Boulevard before traveling west past the proposed Project site along Airport Boulevard. There are stops along this route just west of the proposed Project site on Airport Boulevard or north of the site on Skyway Boulevard. Service is provided every 90 minutes beginning in the morning at 7:30 AM and terminating at 6:00 PM.

Existing Pedestrian and Bicycle Facilities

The following sections describe pedestrian and bicycle facilities within the study area.

Pedestrians

Site observations in conjunction with published sidewalk conditions by the City of Salinas were used to assess the pedestrian conditions within the study area. Sidewalk access near the proposed Project site is limited to the north side of Airport Boulevard. Skyway Boulevard only has sidewalk and pedestrian facilities immediately surrounding the roundabout at East Alisal Street. There is little connectivity between sidewalks and crosswalks between Airport Boulevard and Skyway Boulevard. It is anticipated that with infill development in the airport area, including this development, a more connected sidewalk network will be constructed. The proposed Project study area is currently pedestrian prohibitive.

Bicycles

The City of Salinas provides a map of existing city bicycle facilities on their website under GIS resources. This map summarizes which roadways and paths serve cyclists and includes location and bike route class.

Class I facilities are paved bicycle paths that are physically separated from the vehicular travel lane. They typically follow waterways, parks, or ocean lines and do not necessarily run parallel to a roadway. No Class I facilities exist near the Project site (within ½ mile).

Class II facilities are striped bike lanes along the street. Class II bike facilities are provided near the Project site. The proposed Project site can be accessed along dedicated Class II bicycle facilities via Airport Boulevard, Skyway Boulevard, and East Alisal Street.

Class III bicycle facilities are bike routes denoted by signs that are shared with vehicles along the roadway. Moffett Street is approximately one-third mile away from the proposed Project site and is identified by the City of Salinas bikeways map as a Class III facility.

Class IV bicycle facilities are separated bikeways for the exclusive use of bicycles. The bikeway may be separated from the roadway by grade separation, flexible posts, inflexible posts, or on-street parking. These bikeways typically run parallel to or exist adjacent to a roadway. There are no class IV bicycle facilities within the study area.

Existing Level of Service

Traffic operations were evaluated at the study intersections based on existing conditions lane geometry, traffic control, and peak hour traffic volumes. HCM analysis results show that most of the study intersections currently operate at acceptable LOS during the AM and PM peak hours when measured against the maintaining agency's LOS standard with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps operates at LOS E during the AM peak hour and LOS D during the PM peak hour. Long queues were observed in the northbound shared thru-left and the westbound left turn lanes exceeding current storage capacity. US 101 Southbound Off-Ramp queues currently exceed storage pocket capacity but do not spill onto the US 101 Southbound mainline.

Analysis results are presented in **Table 5** and Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results and field observations, all study freeway segments currently operate at an acceptable LOS during existing conditions. Analysis results are presented in **Table 6** and HCS output sheets are provided in the **Appendix**.

Table 5 – Existing Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.4	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.3*	-	*B*	*EB*	*10.4*	-	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	57.8	-	E	-	49.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.8	-	B	-	40.1	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	12.9	-	B	-	23.3	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.9	0.392	A	-	9.4	0.647	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Intersections that operate below the maintaining agency's LOS standard are highlighted.
5. Roundabouts must not exceed a V/C of 0.85

Table 6 – Existing Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Existing Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,489	20.9	C	2,721	23.2	C
			SB	1,876	15.6	B	1,643	13.7	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	1,795	15.0	B	1,962	16.4	B
			SB	1,352	11.3	B	1,185	9.9	A

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

3. PROPOSED PROJECT

The Project proposes to develop a 13.25-acre vacant site owned by the City of Salinas into industrial and commercial uses. The site is located on the northwest side of the Salinas Municipal Airport and bounded by Airport Boulevard to the north, Mortensen Avenue to the south, Skyway Boulevard to the east and Mercer Way to the west. The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works building to the site from its existing location at the northeast corner of Work Street & John Street.

The property has good street access from all sides. Most traffic runs along Airport Boulevard, which connects US 101, west Salinas, east Salinas and the airport. Surface parking at city-prescribed numbers and spaces will be provided to accommodate the Project.

Trip Generation Estimates

Trip generation was developed for this Project using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017)* and driveway counts at the existing city public works facility. A trip is defined in *Trip Generation* as a single or one-directional vehicle movement with either the origin or destination at the Project site. In other words, a trip can be either “to” or “from” the site. In addition, a single customer visit to a site is counted as two trips (i.e., one to and one from the site).

For purposes of determining the worst-case impacts of the project, trip generation estimates were calculated for the AM peak hour (between 7:00AM to 9:00AM) and the PM peak hour (between 4:00PM to 6:00PM). While the Project itself may generate traffic during other times of the day (i.e. deliveries, service vehicles, etc.), the estimates presented in this section represent the worst-case scenario for traffic conditions within the study area.

Trip generation estimates are presented below for the existing public works building as well as the proposed Project.

Existing Public Works Building

The City of Salinas currently operates a public works facility to the west of the proposed Project site on the northwest corner of Work Street & John Street. This existing facility has three driveways that are used to access the site. It is assumed that the existing public works building will be approximately the same size once it is moved to its new location at the Project site. Driveway counts were performed at the existing public works facility on August 1, 2019 in the morning and evening to determine both the AM and PM peak hour trip generation for the site. The existing public works building generates 74 AM and 17 PM peak hour trips as shown in **Table 7**.

Project Trip Generation Estimates

The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works site from its existing location at the northeast corner of the intersection of Work Street & John Street in the City of Salinas.

No land uses currently exist on the Project site and no trip credits are assumed in this analysis. Furthermore, internal capture, pass-by, and diverted trip reductions were not applied in this evaluation. Even though the public works yard is only a relocation, it is considered as a new project in this analysis, since the relocation distance is far enough to constitute a new project.

ITE land use code (LUC) 110 was used to estimate the Project trip generation for the 65,166 square feet of general light industrial uses. ITE LUC 150 was used to estimate the Project trips generation for the 65,166 square feet of warehousing uses. Existing conditions driveway counts of the three public works site driveways were used to estimate the Project trip generation of the City Public Works site.

Based on the Project description and ITE data and methodologies, the ***net new Project trip generation would be 1,214 daily trips, 153 AM peak hour trips (114 IN / 39 OUT) and 94 PM peak hour trips (20 IN / 74 OUT)***.

Table 7 shows trip generation estimates for buildout of the Project.

Table 7 – Project Trip Generation

Land Use	ITE Land Use Code	Size	Unit	Daily		AM Peak Hour				PM Peak Hour			
				Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
In and Out Distribution													
General Light Industrial	110				100%		88%	12%	100%		13%	87%	100%
Warehousing	150				100%		77%	23%	100%		27%	73%	100%
City Public Works Site					--		65%	35%	100%		29%	71%	100%
Proposed Project													
General Light Industrial[1]	110	65.166	KSF	4.96	324	0.70	40	6	46	0.63	5	36	41
Warehousing[2]	150	65.166	KSF	-	150	-	26	7	33	-	10	26	36
City Public Works Site[3]					740		48	26	74		5	12	17
Total Proposed Project Trips													
Total Proposed Buildout Trips					***1,214***		***114***	***39***	***153***		***20***	***74***	***94***

Notes:
1. ITE Code 110 Daily, AM, and PM peak trip generation based on ITE average rate.
2. ITE Code 150 Daily, AM, and PM peak trip generation based on ITE equations.
3. Based on peak period driveway counts collected August 1, 2019. Daily driveway count is not available. To estimate Public Works site daily trip generation, it was assumed that AM peak hour trips are 10% of the daily (daily = 74 / 0.10 = 740)
Source: Institute of Transportation Engineers (ITE) Trip Generation 10th Edition, 2017

Internal Capture reductions account for trips made internally within a proposed development and are typically considered for developments with complementary land uses – such as mixed-use developments. Because there are no complementary land uses for this development no internal capture trip reductions are assumed.

Pass-by Trip reductions account for trips that are already on the roadway network, traveling along the roadway directly adjacent to the proposed development and make a stop as they pass by the site. Pass-by trips are not considered new trips for proposed developments, rather, they are additional stops along a travelers' predetermined trip that would be made whether the development is constructed or not. ITE does not provide data or guidance justifying assumption of pass-by trip reductions for the Project land uses. Therefore, no pass-by trip reductions are assumed for this development, which is a conservative assumption.

Diverted Trip reductions account for trips that are already on the roadway network, traveling on the road network in the vicinity of the proposed development. These trips would detour from their typical travel route, travel to/from the proposed development.

Diverted trips are not considered new trips for proposed developments, rather, they are rerouted trips with additional stops along a travelers' predetermined trip that would be made whether the development is constructed or not. ITE does not provide data or guidance justifying assumption of diverted trip reductions for the Project land uses. Therefore, no diverted trip reductions are assumed for this development, which is a conservative assumption.

Distribution and Assignment

The proposed Project's trip distribution was estimated based on existing traffic patterns and knowledge of the study area. In addition, trip distribution patterns identified and assumed in the adjacent Salinas Travel Center TIA (2017) were incorporated.

Project trips will primarily consist of employees of the various businesses within the Project traveling to and from their homes. Other trips to and from the Project may include truck deliveries, city utility vehicles, or customers/clients of the industrial park. Traffic volumes are anticipated to increase primarily along Skyway Boulevard and Airport Boulevard due to the proposed Project. Internal Project circulation is anticipated to be facilitated by Mercer Way, Mortenson Avenue, Anderson Avenue, and Jeffery Avenue. The following trip distribution percentages were estimated based on existing traffic patterns and count data, as well as knowledge of the study area:

- 12% east along East Alisal Street
- 14% west along East Alisal Street
- 14% north along Quilla Street and Williams Road
- 25% north along US 101
- 20% south along US 101 (primarily from general light industrial and warehousing uses)
- 10% northwest along Terven Avenue
- 5% southwest along Airport Boulevard

Figure 5 illustrates the assumed trip distribution in relation to the Project site and study intersections.

The Project trip assignment – as shown in **Figure 6** – indicates the number of new motor vehicles that would be added to the study network once the Project is constructed.

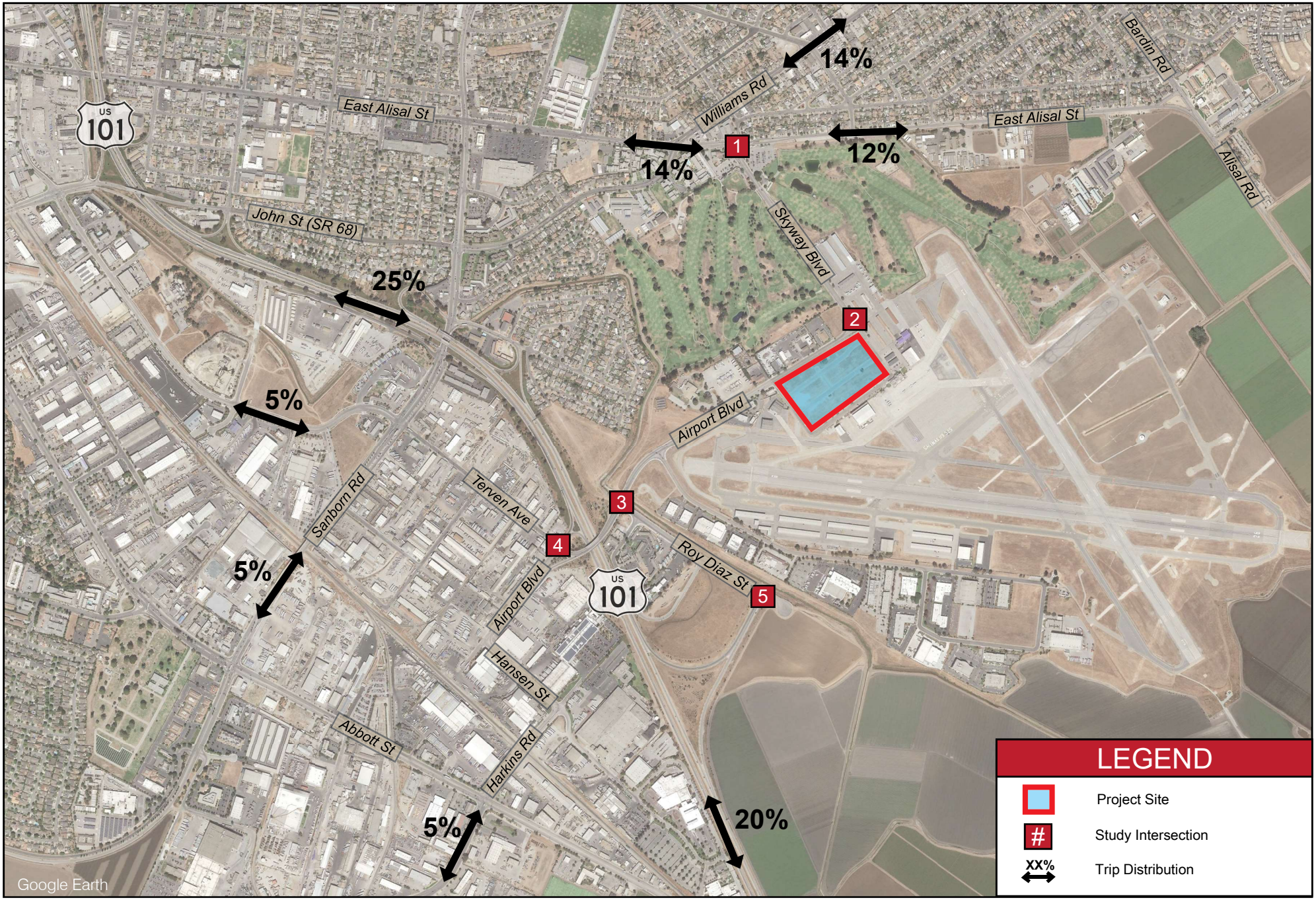

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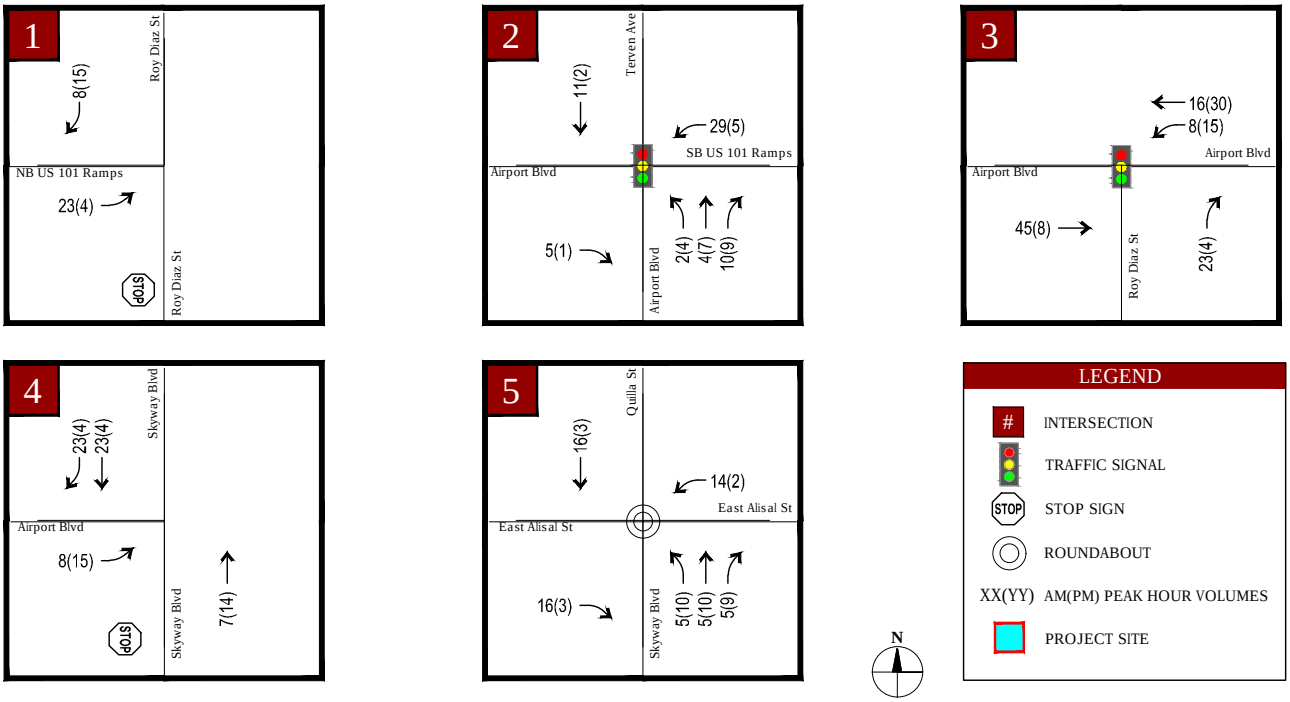
Figure 5

Trip Distribution Map



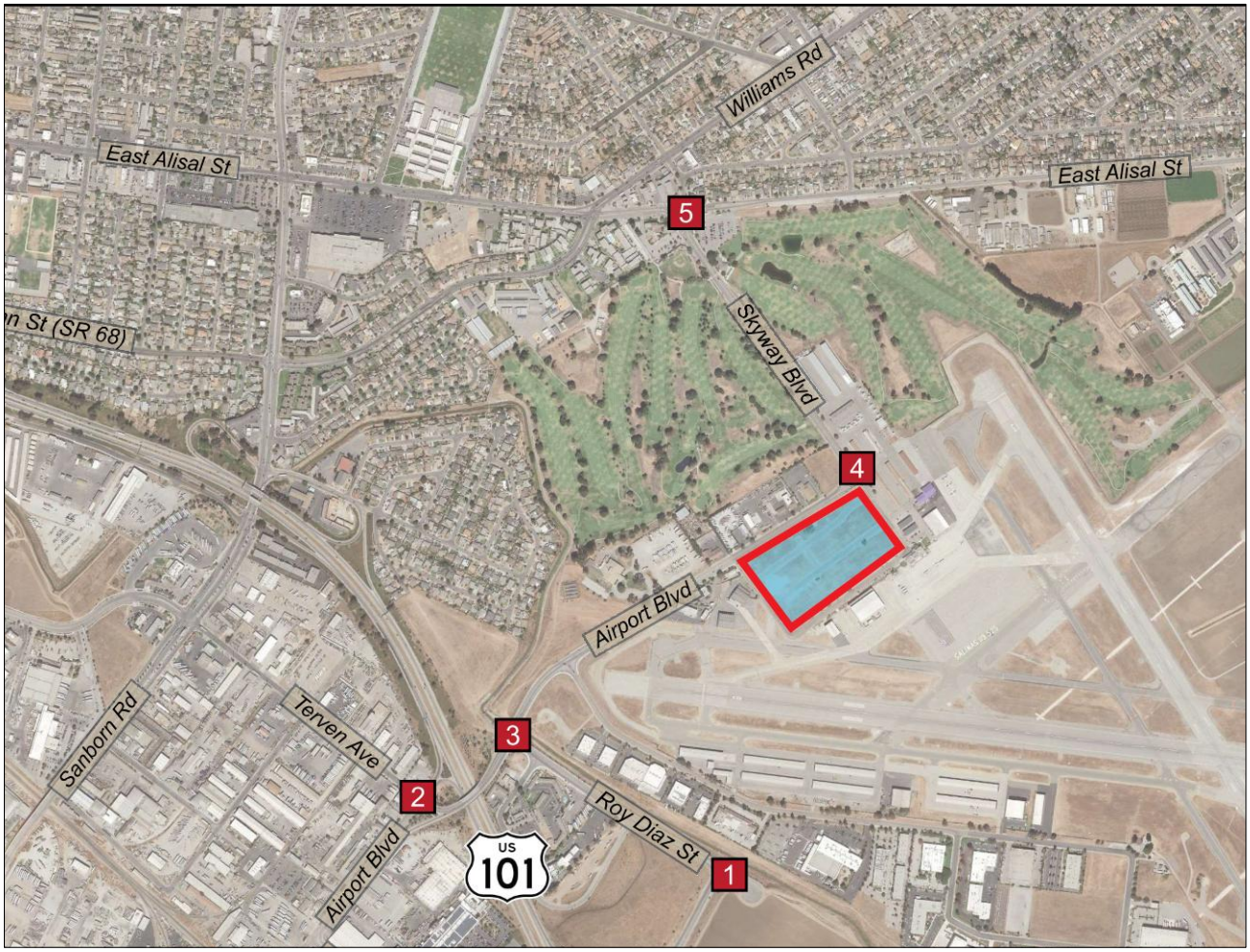


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FIGURE 6
EXISTING CONDITIONS
PROJECT TRIP ASSIGNMENT

4. EXISTING PLUS PROJECT CONDITIONS

Traffic operations were evaluated at the study intersections under Existing Plus Project conditions. **Figure 7** shows the Existing Plus Project peak hour vehicle volumes.

HCM analysis results show that most of the study intersections will operate at acceptable LOS during the AM and PM peak hours under Existing Plus Project conditions when measured against the maintaining agency's LOS standard, with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps would operate at LOS E during the AM peak hour and LOS D during the PM peak hour.

Existing Plus Project analysis results are presented in **Table 8**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under existing plus project conditions. Analysis results are presented in **Table 9** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off-Ramps:</u>

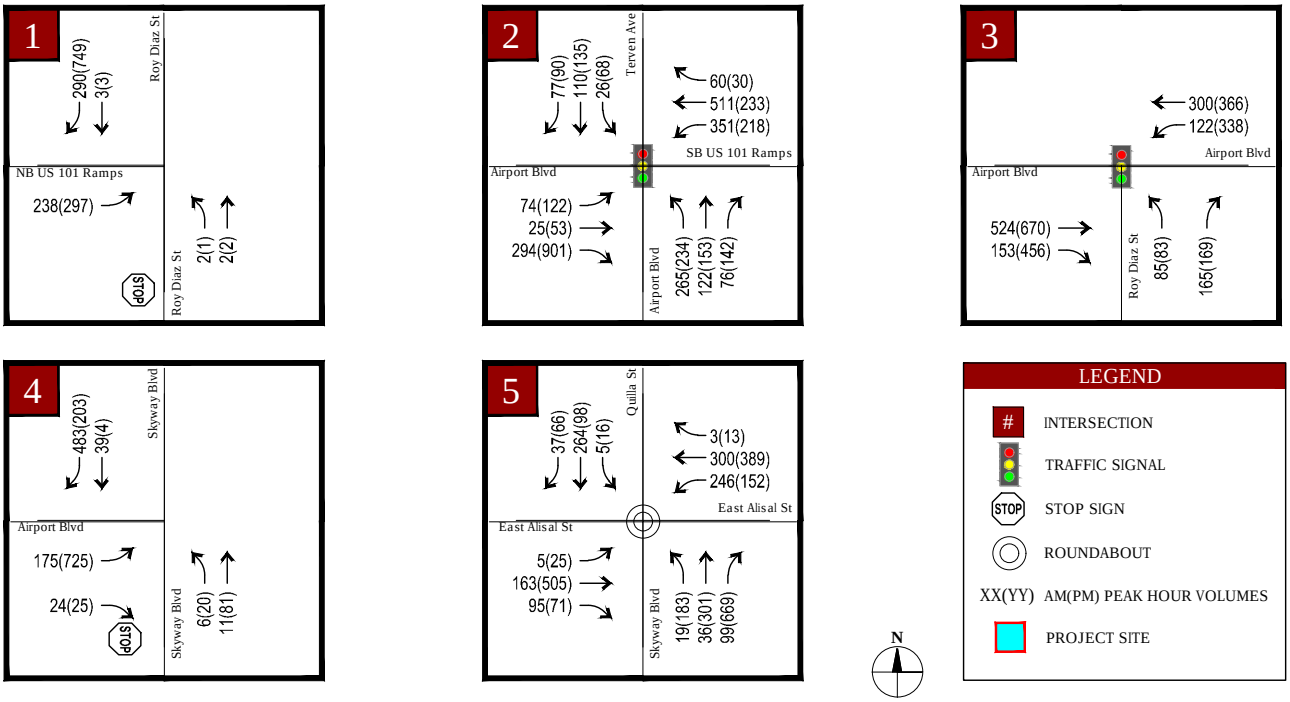
Impact: This intersection currently operates at unacceptable LOS E conditions during the AM peak hour and LOS D conditions during the PM peak hour. Therefore, the addition of any Project traffic is considered a significant impact to be mitigated.

Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under Existing and Existing Plus Project conditions.The improvement has, however, substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with Caltrans District 5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the US 101 southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the intersection of <u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that the following mitigations will result in the intersection operating at LOS D during the AM peak hour and LOS C during the PM peak hour under existing plus project conditions. While the AM peak hour is still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Existing Conditions control delay eliminating any significant impacts from the Project.



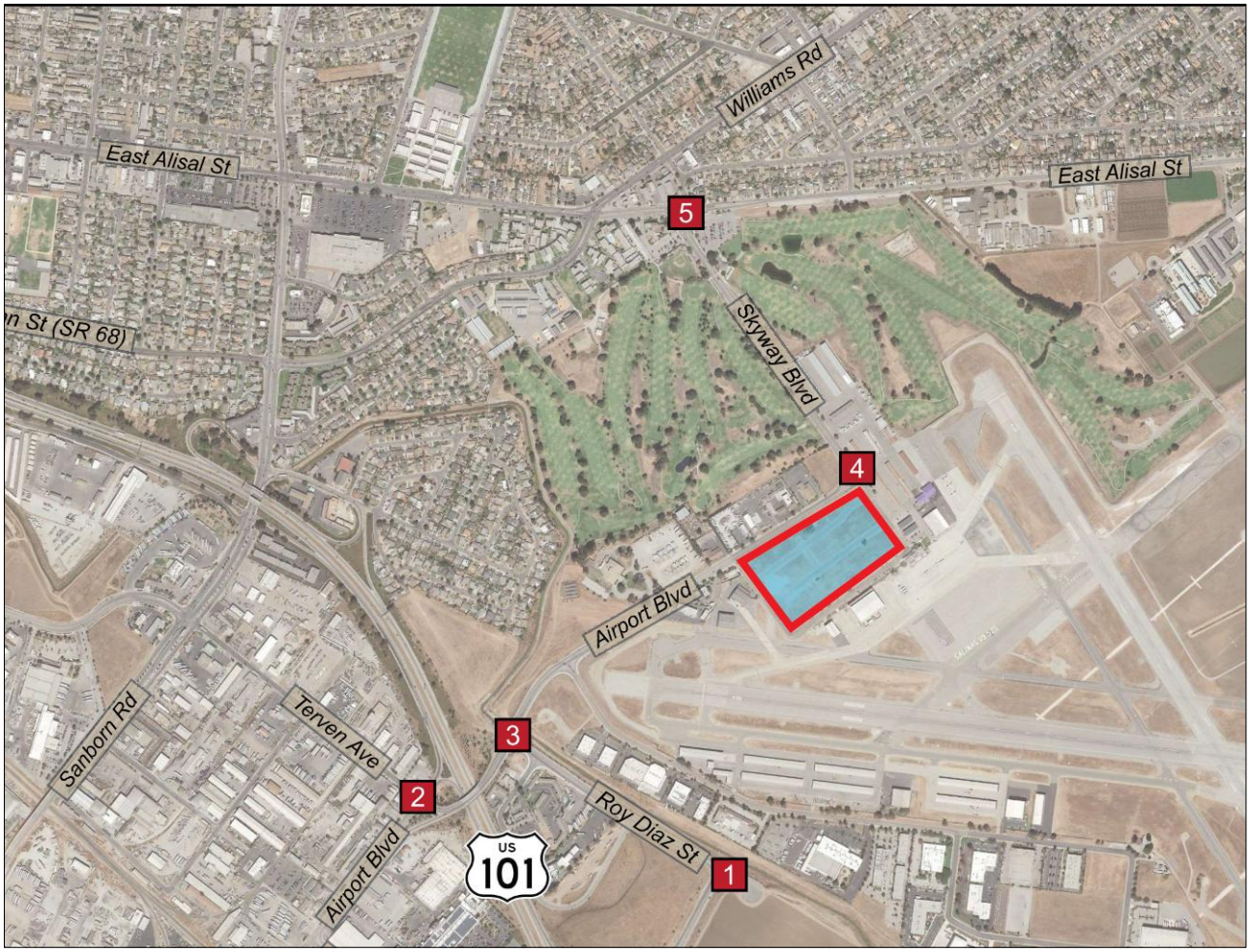


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FIGURE 7
EXISTING PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

Table 8 – Existing Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Conditions								Existing Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.4	-	A	-	3.0	-	A	-	4.7	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.3*	*-*	*B*	*EB*	*10.4*	*-*	*B*	*EB*	*10.6*	*-*	*B*	*EB*	*10.5*	*-*	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	57.8	-	E	-	49.4	-	D	-	**63.8**	-	**E**	-	**50.4**	-	**D**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.8	-	B	-	40.1	-	D	-	18.6	-	B	-	44.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	12.9	-	B	-	23.3	-	C	-	13.6	-	B	-	25.2	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.9	0.392	A	-	9.4	0.647	A	-	4.8	0.365	A	-	9.8	0.659	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below the City's/State's LOS standard are highlighted and significant project impacts are shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85.

Table 9 – Existing Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Existing Conditions						Existing Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,489	20.9	C	2,721	23.2	C	2,497	21.0	C	2,736	23.3	C
			SB	1,876	15.6	B	1,643	13.7	B	1,905	15.9	B	1,648	13.7	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	1,795	15.0	B	1,962	16.4	B	1,818	15.1	B	1,966	16.4	B
			SB	1,352	11.3	B	1,185	9.9	A	1,362	11.4	B	1,194	9.9	A

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Table 10 – Existing Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Plus Project Conditions								Existing Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.7	-	A	-	3.0	-	A	-	4.7	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.6*	*-*	*B*	*EB*	*10.5*	*-*	*B*	*EB*	*10.6*	*-*	*B*	*EB*	*10.5*	*-*	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**63.8**	**-**	**E**	**-**	**50.4**	**-**	**D**	-	54.6	-	D	-	20.9	-	C
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	18.6	-	B	-	44.5	-	D	-	18.6	-	B	-	44.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	13.6	-	B	-	25.2	-	D	-	13.6	-	B	-	25.2	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.8	0.365	A	-	9.8	0.659	A	-	4.8	0.365	A	-	9.8	0.659	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-way Stop Controlled, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85.

5. BACKGROUND CONDITIONS

Background conditions describe the conditions when Project construction would be completed, and the Project open to the public. Traffic volumes, transportation network improvements, and operations that are anticipated to occur by the opening year of the Project were determined in consultation with the City of Salinas staff. The following development conditions are evaluated in this chapter:

- Background Conditions
- Background Plus Project Conditions

Proposed Transportation Improvements

Per discussions with City of Salinas staff, no near-term funded roadway or intersection improvements are expected to be constructed at transportation facilities that are studied in this TIA. Therefore, existing conditions geometries and intersection control are assumed for Background conditions.

Figure 8 illustrates the intersection geometry and traffic control assumed in the Background conditions analysis, which matches Existing conditions.

Traffic Volume Development

Background condition traffic volumes were calculated by identifying the approved, pending, and proposed development projects in the study area that have not yet been constructed. The development projects were provided by City of Salinas staff and identified due to their proximity to the study facilities and because it is anticipated that they would add traffic to the road network by the time the Airport Industrial Park project is completed.

The following development projects were considered in Background conditions volume assumptions:

- **Salinas Travel Center:** Development of a 64-acre area located between US 101 and Roy Diaz Street that includes a fueling station for trucks and automobiles, a convenience store, a fast food restaurant, a truck tire shop, and a 79-room hotel.

New traffic due to the approved, pending, and proposed development projects was estimated and added to the existing peak hour traffic volumes to determine Background conditions peak hour volumes, which are presented in **Figure 9**.

Background Conditions Level of Service

Background conditions intersection operations were evaluated at the study intersections based on described lane geometry, traffic control, and peak hour vehicle volumes. Two study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.

Freeway segment conditions were evaluated based on background condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results and field observations, all study freeway segments currently operate at an acceptable LOS during background conditions.

Analysis results are presented in **Table 11** and **Table 12** with Synchro and HCS output sheets provided in the **Appendix**.

Table 11 – Background Conditions Intersection Level of Service

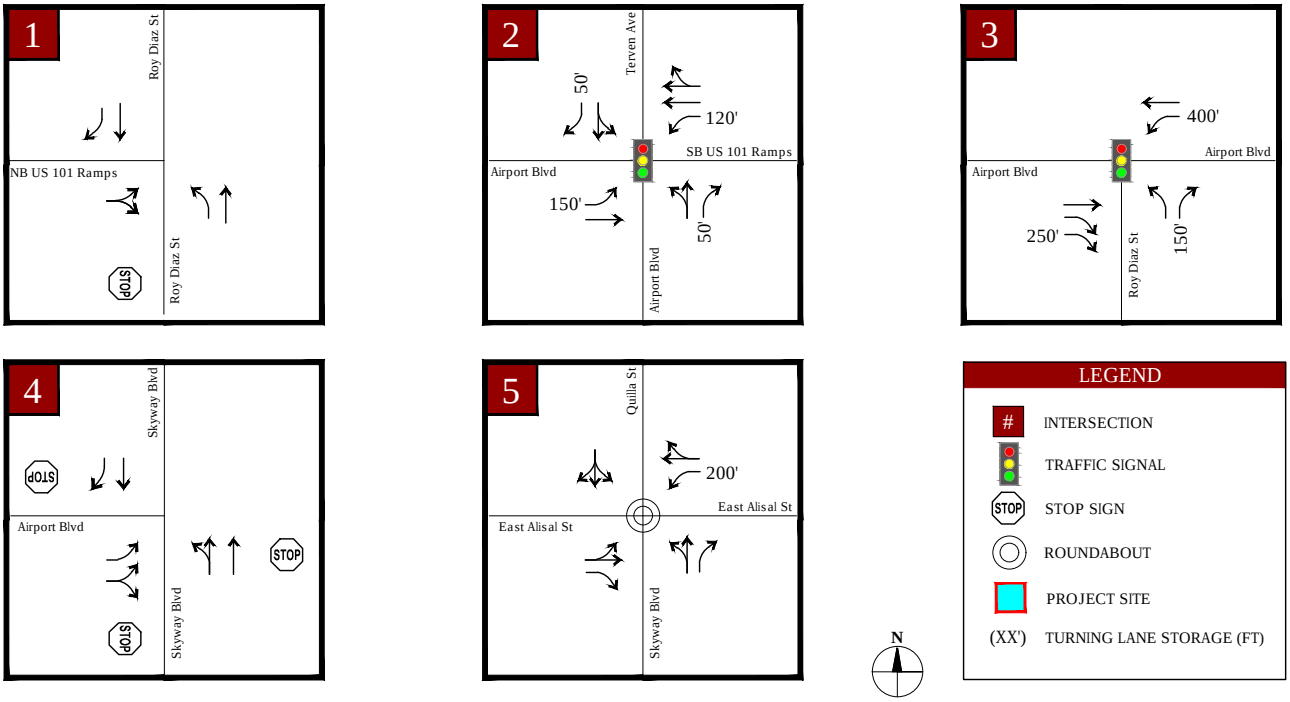
#	Intersection	Maintaining Agency & Standard		Control Type	Background Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC	-	11.5	-	B	**-**	**24.3**	**-**	**C**
	Worst Approach				*EB*	*30.8*	-	*D*	***EB***	***102.7***	**-**	***F***
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**98.3**	**-**	**F**	**-**	**69.3**	**-**	**E**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	16.2	-	C	-	34.6	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.1	0.407	A	-	10.6	0.669	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City's LOS standard are highlighted.
6. Roundabouts must not exceed a V/C of 0.85

Table 12 – Background Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Background Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,558	21.6	C	2,799	24.0	C
			SB	2,050	17.1	B	1,717	14.3	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,069	17.2	B	2,062	17.2	B
			SB	1,407	11.7	B	1,332	11.1	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.



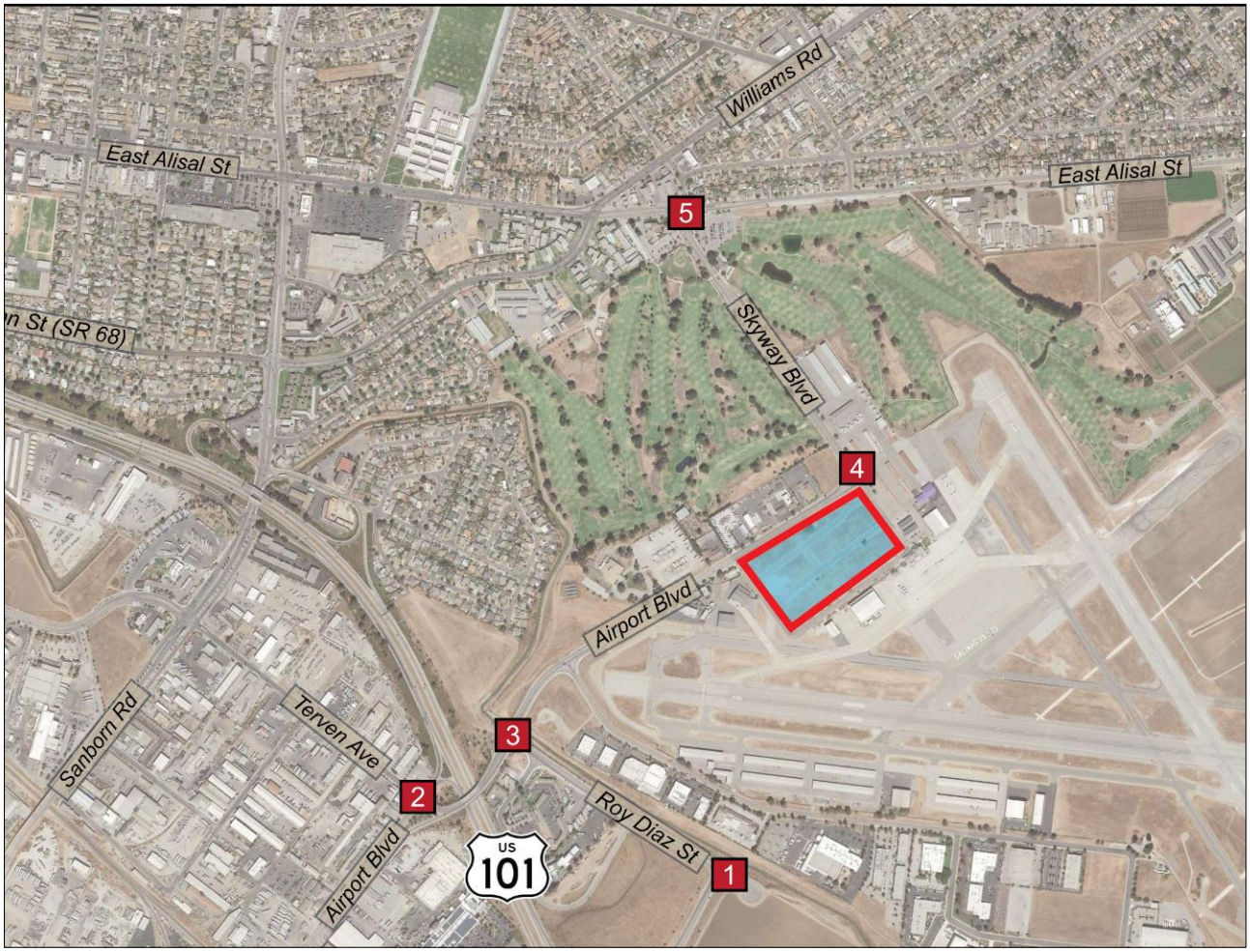


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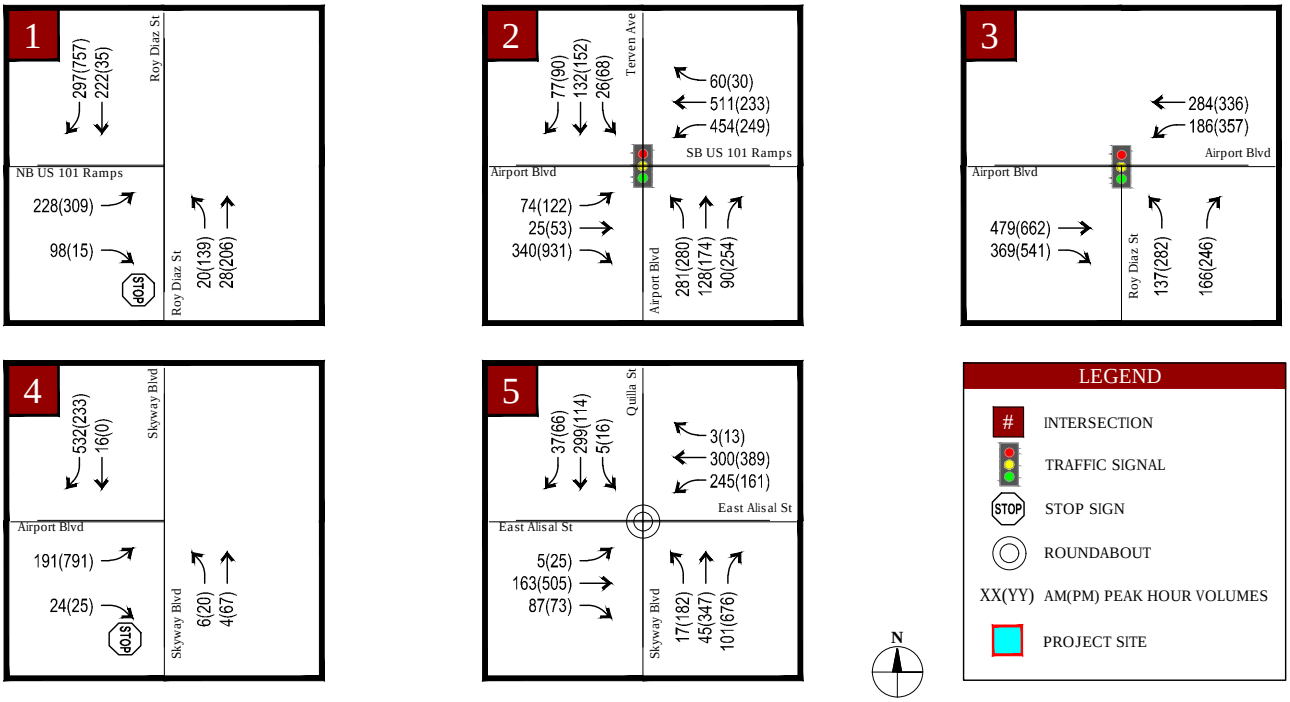
FIGURE 8
BACKGROUND CONDITIONS
LANE GEOMETRY AND TRAFFIC CONTROL



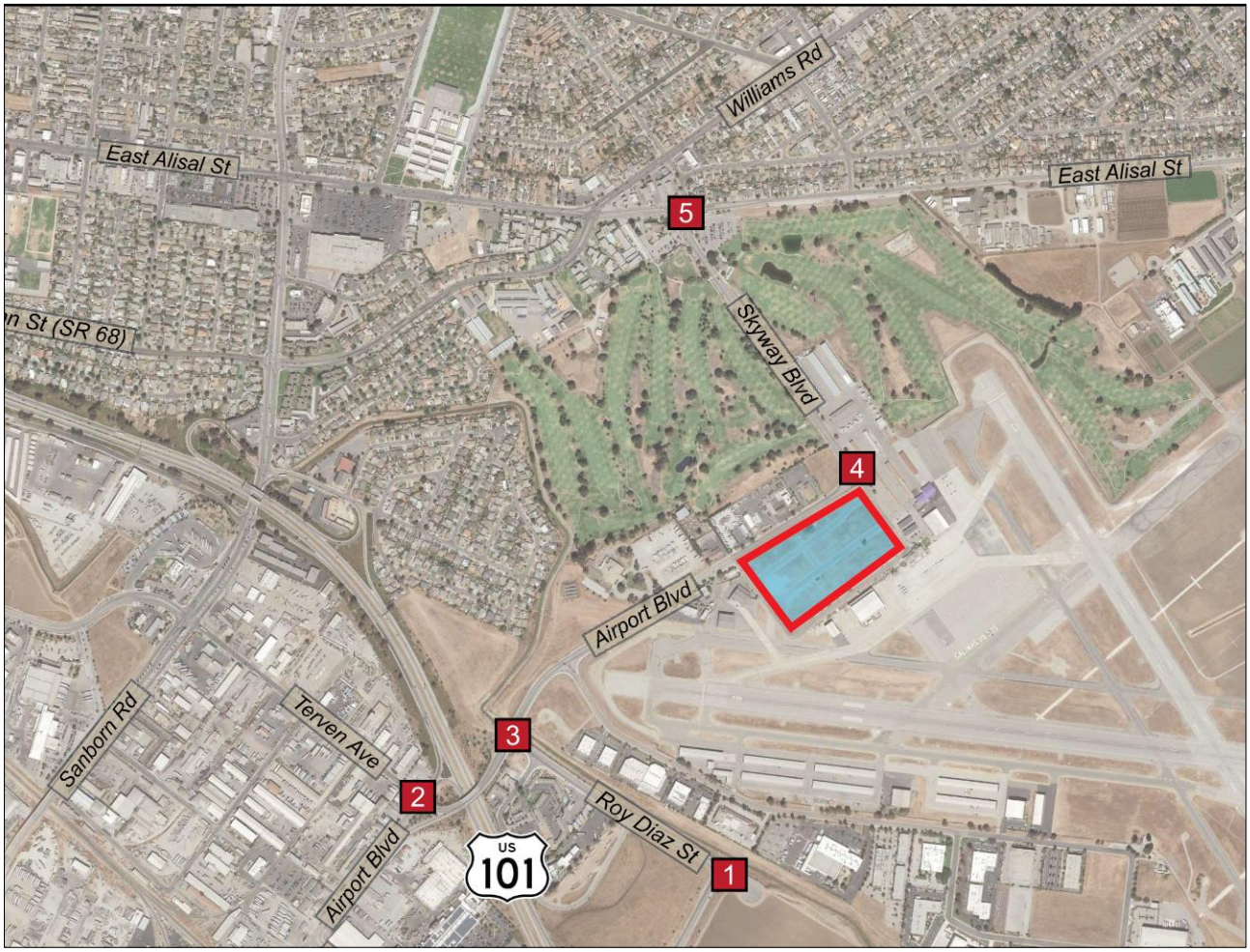


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FIGURE 9
BACKGROUND CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Background Plus Project Level of Service

Traffic operations were evaluated at the study intersections based on Background Plus Project conditions. Background Plus Project peak hour volumes are shown in **Figure 10.** Many study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.
- The intersection of Airport Boulevard & Skyway Boulevard is anticipated to operate at unacceptable LOS E during the PM peak hour under Background Plus Project conditions.

Background Plus Project analysis results are summarized in **Table 13**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on Background condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Background Plus Project conditions. Analysis results are presented in **Table 14** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Roy Diaz Street & US 101 Northbound Ramps:</u>

Impact: Under Background conditions this intersection is anticipated to operate under LOS F during the PM peak hour. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS C during PM peak hour under background plus project conditions eliminating any significant project impacts.

The Salinas Travel Center TIA establishes that there may be two phases of development. The Salinas Travel Center TIA finds that all of phase 1 development could be constructed without having a significant impact at this intersection. Therefor the conditions of approval for the travel center does not require mitigation at this intersection until phase 2 development of the Salinas Travel Center TIA. A sensitivity analysis (Appendix J) was performed at this intersection to determine if an impact may occur at this intersection under a background condition with only Travel Center Phase 1 development and without constructing travel center mitigations. The

sensitivity analysis shows that the Project and the Travel Center Phase 1 development can occur without having a significant impact at this intersection.

Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:

Impact: Under Background conditions this intersection operates at unacceptable LOS F and LOS E during the AM and PM peak hours, respectively. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under existing and plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with CaltransD5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

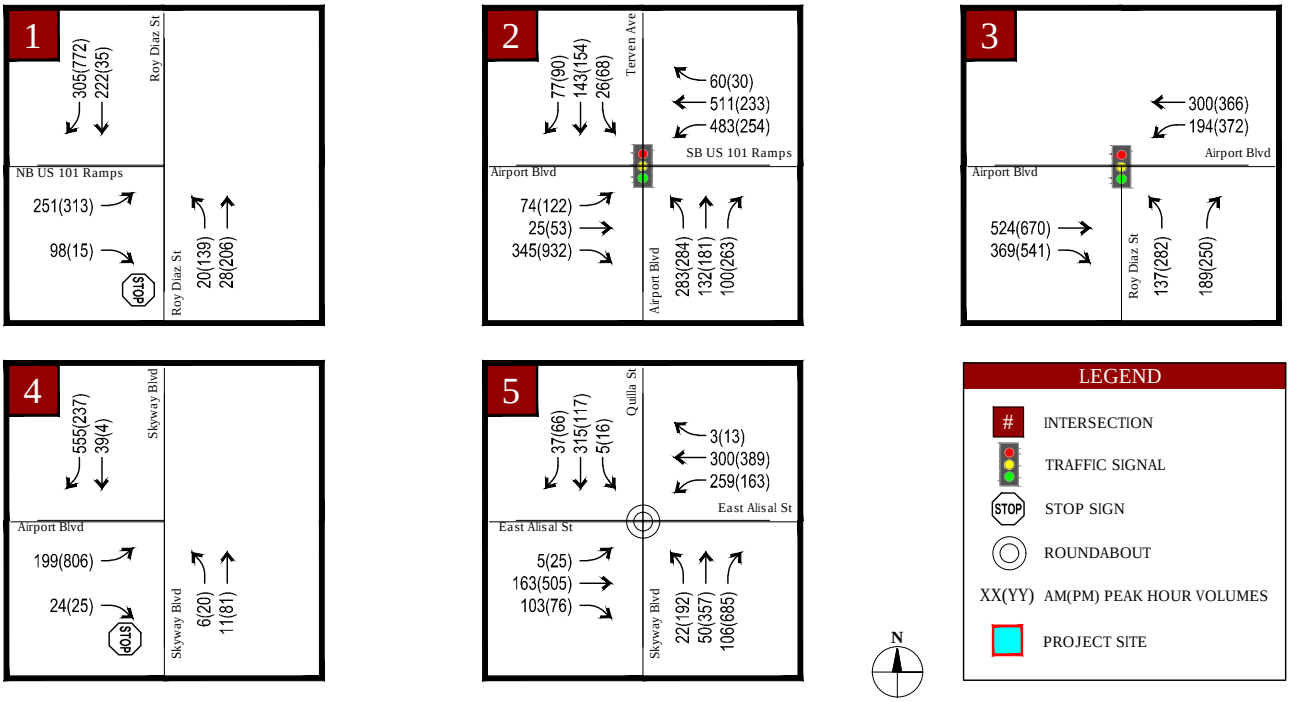
The following short term (encroachment permit) projects have been identified at the Airport Boulevard/Terven Avenue & Us 101 Southbound On/Off Ramps:

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that this mitigation will result in improved intersection operations at LOS E and LOS D during the AM and PM peak hours under Background Plus Project conditions. While the AM and PM peak hours are still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Background Conditions control delay eliminating any significant impacts from the Project.

Airport Boulevard & Skyway Boulevard:

The Airport Boulevard & Skyway Boulevard intersection is anticipated to operate at an unacceptable LOS E during the PM peak hour under Background Plus Project conditions. The addition of Project traffic causes the unsignalized intersection to operate below the City's LOS standard until a signal is installed. A signal will be installed at this intersection as part of the Travel Center's mitigations prior to completion of Travel Center construction.



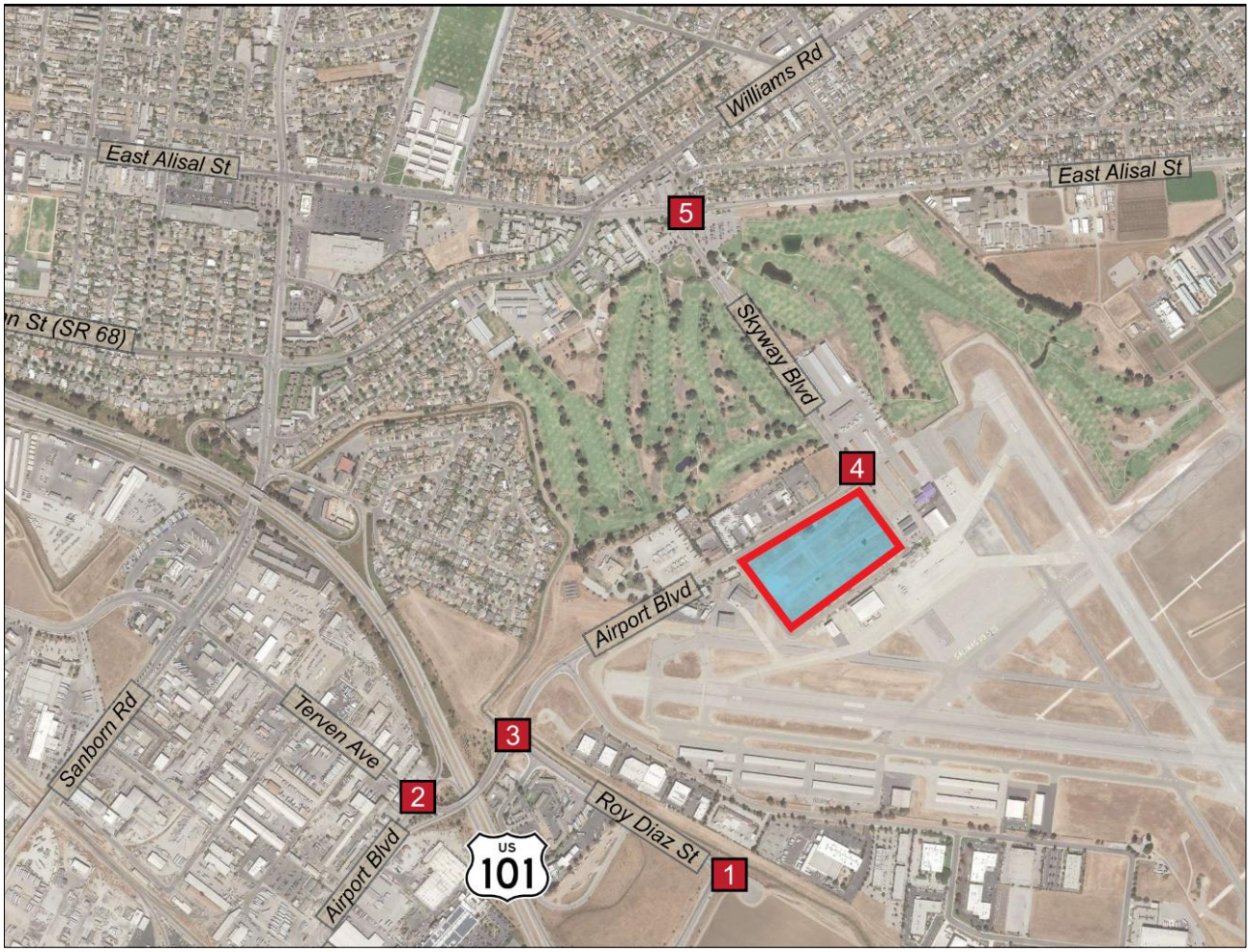


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FIGURE 10
BACKGROUND PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

Table 13 – Background Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Background Conditions								Background Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC	-	11.5	-	B	-	24.3	-	C	-	13.9	-	B	-	**25.9**	-	**D**
	Worst Approach				*EB*	*30.8*	-	*D*	*EB*	*102.7*	-	*F*	*EB*	*36.3*	-	*E*	***EB***	***110.2***	-	***F***
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	98.3	-	F	-	69.3	-	E	-	**111.2**	-	**F**	-	**72.7**	-	**E**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D	-	22.2	-	C	-	50.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	16.2	-	C	-	34.6	-	D	-	17.8	-	C	-	**38.1**	-	**E**
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.1	0.407	A	-	10.6	0.669	B	-	5.3	0.431	A	-	11.0	0.694	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City/State LOS standard are highlighted and significant project impacts shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85

Table 14 – Background Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Background Conditions						Background Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,558	21.6	C	2,799	24.0	C	2,566	21.7	C	2,814	24.1	C
			SB	2,050	17.1	B	1,717	14.3	B	2,079	17.3	B	1,722	14.4	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,069	17.2	B	2,062	17.2	B	2,092	17.4	B	2,066	17.2	B
			SB	1,407	11.7	B	1,332	11.1	B	1,417	11.8	B	1,341	11.2	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per hour per lane (pc/hr/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Table 15 – Background Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Background Plus Project Conditions								Background Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC/ Signal[7]	-	13.9	-	B	**-**	**25.9**	**-**	**D**	-	18.8	-	B	-	25.4	-	C
	Worst Approach				*EB*	*36.3*	-	*E*	***EB***	***110.2***	**-**	***F***	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**111.2**	**-**	**F**	**-**	**72.7**	**-**	**E**	-	65.6	-	E	-	35.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D	-	20.2	-	C	**-**	47.8	**-**	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC/ Signal[7]	-	17.8	-	C	**-**	**38.1**	**-**	**E**	-	6.0	-	A	-	6.2	-	A
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.3	0.431	A	-	11.0	0.694	B	-	5.3	0.431	A	-	11.0	0.694	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85
7. Control type is a signal for the mitigated condition

6. CUMULATIVE CONDITIONS

Traffic operations were evaluated for the following cumulative scenarios:

- Cumulative (2040) Conditions
- Cumulative (2040) Plus Project Conditions

Cumulative Transportation Network Improvements

Based on City of Salinas TFO and discussions with City staff, it was assumed that no capacity improvements will be complete at any of the study intersections included in this study under Cumulative Conditions. However, the planned US 101 / Harris Road interchange, which is assumed to be built by the year 2035 is anticipated to alter traffic patterns by shifting some traffic from Airport Boulevard and Sanborn Road interchanges as well as the Blanco Road / Sanborn Road corridor to the new interchange. This improvement is expected to reduce traffic volumes along Airport Boulevard by approximately 25% compared to no interchange conditions.

Figure 11 illustrates the intersection geometry and traffic control used in the Cumulative conditions analysis, which are the same as Existing and Background geometries and capacities.

Cumulative Volumes

Cumulative volume growth in the study area was determined from discussion with City of Salinas staff and based on the Association of Monterey Bay Area Government (AMBAG) projected traffic volume model. In addition, volumes presented in the Travel Center TIA (2017) were considered and incorporated into intersection turning movement calculations. Calibrated link level volumes were converted to intersection turning movement counts based on existing turning movement distribution.

Cumulative peak hour traffic volumes are shown in **Figure 12**.

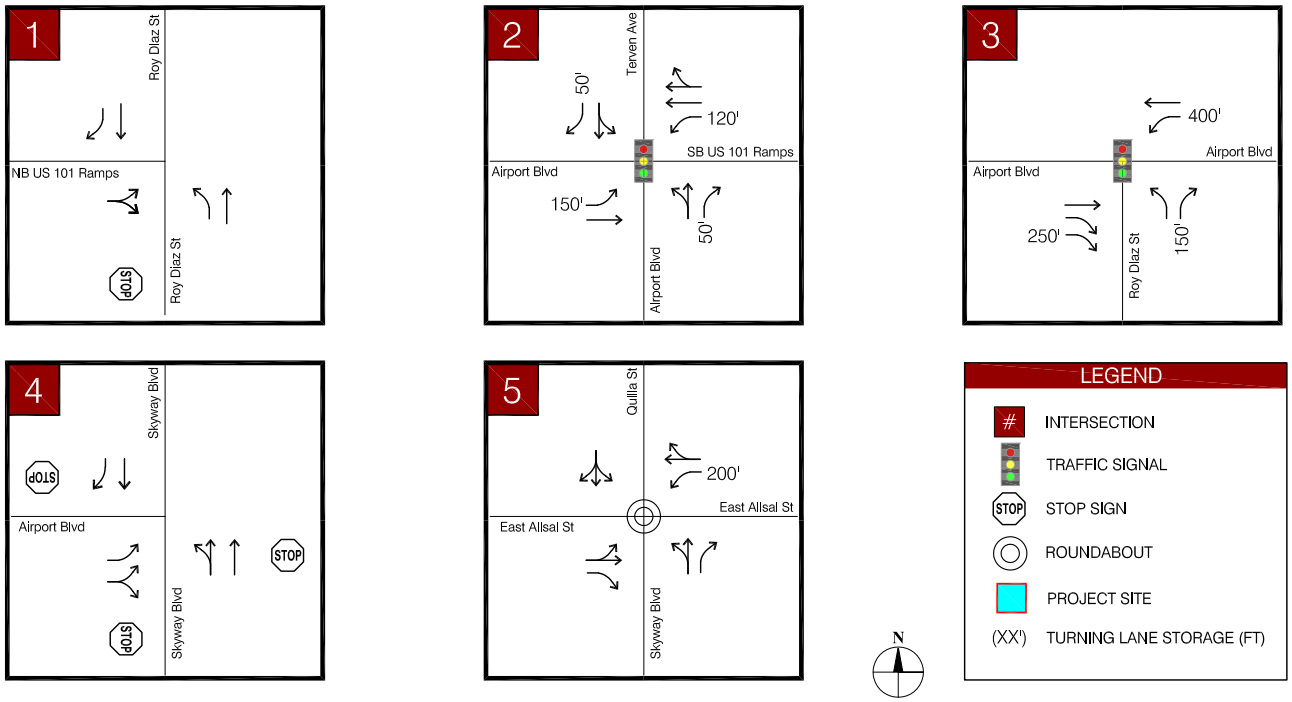
Cumulative Level of Service

Traffic operations were evaluated at the study intersections based on Cumulative lane geometry, traffic control, and peak hour vehicle volumes as shown in **Figure 11** and **Figure 12**. All intersections are anticipated to operate at acceptable LOS under Cumulative conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Analysis results are presented in **Table 16** and Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry (no assumed improvements), speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour. Analysis results are presented in **Table 17** and HCS output sheets are provided in the **Appendix**.



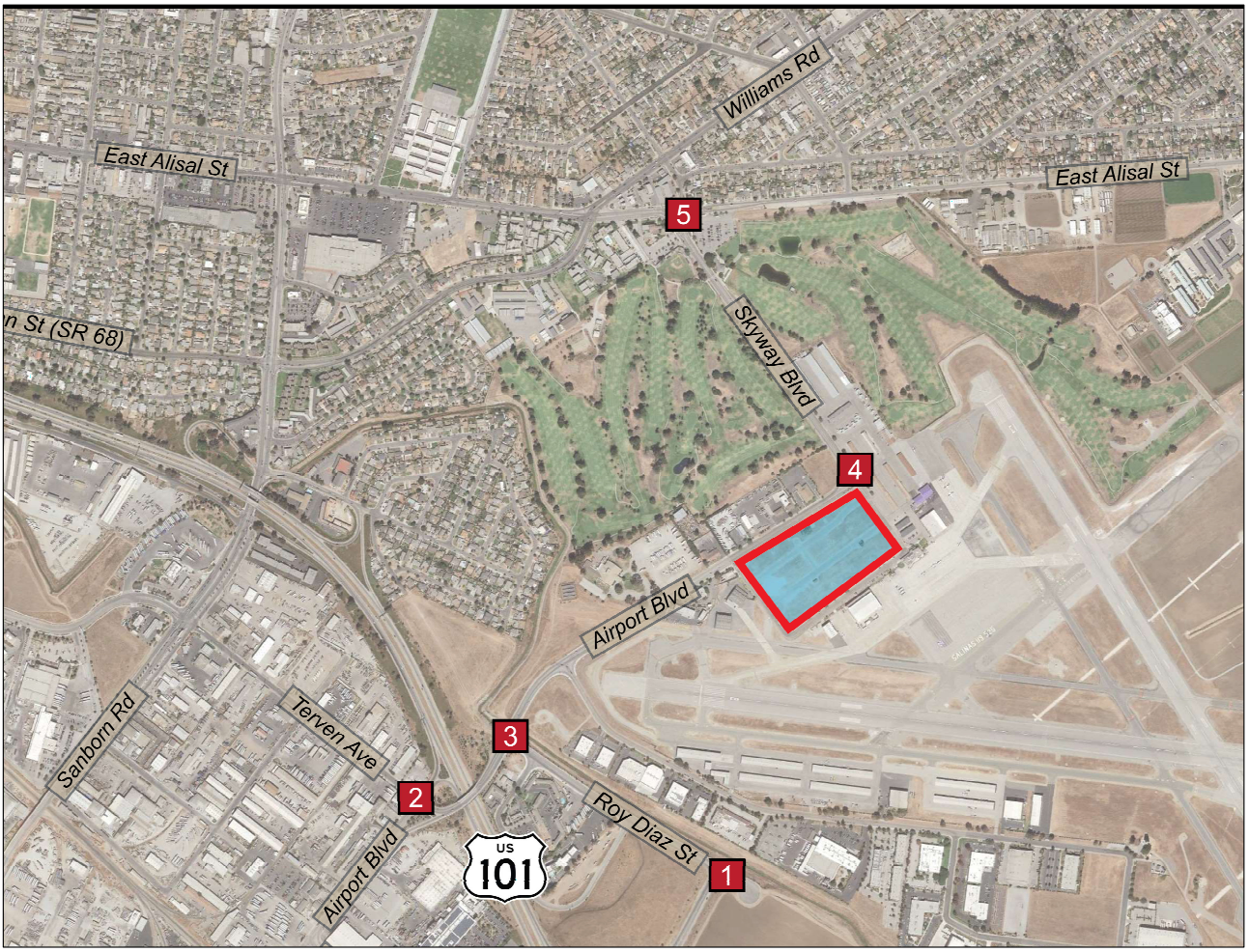


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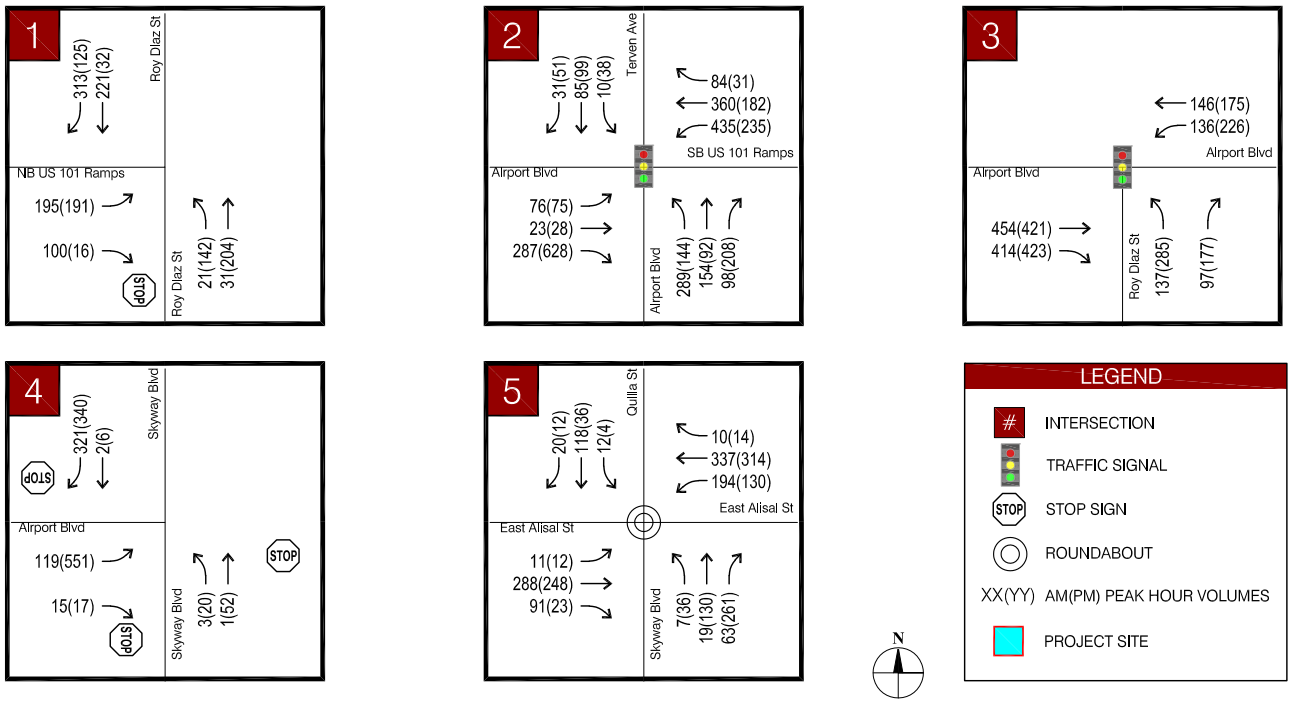
FIGURE 11
CUMULATIVE CONDITIONS
LANE GEOMETRY AND TRAFFIC CONTROL

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY



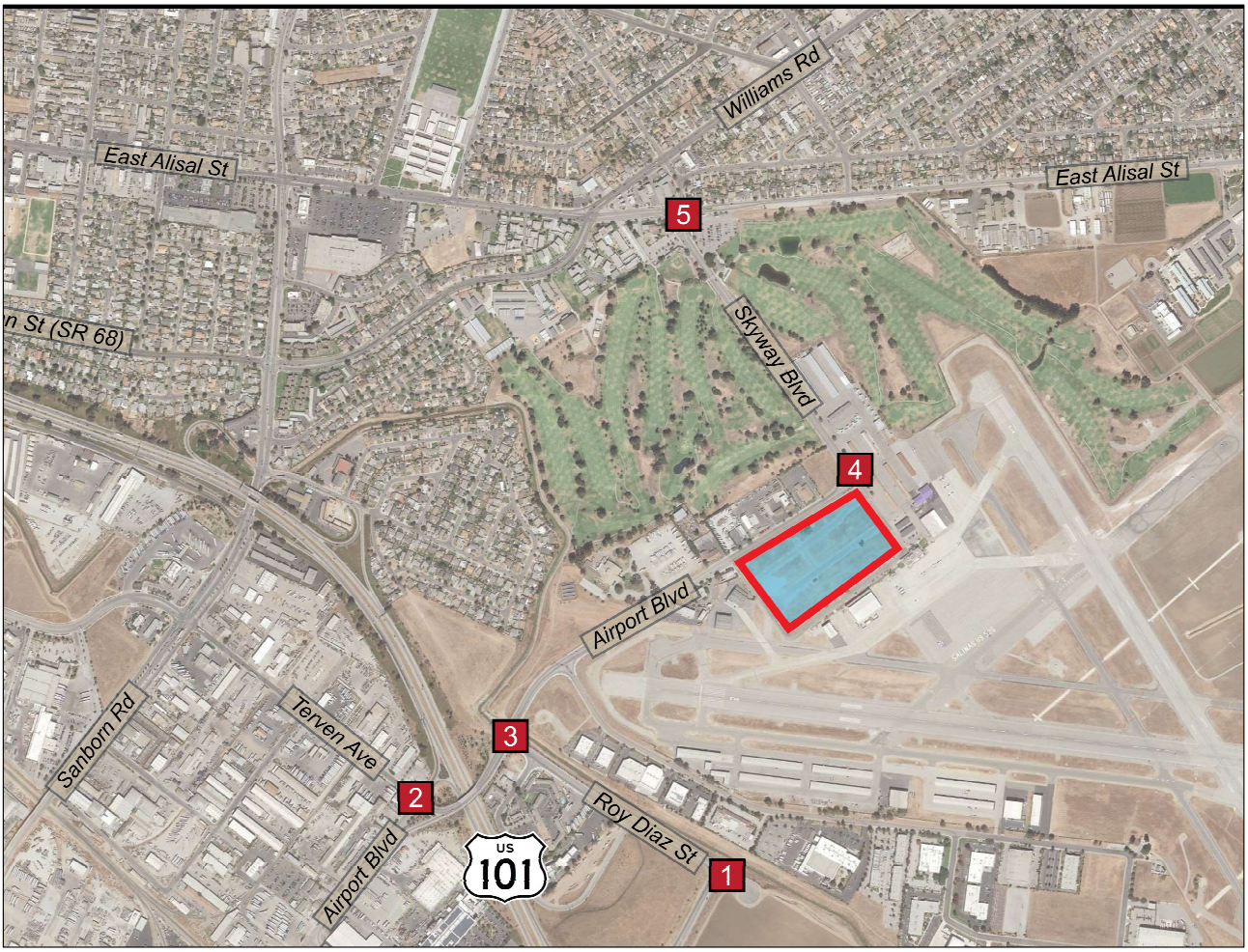


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FIGURE 12
CUMULATIVE CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 16 – Cumulative Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	8.9	-	A	-	8.8	-	A
	Worst Approach				*EB*	*25.8*	-	*D*	*EB*	*23.8*	-	*C*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	105.6	-	F	-	42.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.4	-	B	-	33.8	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	9.7	-	A	-	17.7	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	8.1	0.507	A	-	7.5	0.384	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City/State LOS standard are highlighted.
6. Roundabouts must not exceed a V/C of 0.85

Table 17 – Cumulative Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Cumulative Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,912	25.2	C	3,184	28.5	D
			SB	2,195	18.3	C	1,923	16.0	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,100	17.5	B	2,295	19.2	C
			SB	1,582	13.2	B	1,386	11.6	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Cumulative Plus Project Intersection and Freeway Level of Service

Traffic operations were evaluated at the study intersections based on Cumulative Plus Project conditions. Cumulative Plus Project peak hour vehicle volumes are shown in **Figure 13**. All intersections are anticipated to operate at acceptable LOS under Cumulative Plus Project conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS D on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Cumulative Plus Project analysis results are summarized in **Table 18**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on cumulative condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour. Analysis results are presented in **Table 19** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Roy Diaz Street & US 101 Northbound Ramps:</u>

Impact: Under Cumulative conditions this intersection is anticipated to operate under LOS D during the AM peak hour. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS B during AM peak hour under Cumulative plus project conditions eliminating any significant project impacts.

<u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off-Ramps:</u>

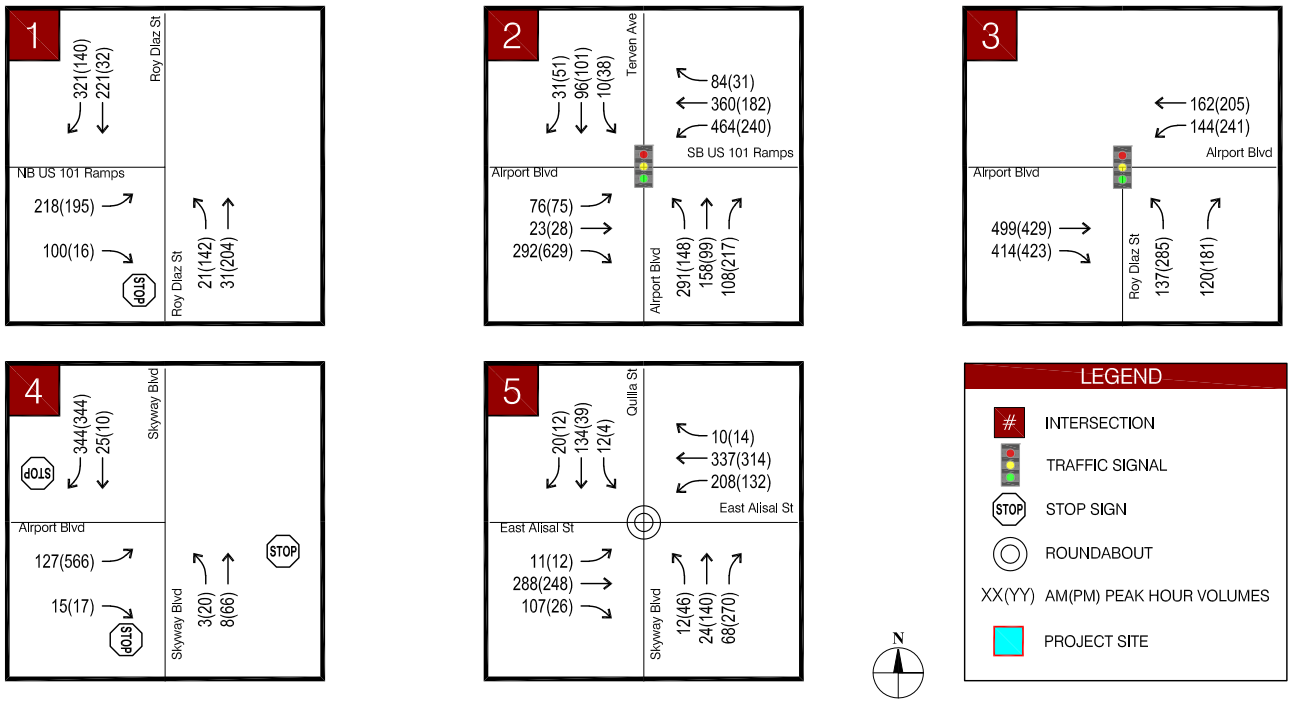
Impact: This intersection operates at unacceptable LOS F conditions during the AM peak hour and LOS D during the PM peak hour under cumulative conditions. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The new Airport Boulevard Interchange project should be constructed. The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under cumulative plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection.

It is anticipated that after the completion of the Airport Boulevard Interchange Project the study intersection will operate at LOS C during the AM and PM peak hours under Cumulative Plus Project conditions.

Northbound US 101 between Fairview Avenue and Airport Boulevard:

The City of Salinas TFO identifies a US 101 widening project along Northbound US 101 between Fairview Avenue and Airport Boulevard which would increase service to 3 lanes. This lane would improve the segment LOS to acceptable standards and result in no significant project impacts. As this project is included in the City of Salinas TFO and the TAMC regional TIF program, payment of traffic impact fees is an appropriate mitigation for the proposed project as the City of Salinas continues to work with Caltrans in implementing this improvement.



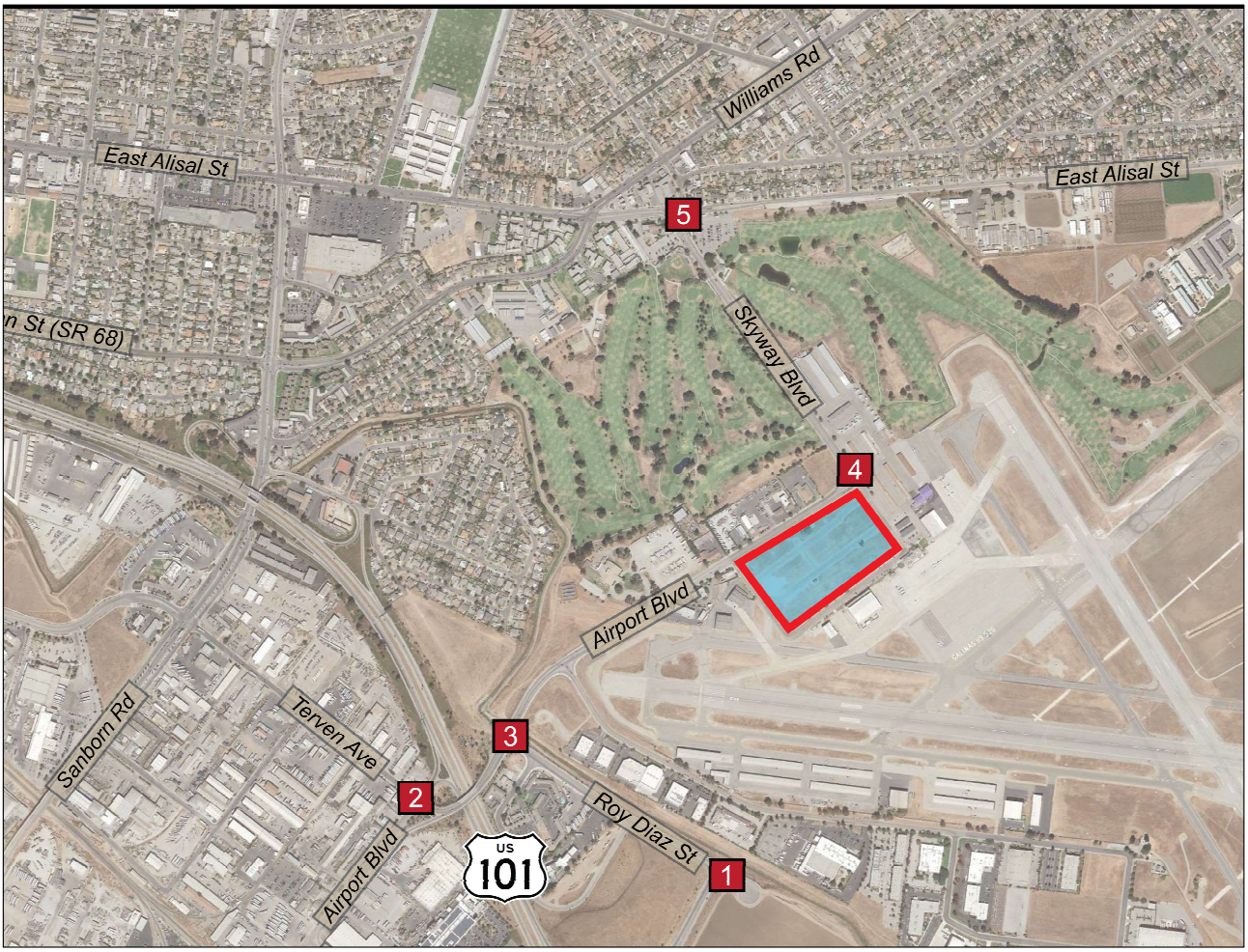


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FIGURE 13
CUMULATIVE PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 18 – Cumulative Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Conditions								Cumulative Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	8.9	-	A	-	8.8	-	A	-	10.6	-	B	-	8.9	-	A
	Worst Approach				*EB*	*25.8*	*-*	*D*	*EB*	*23.8*	*-*	*C*	**EB**	**29.8**	**-**	**D**	EB	24.4	-	C
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	105.6	-	F	-	42.4	-	D	**-**	**119.1**	**-**	**F**	**-**	**42.7**	**-**	**D**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.4	-	B	-	33.8	-	C	-	17.1	-	B	-	34.9	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	9.7	-	A	-	17.7	-	C	-	10.0	-	A	-	18.8	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	8.1	0.507	A	-	7.5	0.384	A	-	7.5	0.446	A	-	7.7	0.392	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City/State LOS standard are highlighted and significant project impacts are shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85

Table 19 – Cumulative Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Cumulative Conditions						Cumulative Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,912	25.2	C	**3,184**	**28.5**	**D**	2,920	25.3	C	**3,199**	**28.6**	**D**
			SB	2,195	18.3	C	1,923	16.0	B	2,224	18.6	C	1,928	16.1	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,100	17.5	B	2,295	19.2	C	2,123	17.7	B	2,299	19.2	C
			SB	1,582	13.2	B	1,386	11.6	B	1,592	13.3	B	1,395	11.6	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per hour per lane (pc/hr/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Table 20 – Cumulative Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Plus Project Conditions								Cumulative Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC/Signal[7]	-	10.6	-	C	-	8.9	-	A	-	12.8	-	B	-	8.1	-	A
	Worst Approach				**EB**	**29.8**	**-**	**D**	EB	24.4	-	C	-	-	-	-	-	-	-	-
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	119.1	-	F	-	42.7	-	D	-	27.9	-	C	-	30.1	-	C
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	17.1	-	B	-	34.9	-	C	-	17.1	-	B	-	34.9	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	10.0	-	A	-	18.8	-	C	-	10.0	-	A	-	18.8	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	7.5	0.446	A	-	7.7	0.392	A	-	7.5	0.446	A	-	7.7	0.392	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts are shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85
7. Control type is a signal for the mitigated condition

7. SITE CIRCULATION AND ACCESS

The Project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting access management, site circulation and alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans.

Access Management

To facilitate reduced delays, increased safety and to conform to good access management practice the Project should limit driveway access to Skyway Blvd, Mercer Way or Mortensen Avenue. Internal site circulation may be facilitated by an internal roadway network dividing the Public Works Yard form other Project uses. Access from the Project directly onto Airport Boulevard is discouraged as this would introduce additional conflict points to Airport Boulevard and decrease overall safety on the city arterial. Access from Mercer Way onto Airport Boulevard should include a left turn pocket or two-way left-turn lane to help reduce delay.

Pedestrian Access

The Project will construct ADA compliant sidewalk and ramps along its frontage along Airport Boulevard, Mercer Way, Skyway Boulevard, and Mortensen Avenue. New sidewalk constructed along Airport Boulevard would connect to the existing sidewalk and marked crosswalk west of the Project site and provide access to the nearby MST bus stop at Airport / Clinica de Salud, which currently serves Route 48.

With construction of new sidewalk along the Project frontages, employees/staff and visitors that choose to walk to the Project site would not be significantly impacted based on pedestrian mobility, accessibility, or safety (at the Project site) once these frontage improvements are constructed.

Bicycle Access

The existing Class II bike lane along both sides of Airport Boulevard would remain in place with construction of the Project. Additionally, it is anticipated that the Project will provide bike parking per City standards.

Transit Access

As discussed in **Existing Transit Facilities**, an MST bus stop serving Route 48 is located on the south side of Airport Boulevard less than 100 feet west of the Project site. The stop is located well within the typical maximum ¼ mile walking distance assumed for transit use. Additionally, as discussed in **Pedestrian Access** above, the Project would construct ADA-compliant pedestrian facilities including sidewalk, ramps and a marked crosswalk along the Project frontage and connecting to existing sidewalk west of the site, which would provide a route for pedestrians to walk to access the existing MST stop.

According to 2013-2017 U.S. Census data table S0801, approximately 0.8% of City of Salinas residents use public transit to travel to work. This typically represents the highest level of transit ridership during the day, with other periods being lower. If it is conservatively assumed (from the standpoint of transit demand) that 0.8% of new trips to the Project site use transit during the peak hours of the day, resulting in up to 2 passengers during the weekday AM peak hour and 1 passenger during the PM peak hour, which would have a negligible adverse impact on transit mobility, accessibility, or safety.

Summary of Potential Impacts

This chapter of the report evaluated pedestrian, bicycle, and transit networks in the Project vicinity and whether significant impacts would be caused by construction of the proposed Project. As discussed in this chapter, the Project proposes to construct pedestrian facility improvements, in compliance with adopted City standards, that would improve pedestrian mobility within the City. Therefore, the Project's impact on pedestrian, bicycle, and/or transit facilities would be less than significant.

8. TRAFFIC IMPACT FEES

Municipal agencies can put traffic impact fee (TIF) or traffic mitigation fee programs in place as an additional funding source for new roads and improvements to existing roads (not road maintenance though). These fees are typically levied based upon trip generation estimates for new developments.

The City of Salinas does have a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the City of Salinas TFO. Developments must pay the current rate of $390 per daily trip as outlined in the annually adjusted traffic fee schedule. The total fee for the proposed project generating 1,214 daily trips is $473,460. The contribution to this fee by project land use is shown in **Table 21.**

Table 21 – Salinas Transportation Impact Fee

Land Use	Daily Trip Generation	Rate per Trip	Fee
General Light Industrial	324	$390	$126,360
Warehousing	150	$390	$58,500
City Public Works Site	740	$390	$288,600
		Total Fee:	***$473,460***

The Transportation Agency for Monterey County (TAMC) also has a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the Regional Development Impact Fee Program Nexus Study Update (2018). Salinas developments must pay the rate of $346 per daily trip. The total fee for the proposed project generating 1,214 daily trips is $420,044. The contribution to this fee by project land use is shown in **Table 22.**

Table 22 – TAMC Regional Development Impact Fee

Land Use	Daily Trip Generation	Rate per Trip[1]	Fee
General Light Industrial	324	$346	$112,104
Warehousing	150	$346	$51,900
City Public Works Site	740	$346	$256,040
		Total Fee:	***$420,044***

1. From Table 1. 2018 RDIF Rate Schedule in the Final 2018 TAMC RDIF Nexus Study Update

APPENDIX

A. EXISTING CONDITIONS TRAFFIC COUNTS

B. EXISTING CONDITIONS SYNCHRO OUTPUT SHEETS

C. EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

D. BACKGROUND CONDITIONS SYNCHRO OUTPUT SHEETS

E. BACKGROUND PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

F. CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS

G. CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

H. HCS FREEWAY SEGMENT ANALYSIS OUTPUT SHEETS

I. PEAK HOUR SIGNAL WARRANT ANALYSIS

J. SENSITIVITY ANALYSIS

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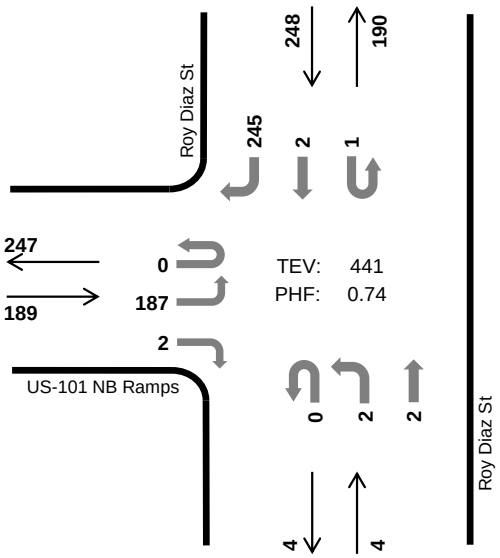
A. EXISTING CONDITIONS
TRAFFIC COUNTS

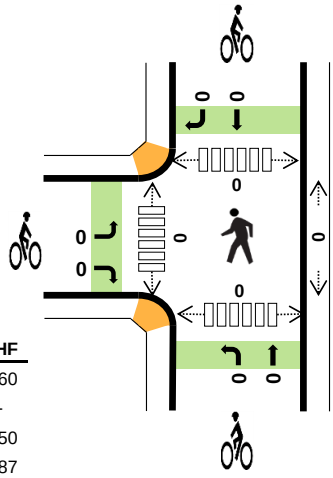
Roy Diaz St
US-101 NB Ramps

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

N

Peak Hour





	HV %:	PHF
EB	16.4%	0.60
WB	-	-
NB	50.0%	0.50
SB	19.8%	0.87
TOTAL	18.6%	0.74

Two-and-a-Half-Hour Count Summaries

Interval Start		US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				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		
7:30 AM		0	47	0	1	0	0	0	0	0	0	1	0	0	0	0	59	108	0
7:45 AM		0	79	0	0	0	0	0	0	0	0	0	0	1	0	1	69	150	0
8:00 AM		0	32	0	1	0	0	0	0	0	2	0	0	0	0	0	62	97	0
8:15 AM		0	29	0	0	0	0	0	0	0	0	1	0	0	0	1	55	86	441
Peak Hour	All	0	187	0	2	0	0	0	0	0	2	2	0	1	0	2	245	441	0
	HV	0	29	0	2	0	0	0	0	0	1	1	0	0	0	1	48	82	0
	HV%	-	16%	-	100%	-	-	-	-	-	50%	50%	-	0%	-	50%	20%	19%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	13	0	1	10	*24*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	9	0	0	14	*23*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	7	0	1	17	*25*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	2	0	0	8	*10*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	31	0	2	49	*82*	0	0	0	0	*0*	0	0	0	0	*0*

Two-and-a-Half-Hour Count Summaries

Interval Start	US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				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		
6:30 AM	0	26	0	1	0	0	0	0	0	1	0	0	0	0	1	33	62	0
6:45 AM	0	23	0	1	0	0	0	0	0	0	2	0	0	0	1	36	63	0
7:00 AM	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	45	73	0
7:15 AM	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	32	67	265
7:30 AM	**0**	**47**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**59**	**108**	311
7:45 AM	**0**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**69**	**150**	398
8:00 AM	**0**	**32**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**62**	**97**	422
8:15 AM	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**55**	**86**	**441**
8:30 AM	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	53	100	433
8:45 AM	0	31	0	1	0	0	0	0	0	1	0	0	0	0	0	53	86	369
Count Total	0	377	0	5	0	0	0	0	0	4	4	0	1	0	4	497	892	0
Peak Hour All	**0**	**187**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**2**	**245**	**441**	**0**
Peak Hour HV	**0**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**48**	**82**	**0**
Peak Hour HV%	**-**	**16%**	**-**	**100%**	**-**	**-**	**-**	**-**	**-**	**50%**	**50%**	**-**	**0%**	**-**	**50%**	**20%**	**19%**	**0**

Note: Two-and-a-half-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
6:30 AM	4	0	0	9	*13*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	7	0	1	8	*16*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	8	0	0	17	*25*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	9	0	0	14	*23*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**13**	**0**	**1**	**10**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**9**	**0**	**0**	**14**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**7**	**0**	**1**	**17**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**0**	**0**	**8**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	12	0	0	10	*22*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	7	0	1	10	*18*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	78	0	4	117	*199*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**31**	**0**	**2**	**49**	***82***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				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		
6:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	8	13	0
6:45 AM	0	7	0	0	0	0	0	0	0	0	1	0	0	0	0	8	16	0
7:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	17	25	0
7:15 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	14	23	77
7:30 AM	**0**	**12**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**10**	**24**	88
7:45 AM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**23**	95
8:00 AM	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**17**	**25**	95
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**10**	**82**
8:30 AM	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	10	22	80
8:45 AM	0	6	0	1	0	0	0	0	0	1	0	0	0	0	0	10	18	75
Count Total	0	75	0	3	0	0	0	0	0	2	2	0	0	0	2	115	199	0
Peak Hour	**0**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**48**	**82**	**0**

Two-and-a-Half-Hour Count Summaries - Bikes

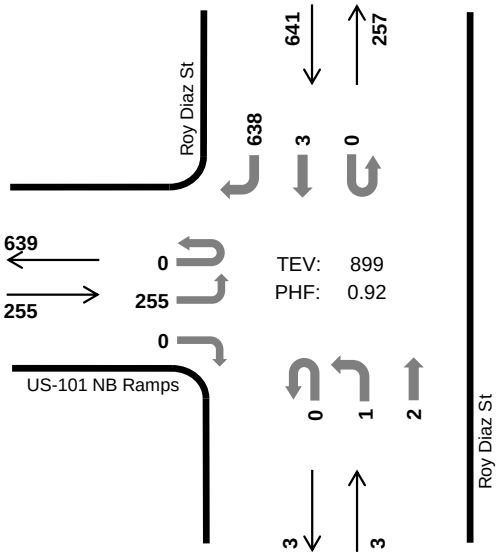
Interval Start	US-101 NB Ramps			n/a			Roy Diaz St			Roy Diaz St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 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**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

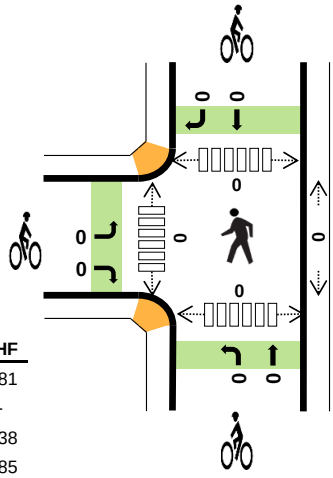
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Roy Diaz St
US-101 NB Ramps

Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	14.5%	0.81
WB	-	-
NB	33.3%	0.38
SB	6.1%	0.85
TOTAL	8.6%	0.92

Two-Hour Count Summaries

Interval Start		US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				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	64	0	0	0	0	0	0	0	1	3	0	0	0	1	163	232	0
4:15 PM		**0**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**146**	**227**	0
4:30 PM		**0**	**64**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**161**	**225**	0
4:45 PM		**0**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**145**	**202**	886
5:00 PM		**0**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**186**	**245**	**899**
5:15 PM		0	50	0	0	0	0	0	0	0	2	0	0	0	0	0	137	189	861
5:30 PM		0	42	0	0	0	0	0	0	0	0	0	0	0	0	1	143	186	822
5:45 PM		0	33	0	1	0	0	0	0	0	0	0	0	0	0	0	98	132	752
Count Total		0	444	0	1	0	0	0	0	0	4	5	0	0	0	5	1,179	1,638	0
Peak Hour	**All**	**0**	**255**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**638**	**899**	**0**
	HV	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**38**	**77**	**0**
	HV%	**-**	**15%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**100%**	**0%**	**-**	**-**	**-**	**33%**	**6%**	**9%**	**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	5	0	0	9	*14*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**10**	**0**	**1**	**14**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**9**	**0**	**0**	**12**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**10**	**0**	**0**	**8**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**8**	**0**	**0**	**5**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	6	0	2	6	*14*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	4	0	0	5	*9*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	7	0	0	6	*13*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	59	0	3	65	*127*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**37**	**0**	**1**	**39**	***77***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				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	5	0	0	0	0	0	0	0	0	0	0	0	0	0	9	14	0
4:15 PM	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**13**	**25**	0
4:30 PM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**21**	0
4:45 PM	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**18**	78
5:00 PM	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**13**	**77**
5:15 PM	0	6	0	0	0	0	0	0	0	2	0	0	0	0	0	6	14	66
5:30 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	4	9	54
5:45 PM	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	6	13	49
Count Total	0	58	0	1	0	0	0	0	0	3	0	0	0	0	2	63	127	0
Peak Hour	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**38**	**77**	**0**

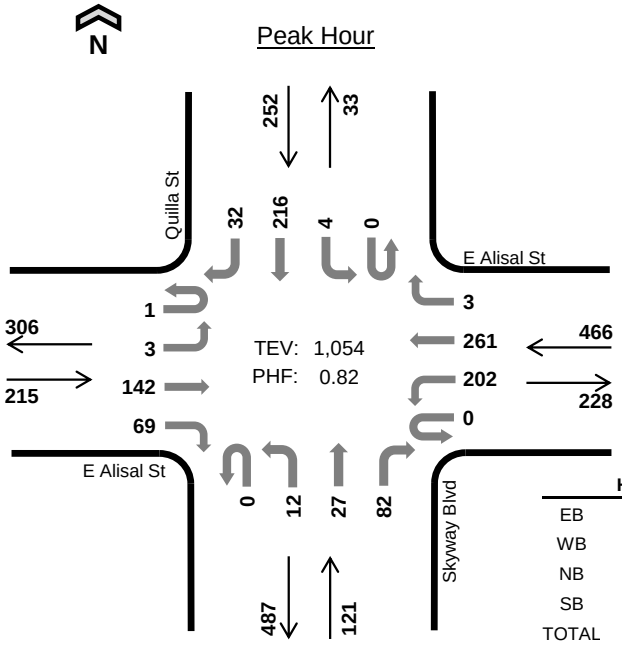
Two-Hour Count Summaries - Bikes

Interval Start	US-101 NB Ramps			n/a			Roy Diaz St			Roy Diaz St			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	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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

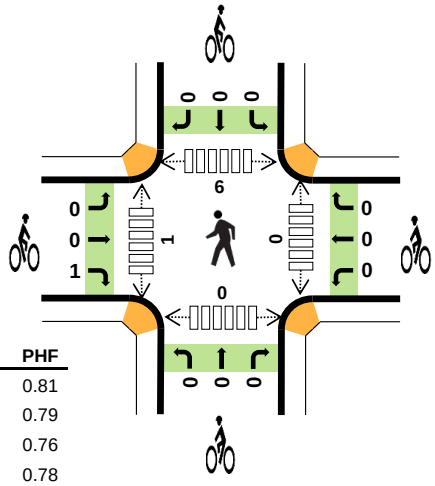
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Skyway Blvd
E Alisal St

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	6.0%	0.81
WB	2.4%	0.79
NB	9.9%	0.76
SB	1.2%	0.78
TOTAL	3.7%	0.82



Two-and-a-Half-Hour Count Summaries

Interval Start		E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:15 AM		0	0	34	16	0	44	48	0	0	2	4	23	0	3	39	5	218	0
7:30 AM		0	2	28	14	0	61	87	0	0	2	5	17	0	0	64	10	290	0
7:45 AM		0	1	38	27	0	69	77	2	0	2	3	23	0	0	72	9	323	0
8:00 AM		1	0	42	12	0	28	49	1	0	6	15	19	0	1	41	8	223	1,054
Peak Hour	All	1	3	142	69	0	202	261	3	0	12	27	82	0	4	216	32	1,054	0
	HV	0	0	9	4	0	4	7	0	0	1	0	11	0	1	1	1	39	0
	HV%	0%	0%	6%	6%	-	2%	3%	0%	-	8%	0%	13%	-	25%	0%	3%	4%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:15 AM	6	2	3	2	*13*	1	0	0	0	*1*	0	0	1	0	*1*
7:30 AM	3	2	2	0	*7*	0	0	0	0	*0*	0	1	0	0	*1*
7:45 AM	1	3	3	0	*7*	0	0	0	0	*0*	0	0	4	0	*4*
8:00 AM	3	4	4	1	*12*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	13	11	12	3	*39*	1	0	0	0	*1*	0	1	6	0	*7*

Two-and-a-Half-Hour Count Summaries

Interval Start		E Alisal St Eastbound				E Alisal St Westbound				Skyway Blvd Northbound				Quilla St Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM		0	0	89	10	0	55	68	1	0	1	6	23	0	18	73	10	354	0
6:45 AM		0	1	48	13	0	34	53	0	0	3	8	25	0	9	57	4	255	0
7:00 AM		0	1	27	6	0	24	48	1	0	1	7	24	0	3	34	8	184	0
7:15 AM		**0**	**0**	**34**	**16**	**0**	**44**	**48**	**0**	**0**	**2**	**4**	**23**	**0**	**3**	**39**	**5**	**218**	1,011
7:30 AM		**0**	**2**	**28**	**14**	**0**	**61**	**87**	**0**	**0**	**2**	**5**	**17**	**0**	**0**	**64**	**10**	**290**	947
7:45 AM		**0**	**1**	**38**	**27**	**0**	**69**	**77**	**2**	**0**	**2**	**3**	**23**	**0**	**0**	**72**	**9**	**323**	1,015
8:00 AM		**1**	**0**	**42**	**12**	**0**	**28**	**49**	**1**	**0**	**6**	**15**	**19**	**0**	**1**	**41**	**8**	**223**	**1,054**
8:15 AM		1	1	35	7	0	24	56	1	0	3	3	18	0	0	31	10	190	1,026
8:30 AM		0	0	32	10	0	28	59	2	0	6	10	24	0	1	19	8	199	935
8:45 AM		0	0	25	9	0	24	47	4	0	9	7	27	0	0	23	7	182	794
Count Total		2	6	398	124	0	391	592	12	0	35	68	223	0	35	453	79	2,418	0
Peak Hour	**All**	**1**	**3**	**142**	**69**	**0**	**202**	**261**	**3**	**0**	**12**	**27**	**82**	**0**	**4**	**216**	**32**	**1,054**	**0**
	HV	**0**	**0**	**9**	**4**	**0**	**4**	**7**	**0**	**0**	**1**	**0**	**11**	**0**	**1**	**1**	**1**	**39**	**0**
	HV%	**0%**	**0%**	**6%**	**6%**	**-**	**2%**	**3%**	**0%**	**-**	**8%**	**0%**	**13%**	**-**	**25%**	**0%**	**3%**	**4%**	**0**

Note: Two-and-a-half-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
6:30 AM	2	4	3	1	*10*	0	0	0	0	*0*	0	0	1	0	*1*
6:45 AM	4	3	4	0	*11*	0	0	0	1	*1*	0	0	0	0	*0*
7:00 AM	1	2	1	1	*5*	0	0	0	0	*0*	1	2	0	0	*3*
7:15 AM	**6**	**2**	**3**	**2**	***13***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**3**	**2**	**2**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:45 AM	**1**	**3**	**3**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**0**	*4*
8:00 AM	**3**	**4**	**4**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
8:15 AM	2	3	1	1	*7*	0	0	1	0	*1*	0	0	0	0	*0*
8:30 AM	2	3	4	0	*9*	1	0	0	1	*2*	0	3	2	0	*5*
8:45 AM	3	5	5	1	*14*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	27	31	30	7	*95*	2	0	1	2	*5*	1	6	9	0	*16*
Peak Hour	**13**	**11**	**12**	**3**	***39***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**6**	**0**	***7***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	E Alisal St				E Alisal St				Skyway Blvd				Quilla St				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		
6:30 AM	0	0	2	0	0	2	1	1	0	0	0	3	0	0	1	0	10	0
6:45 AM	0	0	4	0	0	2	1	0	0	0	0	4	0	0	0	0	11	0
7:00 AM	0	0	1	0	0	1	1	0	0	0	0	1	0	0	1	0	5	0
7:15 AM	**0**	**0**	**5**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**1**	**13**	39
7:30 AM	**0**	**0**	**2**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	36
7:45 AM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**7**	32
8:00 AM	**0**	**0**	**1**	**2**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**1**	**0**	**12**	**39**
8:15 AM	0	1	1	0	0	2	1	0	0	0	0	1	0	0	0	1	7	33
8:30 AM	0	0	2	0	0	2	1	0	0	0	1	3	0	0	0	0	9	35
8:45 AM	0	0	3	0	0	3	2	0	0	1	0	4	0	0	1	0	14	42
Count Total	0	1	22	4	0	16	14	1	0	2	1	27	0	1	4	2	95	0
Peak Hour	**0**	**0**	**9**	**4**	**0**	**4**	**7**	**0**	**0**	**1**	**0**	**11**	**0**	**1**	**1**	**1**	**39**	**0**

Two-and-a-Half-Hour Count Summaries - Bikes

Interval Start	E Alisal St			E Alisal St			Skyway Blvd			Quilla St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	1	1	0	0	0	0	0	1	0	0	2	5	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

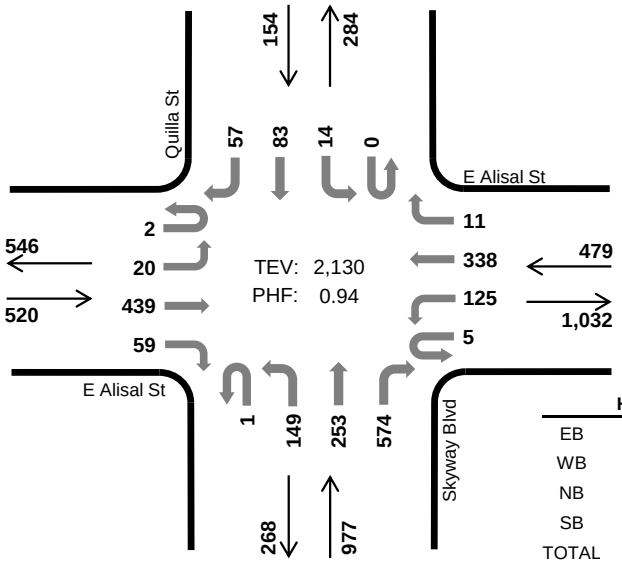
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Skyway Blvd
E Alisal St

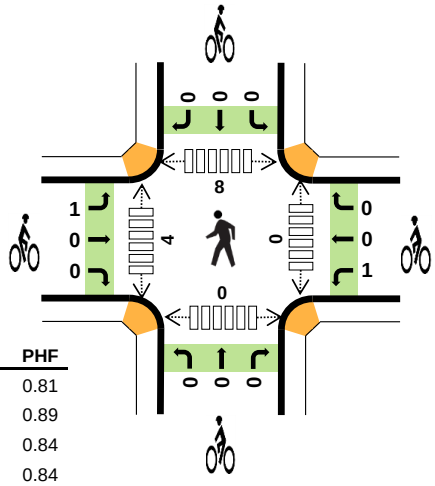
Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	3.1%	0.81
WB	2.7%	0.89
NB	1.9%	0.84
SB	0.6%	0.84
TOTAL	2.3%	0.94



Two-Hour Count Summaries

Interval Start		E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	3	88	9	0	35	76	1	0	37	47	108	0	2	32	8	446	0
4:15 PM		1	1	95	12	0	27	64	8	0	38	44	128	0	2	19	14	453	0
4:30 PM		**2**	**2**	**98**	**15**	**1**	**36**	**90**	**1**	**0**	**29**	**58**	**126**	**0**	**6**	**23**	**12**	**499**	0
4:45 PM		**0**	**5**	**94**	**19**	**1**	**31**	**96**	**7**	**0**	**34**	**64**	**128**	**0**	**3**	**20**	**14**	**516**	1,914
5:00 PM		**0**	**9**	**103**	**12**	**2**	**35**	**82**	**2**	**0**	**53**	**74**	**163**	**0**	**2**	**12**	**16**	**565**	2,033
5:15 PM		**0**	**4**	**144**	**13**	**1**	**23**	**70**	**1**	**1**	**33**	**57**	**157**	**0**	**3**	**28**	**15**	**550**	**2,130**
5:30 PM		0	4	112	10	0	32	60	3	0	32	69	130	0	3	13	15	483	2,114
5:45 PM		2	10	114	8	1	17	68	1	0	20	45	104	0	1	13	17	421	2,019
Count Total		5	38	848	98	6	236	606	24	1	276	458	1,044	0	22	160	111	3,933	0
Peak Hour	**All**	**2**	**20**	**439**	**59**	**5**	**125**	**338**	**11**	**1**	**149**	**253**	**574**	**0**	**14**	**83**	**57**	**2,130**	**0**
	HV	**0**	**0**	**15**	**1**	**0**	**12**	**1**	**0**	**0**	**1**	**2**	**16**	**0**	**0**	**1**	**0**	**49**	**0**
	HV%	**0%**	**0%**	**3%**	**2%**	**0%**	**10%**	**0%**	**0%**	**0%**	**1%**	**1%**	**3%**	**-**	**0%**	**1%**	**0%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	7	3	8	0	*18*	0	0	0	0	*0*	0	4	6	0	*10*
4:15 PM	5	1	8	1	*15*	0	0	0	0	*0*	0	2	1	0	*3*
4:30 PM	**4**	**7**	**3**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**4**	**0**	*5*
4:45 PM	**6**	**3**	**5**	**0**	***14***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**1**	**6**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**3**	**0**	*5*
5:15 PM	**3**	**2**	**5**	**0**	***10***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**1**	**0**	***2***
5:30 PM	2	3	6	0	*11*	0	1	0	0	*1*	0	2	0	0	*2*
5:45 PM	3	2	5	0	*10*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	33	22	46	2	*103*	1	2	0	0	*3*	0	12	17	0	*29*
Peak Hour	**16**	**13**	**19**	**1**	***49***	**1**	**1**	**0**	**0**	***2***	**0**	**4**	**8**	**0**	***12***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Alisal St				E Alisal St				Skyway Blvd				Quilla St				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	7	0	0	2	1	0	0	0	1	7	0	0	0	0	18	0
4:15 PM	0	1	2	2	0	0	1	0	0	0	0	8	0	0	1	0	15	0
4:30 PM	**0**	**0**	**3**	**1**	**0**	**6**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**14**	0
4:45 PM	**0**	**0**	**6**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**14**	61
5:00 PM	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**1**	**0**	**11**	54
5:15 PM	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**10**	**49**
5:30 PM	0	0	2	0	0	3	0	0	0	0	0	6	0	0	0	0	11	46
5:45 PM	0	0	3	0	0	1	1	0	0	0	0	5	0	0	0	0	10	42
Count Total	0	1	29	3	0	18	4	0	0	1	3	42	0	0	2	0	103	0
Peak Hour	**0**	**0**	**15**	**1**	**0**	**12**	**1**	**0**	**0**	**1**	**2**	**16**	**0**	**0**	**1**	**0**	**49**	**0**

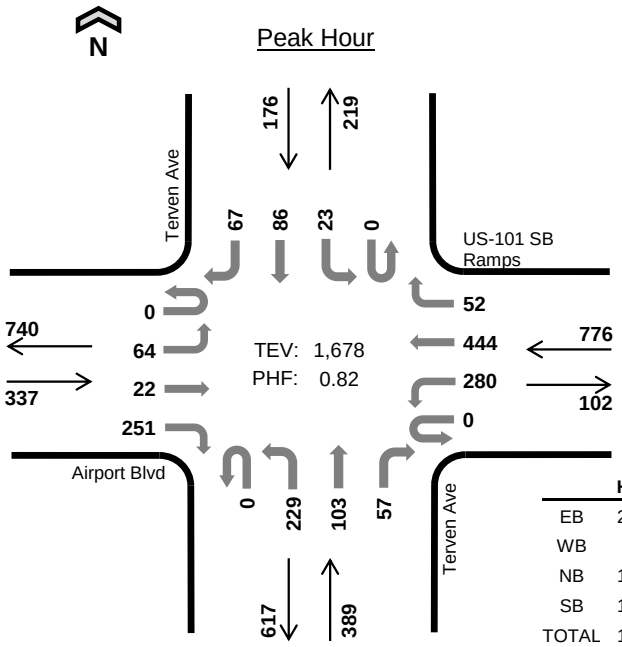
Two-Hour Count Summaries - Bikes

Interval Start	E Alisal St			E Alisal St			Skyway Blvd			Quilla St			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	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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	1	0	0	1	1	0	0	0	0	0	0	0	3	0
Peak Hour	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

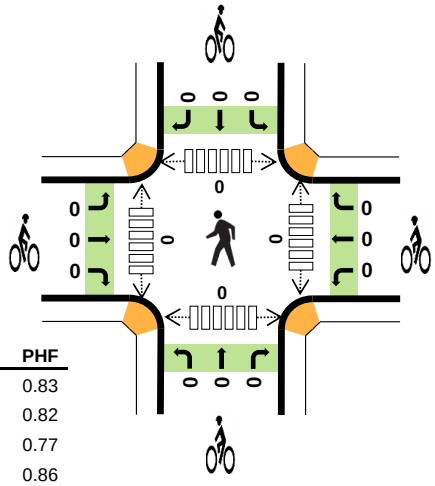
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Terven Ave
Airport Blvd

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	24.0%	0.83
WB	8.8%	0.82
NB	11.8%	0.77
SB	15.3%	0.86
TOTAL	13.2%	0.82



Two-and-a-Half-Hour Count Summaries

Interval Start		Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				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		
7:15 AM		0	18	6	40	0	50	86	13	0	56	22	9	0	6	9	17	332	0
7:30 AM		0	15	7	58	0	59	103	12	0	51	30	23	0	5	24	17	404	0
7:45 AM		0	12	6	83	0	92	134	12	0	81	31	15	0	4	26	17	513	0
8:00 AM		0	19	3	70	0	79	121	15	0	41	20	10	0	8	27	16	429	1,678
Peak Hour	All	0	64	22	251	0	280	444	52	0	229	103	57	0	23	86	67	1,678	0
	HV	0	17	12	52	0	6	61	1	0	22	8	16	0	10	9	8	222	0
	HV%	-	27%	55%	21%	-	2%	14%	2%	-	10%	8%	28%	-	43%	10%	12%	13%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:15 AM	24	14	12	7	*57*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	16	17	11	4	*48*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	22	21	14	7	*64*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	19	16	9	9	*53*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	81	68	46	27	*222*	0	0	0	0	*0*	0	0	0	0	*0*

Two-and-a-Half-Hour Count Summaries

Interval Start	Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				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		
6:30 AM	0	12	7	40	0	26	111	14	0	73	14	31	0	11	12	21	372	0
6:45 AM	0	10	2	49	0	42	150	11	0	92	16	15	0	6	16	31	440	0
7:00 AM	0	16	8	48	0	28	79	12	0	51	12	14	0	9	15	16	308	0
7:15 AM	**0**	**18**	**6**	**40**	**0**	**50**	**86**	**13**	**0**	**56**	**22**	**9**	**0**	**6**	**9**	**17**	**332**	1,452
7:30 AM	**0**	**15**	**7**	**58**	**0**	**59**	**103**	**12**	**0**	**51**	**30**	**23**	**0**	**5**	**24**	**17**	**404**	1,484
7:45 AM	**0**	**12**	**6**	**83**	**0**	**92**	**134**	**12**	**0**	**81**	**31**	**15**	**0**	**4**	**26**	**17**	**513**	1,557
8:00 AM	**0**	**19**	**3**	**70**	**0**	**79**	**121**	**15**	**0**	**41**	**20**	**10**	**0**	**8**	**27**	**16**	**429**	**1,678**
8:15 AM	0	14	5	49	0	45	62	7	0	28	17	12	0	7	26	14	286	1,632
8:30 AM	0	21	5	60	0	33	62	8	0	35	29	9	0	5	13	23	303	1,531
8:45 AM	0	15	4	45	0	31	68	5	0	39	9	7	0	6	21	18	268	1,286
Count Total	0	152	53	542	0	485	976	109	0	547	200	145	0	67	189	190	3,655	0
Peak Hour All	**0**	**64**	**22**	**251**	**0**	**280**	**444**	**52**	**0**	**229**	**103**	**57**	**0**	**23**	**86**	**67**	**1,678**	**0**
Peak Hour HV	**0**	**17**	**12**	**52**	**0**	**6**	**61**	**1**	**0**	**22**	**8**	**16**	**0**	**10**	**9**	**8**	**222**	**0**
Peak Hour HV%	**-**	**27%**	**55%**	**21%**	**-**	**2%**	**14%**	**2%**	**-**	**10%**	**8%**	**28%**	**-**	**43%**	**10%**	**12%**	**13%**	**0**

Note: Two-and-a-half-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
6:30 AM	17	13	8	12	*50*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	11	11	5	10	*37*	0	0	1	0	*1*	1	0	0	0	*1*
7:00 AM	24	13	12	9	*58*	0	0	0	0	*0*	0	0	1	0	*1*
7:15 AM	**24**	**14**	**12**	**7**	***57***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**16**	**17**	**11**	**4**	***48***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**22**	**21**	**14**	**7**	***64***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**19**	**16**	**9**	**9**	***53***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	14	10	7	7	*38*	1	0	0	0	*1*	0	1	0	0	*1*
8:30 AM	15	13	11	9	*48*	1	0	0	0	*1*	0	0	0	0	*0*
8:45 AM	21	14	10	14	*59*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	183	142	99	88	*512*	2	0	1	0	*3*	1	1	1	0	*3*
Peak Hour	**81**	**68**	**46**	**27**	***222***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				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		
6:30 AM	0	4	4	9	0	2	11	0	0	3	1	4	0	5	2	5	50	0
6:45 AM	0	2	0	9	0	2	8	1	0	3	1	1	0	4	3	3	37	0
7:00 AM	0	9	3	12	0	0	10	3	0	9	0	3	0	3	3	3	58	0
7:15 AM	**0**	**4**	**6**	**14**	**0**	**1**	**13**	**0**	**0**	**8**	**1**	**3**	**0**	**2**	**3**	**2**	**57**	202
7:30 AM	**0**	**4**	**2**	**10**	**0**	**0**	**16**	**1**	**0**	**4**	**1**	**6**	**0**	**3**	**0**	**1**	**48**	200
7:45 AM	**0**	**4**	**4**	**14**	**0**	**2**	**19**	**0**	**0**	**7**	**3**	**4**	**0**	**1**	**3**	**3**	**64**	227
8:00 AM	**0**	**5**	**0**	**14**	**0**	**3**	**13**	**0**	**0**	**3**	**3**	**3**	**0**	**4**	**3**	**2**	**53**	**222**
8:15 AM	0	4	3	7	0	3	6	1	0	3	1	3	0	3	0	4	38	203
8:30 AM	0	3	2	10	0	0	11	2	0	4	6	1	0	0	1	8	48	203
8:45 AM	0	5	1	15	0	0	12	2	0	8	1	1	0	2	3	9	59	198
Count Total	0	44	25	114	0	13	119	10	0	52	18	29	0	27	21	40	512	0
Peak Hour	**0**	**17**	**12**	**52**	**0**	**6**	**61**	**1**	**0**	**22**	**8**	**16**	**0**	**10**	**9**	**8**	**222**	**0**

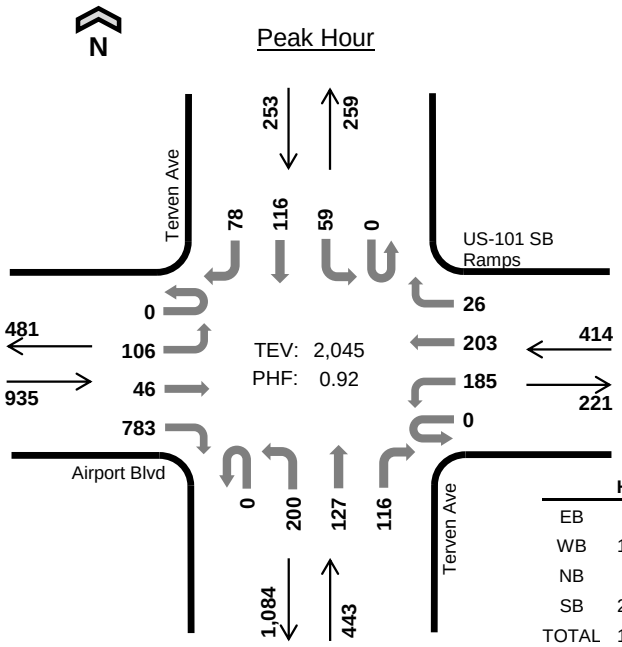
Two-and-a-Half-Hour Count Summaries - Bikes

Interval Start	Airport Blvd			US-101 SB Ramps			Terven Ave			Terven Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	2	0	0	0	0	0	1	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

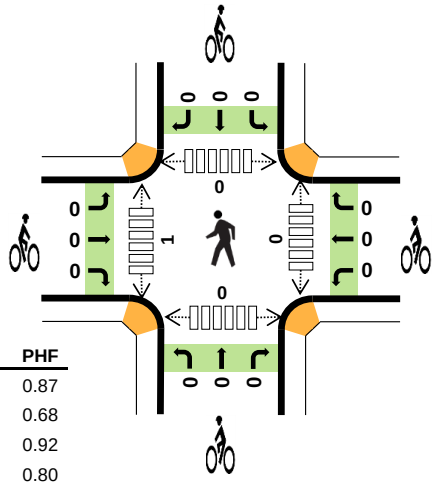
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Terven Ave
Airport Blvd

Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	5.5%	0.87
WB	17.4%	0.68
NB	9.0%	0.92
SB	20.2%	0.80
TOTAL	10.5%	0.92



Two-Hour Count Summaries

Interval Start		Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				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	48	13	202	0	45	78	7	0	48	32	15	0	5	22	21	536	0
4:15 PM		0	30	6	198	0	37	64	9	0	60	31	15	0	18	28	23	519	0
4:30 PM		0	19	20	176	0	29	43	10	0	51	29	25	0	17	39	17	475	0
4:45 PM		**0**	**24**	**13**	**193**	**0**	**37**	**43**	**3**	**0**	**55**	**29**	**24**	**0**	**10**	**31**	**22**	**484**	2,014
5:00 PM		**0**	**27**	**10**	**231**	**0**	**31**	**49**	**5**	**0**	**49**	**37**	**35**	**0**	**20**	**31**	**28**	**553**	2,031
5:15 PM		**0**	**26**	**11**	**167**	**0**	**66**	**77**	**10**	**0**	**46**	**26**	**25**	**0**	**16**	**24**	**18**	**512**	2,024
5:30 PM		**0**	**29**	**12**	**192**	**0**	**51**	**34**	**8**	**0**	**50**	**35**	**32**	**0**	**13**	**30**	**10**	**496**	**2,045**
5:45 PM		1	20	9	122	0	45	49	4	0	31	15	22	0	7	29	17	371	1,932
Count Total		1	223	94	1,481	0	341	437	56	0	390	234	193	0	106	234	156	3,946	0
Peak Hour	**All**	**0**	**106**	**46**	**783**	**0**	**185**	**203**	**26**	**0**	**200**	**127**	**116**	**0**	**59**	**116**	**78**	**2,045**	**0**
	HV	**0**	**6**	**13**	**32**	**0**	**13**	**53**	**6**	**0**	**20**	**13**	**7**	**0**	**11**	**11**	**29**	**214**	**0**
	HV%	**-**	**6%**	**28%**	**4%**	**-**	**7%**	**26%**	**23%**	**-**	**10%**	**10%**	**6%**	**-**	**19%**	**9%**	**37%**	**10%**	**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	24	21	4	12	*61*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	20	17	10	16	*63*	1	0	0	0	*1*	0	0	1	0	*1*
4:30 PM	17	14	16	11	*58*	0	0	0	0	*0*	0	1	0	0	*1*
4:45 PM	**14**	**15**	**11**	**15**	***55***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**13**	**15**	**9**	**14**	***51***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**12**	**24**	**10**	**13**	***59***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:30 PM	**12**	**18**	**10**	**9**	***49***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	20	19	5	11	*55*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	132	143	75	101	*451*	1	0	0	0	*1*	0	2	2	0	*4*
Peak Hour	**51**	**72**	**40**	**51**	***214***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				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	4	5	15	0	4	14	3	0	2	1	1	0	1	5	6	61	0
4:15 PM	0	7	1	12	0	2	14	1	0	5	4	1	0	5	4	7	63	0
4:30 PM	0	3	5	9	0	1	9	4	0	10	4	2	0	1	2	8	58	0
4:45 PM	**0**	**3**	**3**	**8**	**0**	**1**	**13**	**1**	**0**	**7**	**2**	**2**	**0**	**5**	**2**	**8**	**55**	237
5:00 PM	**0**	**2**	**2**	**9**	**0**	**5**	**10**	**0**	**0**	**7**	**2**	**0**	**0**	**3**	**3**	**8**	**51**	227
5:15 PM	**0**	**1**	**5**	**6**	**0**	**3**	**19**	**2**	**0**	**3**	**4**	**3**	**0**	**2**	**4**	**7**	**59**	223
5:30 PM	**0**	**0**	**3**	**9**	**0**	**4**	**11**	**3**	**0**	**3**	**5**	**2**	**0**	**1**	**2**	**6**	**49**	**214**
5:45 PM	0	5	4	11	0	0	19	0	0	5	0	0	0	1	1	9	55	214
Count Total	0	25	28	79	0	20	109	14	0	42	22	11	0	19	23	59	451	0
Peak Hour	**0**	**6**	**13**	**32**	**0**	**13**	**53**	**6**	**0**	**20**	**13**	**7**	**0**	**11**	**11**	**29**	**214**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Airport Blvd			US-101 SB Ramps			Terven Ave			Terven Ave			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	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	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**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

Kimley»Horn

B. EXISTING CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	215	0	2	2	3	282
Future Vol, veh/h	215	0	2	2	3	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	291	0	3	3	4	381

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	385	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	954	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	954	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	954	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.3	-	-
HCM Control Delay (s)	8.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	322	511	60	263	118	66	26	99	77
Future Volume (veh/h)	74	25	0	322	511	60	263	118	66	26	99	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	393	623	73	321	144	0	32	121	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	326	146		67	254	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1189	533	1259	363	1371	1459
Grp Volume(v), veh/h	90	30	0	393	345	351	465	0	0	153	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1722	0	1259	1734	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	24.3	21.2	21.2	30.1	0.0	0.0	8.8	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	24.3	21.2	21.2	30.1	0.0	0.0	8.8	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.69		1.00	0.21		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		321	0	271
V/C Ratio(X)	0.83	0.18	0.00	0.94	0.69	0.70	0.98	0.00		0.48	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		321	0	271
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	42.2	34.1	34.1	40.5	0.0	0.0	40.8	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	29.3	7.8	7.7	37.6	0.0	0.0	5.0	0.0	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	2.7	0.8	0.0	13.6	9.0	9.1	17.1	0.0	0.0	4.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	71.5	41.8	41.8	78.0	0.0	0.0	45.8	0.0	43.3
LnGrp LOS	E	D	A	E	D	D	E	A		D	A	D
Approach Vol, veh/h		120			1089			465	A		247	
Approach Delay, s/veh		53.9			52.5			78.0			44.9	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	26.3	4.7		10.8	9.0	23.2		32.1
Green Ext Time (p_c), s	0.0	0.0		0.5	0.1	2.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	57.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	153	114	284	85	142
Future Volume (veh/h)	479	153	114	284	85	142
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	166	124	309	92	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1004	1843	158	1317	220	196
Arrive On Green	0.55	0.55	0.09	0.72	0.13	0.13
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	166	124	309	92	154
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	13.5	1.6	5.2	4.3	3.7	7.2
Cycle Q Clear(g_c), s	13.5	1.6	5.2	4.3	3.7	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1004	1843	158	1317	220	196
V/C Ratio(X)	0.52	0.09	0.78	0.23	0.42	0.79
Avail Cap(c_a), veh/h	1004	1843	302	1317	325	289
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.9	4.3	33.6	3.7	30.4	32.0
Incr Delay (d2), s/veh	1.9	0.1	8.3	0.4	1.3	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.6	2.4	1.0	1.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	4.4	41.9	4.1	31.7	40.3
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	687			433	246	
Approach Delay, s/veh	10.8			14.9	37.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2		6	8
Phs Duration (G+Y+Rc), s	12.8	47.2		60.0	15.5
Change Period (Y+Rc), s	* 6	* 6		* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35		* 54	14.0
Max Q Clear Time (g_c+I1), s	7.2	15.5		6.3	9.2
Green Ext Time (p_c), s	0.1	3.6		1.8	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	167	24	6	4	16	460
Future Vol, veh/h	167	24	6	4	16	460
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	182	26	7	4	17	500
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.2	8.8	14
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	70%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	111	80	16	460
LT Vol	6	0	111	56	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	460
Lane Flow Rate	8	3	121	87	17	500
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.013	0.005	0.208	0.14	0.025	0.62
Departure Headway (Hd)	6.026	5.612	6.2	5.837	5.171	4.467
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	635	576	610	693	810
Service Time	3.787	3.373	3.975	3.612	2.899	2.195
HCM Lane V/C Ratio	0.014	0.005	0.21	0.143	0.025	0.617
HCM Control Delay	8.9	8.4	10.6	9.6	8	14.2
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0	0	0.8	0.5	0.1	4.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	293	0	1	2	3	734
Future Vol, veh/h	293	0	1	2	3	734
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	318	0	1	2	3	798

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	801	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	517	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	517	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	517	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.325	-	-
HCM Control Delay (s)	12	-	10.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	213	233	30	230	146	133	68	133	90
Future Volume (veh/h)	122	53	0	213	233	30	230	146	133	68	133	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	232	253	33	250	159	0	74	145	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	164	315	0	265	698	90	293	187		112	219	218
Arrive On Green	0.10	0.21	0.00	0.15	0.27	0.27	0.28	0.28	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1039	661	1535	587	1150	1144
Grp Volume(v), veh/h	133	58	0	232	141	145	409	0	0	219	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1737	0	1144
Q Serve(g_s), s	8.2	3.5	0.0	14.5	8.6	8.8	24.8	0.0	0.0	12.7	0.0	8.3
Cycle Q Clear(g_c), s	8.2	3.5	0.0	14.5	8.6	8.8	24.8	0.0	0.0	12.7	0.0	8.3
Prop In Lane	1.00		0.00	1.00		0.23	0.61		1.00	0.34		1.00
Lane Grp Cap(c), veh/h	164	315	0	265	392	396	480	0		331	0	218
V/C Ratio(X)	0.81	0.18	0.00	0.88	0.36	0.37	0.85	0.00		0.66	0.00	0.45
Avail Cap(c_a), veh/h	337	315	0	413	392	396	480	0		331	0	218
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	35.2	0.0	45.1	32.0	32.1	37.0	0.0	0.0	40.9	0.0	39.1
Incr Delay (d2), s/veh	10.9	1.3	0.0	12.3	2.6	2.6	17.2	0.0	0.0	9.9	0.0	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	4.1	1.4	0.0	6.8	3.2	3.3	12.1	0.0	0.0	6.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	36.5	0.0	57.3	34.6	34.7	54.1	0.0	0.0	50.8	0.0	45.6
LnGrp LOS	E	D	A	E	C	C	D	A		D	A	D
Approach Vol, veh/h		191			518			409	A		317	
Approach Delay, s/veh		52.4			44.8			54.1			49.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.6	28.5		25.0	14.1	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	16.5	5.5		14.7	10.2	10.8		26.8
Green Ext Time (p_c), s	0.4	0.1		0.8	0.3	1.4		0.8

Intersection Summary	
HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	456	323	336	83	165
Future Volume (veh/h)	662	456	323	336	83	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	496	351	365	90	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	839	1637	297	1294	246	219
Arrive On Green	0.46	0.46	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	496	351	365	90	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	26.9	6.8	13.0	5.6	3.6	8.6
Cycle Q Clear(g_c), s	26.9	6.8	13.0	5.6	3.6	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	839	1637	297	1294	246	219
V/C Ratio(X)	0.86	0.30	1.18	0.28	0.37	0.82
Avail Cap(c_a), veh/h	839	1637	297	1294	320	284
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	18.7	7.6	31.9	4.2	29.9	32.0
Incr Delay (d2), s/veh	11.1	0.5	111.3	0.5	0.9	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	2.5	14.2	1.5	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.8	8.1	143.2	4.8	30.8	45.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1216			716	269	
Approach Delay, s/veh	20.9			72.6	40.4	
Approach LOS	C			E	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	16.8
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	15.0	28.9			7.6	10.6
Green Ext Time (p_c), s	0.0	3.3			2.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	710	25	20	67	0	199
Future Vol, veh/h	710	25	20	67	0	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	772	27	22	73	0	216
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.7	10.6	12.4
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	90%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	10%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	473	262	0	199
LT Vol	20	0	473	237	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	199
Lane Flow Rate	46	49	514	284	0	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.094	0.863	0.468	0	0.367
Departure Headway (Hd)	7.235	6.994	6.037	5.922	6.828	6.114
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	512	602	612	0	588
Service Time	4.978	4.737	3.755	3.639	4.567	3.853
HCM Lane V/C Ratio	0.093	0.096	0.854	0.464	0	0.367
HCM Control Delay	10.7	10.5	35.4	13.8	9.6	12.4
HCM Lane LOS	B	B	E	B	N	B
HCM 95th-tile Q	0.3	0.3	9.7	2.5	0	1.7

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	17	8.0	0.046	3.6	LOS A	0.2	6.0	0.38	0.21	0.38	33.6
8	T1	38	0.0	0.046	3.3	LOS A	0.2	6.0	0.38	0.21	0.38	35.5
18	R2	115	13.0	0.084	3.3	LOS A	0.5	12.5	0.37	0.21	0.37	34.9
Approach		170	9.6	0.084	3.3	LOS A	0.5	12.5	0.38	0.21	0.38	34.9
East: E. Alisal St												
1	L2	283	2.0	0.202	4.2	LOS A	1.2	30.4	0.22	0.09	0.22	33.0
6	T1	366	3.0	0.226	4.0	LOS A	1.4	35.7	0.21	0.08	0.21	34.2
16	R2	4	0.0	0.226	3.9	LOS A	1.4	35.7	0.21	0.08	0.21	34.6
Approach		652	2.5	0.226	4.1	LOS A	1.4	35.7	0.21	0.08	0.21	33.6
North: Quilla St												
7	L2	6	25.0	0.392	10.0	LOS A	2.0	49.7	0.60	0.62	0.66	32.8
4	T1	302	0.0	0.392	8.5	LOS A	2.0	49.7	0.60	0.62	0.66	33.4
14	R2	45	3.0	0.392	8.6	LOS A	2.0	49.7	0.60	0.62	0.66	30.0
Approach		354	0.8	0.392	8.5	LOS A	2.0	49.7	0.60	0.62	0.66	33.0
West: E. Alisal St												
5	L2	6	0.0	0.182	4.6	LOS A	1.2	31.4	0.66	0.50	0.66	34.2
2	T1	199	6.0	0.182	4.9	LOS A	1.2	31.4	0.66	0.50	0.66	33.9
12	R2	96	6.0	0.061	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.2
Approach		301	5.9	0.182	3.3	LOS A	1.2	31.4	0.45	0.34	0.45	34.6
All Vehicles		1477	3.6	0.392	4.9	LOS A	2.0	49.7	0.37	0.28	0.39	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

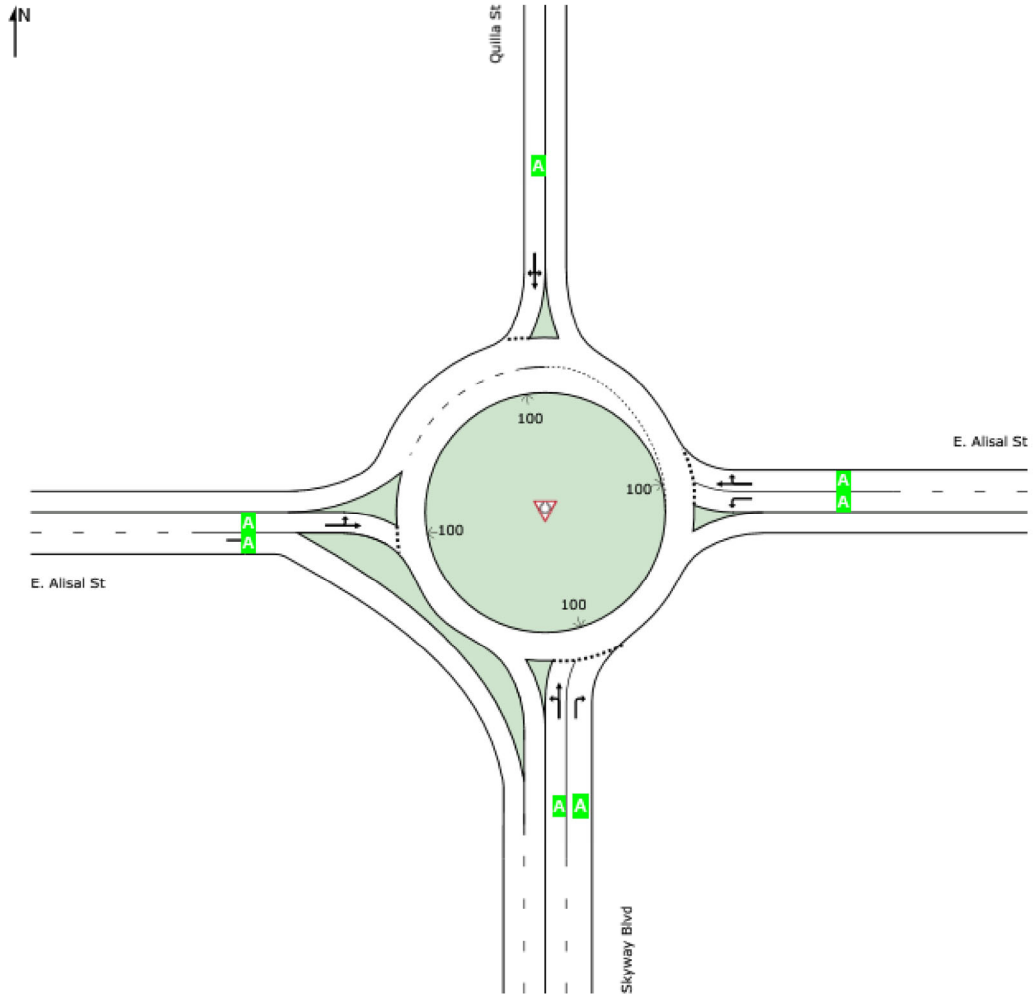
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	184	1.0	0.583	13.0	LOS B	6.2	156.2	0.87	0.92	1.17	28.1
8	T1	310	1.0	0.583	13.0	LOS B	6.2	156.2	0.87	0.92	1.17	30.6
18	R2	702	3.0	0.647	12.4	LOS B	8.6	220.4	0.90	0.93	1.25	30.5
Approach		1196	2.2	0.647	12.7	LOS B	8.6	220.4	0.89	0.93	1.22	30.2
East: E. Alisal St												
1	L2	160	10.0	0.219	7.4	LOS A	1.4	36.6	0.71	0.60	0.71	31.4
6	T1	414	0.0	0.376	7.0	LOS A	3.0	75.4	0.76	0.60	0.76	32.4
16	R2	14	0.0	0.376	7.0	LOS A	3.0	75.4	0.76	0.60	0.76	33.2
Approach		587	2.7	0.376	7.1	LOS A	3.0	75.4	0.75	0.60	0.75	32.1
North: Quilla St												
7	L2	17	0.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	33.9
4	T1	101	1.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	33.7
14	R2	70	0.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	30.5
Approach		188	0.5	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	32.7
West: E. Alisal St												
5	L2	27	0.0	0.422	6.7	LOS A	3.0	76.0	0.55	0.38	0.55	32.6
2	T1	537	3.0	0.422	6.8	LOS A	3.0	76.0	0.55	0.38	0.55	32.4
12	R2	72	2.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		636	2.8	0.422	6.0	LOS A	3.0	76.0	0.49	0.34	0.49	32.8
All Vehicles		2607	2.3	0.647	9.4	LOS A	8.6	220.4	0.74	0.69	0.89	31.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

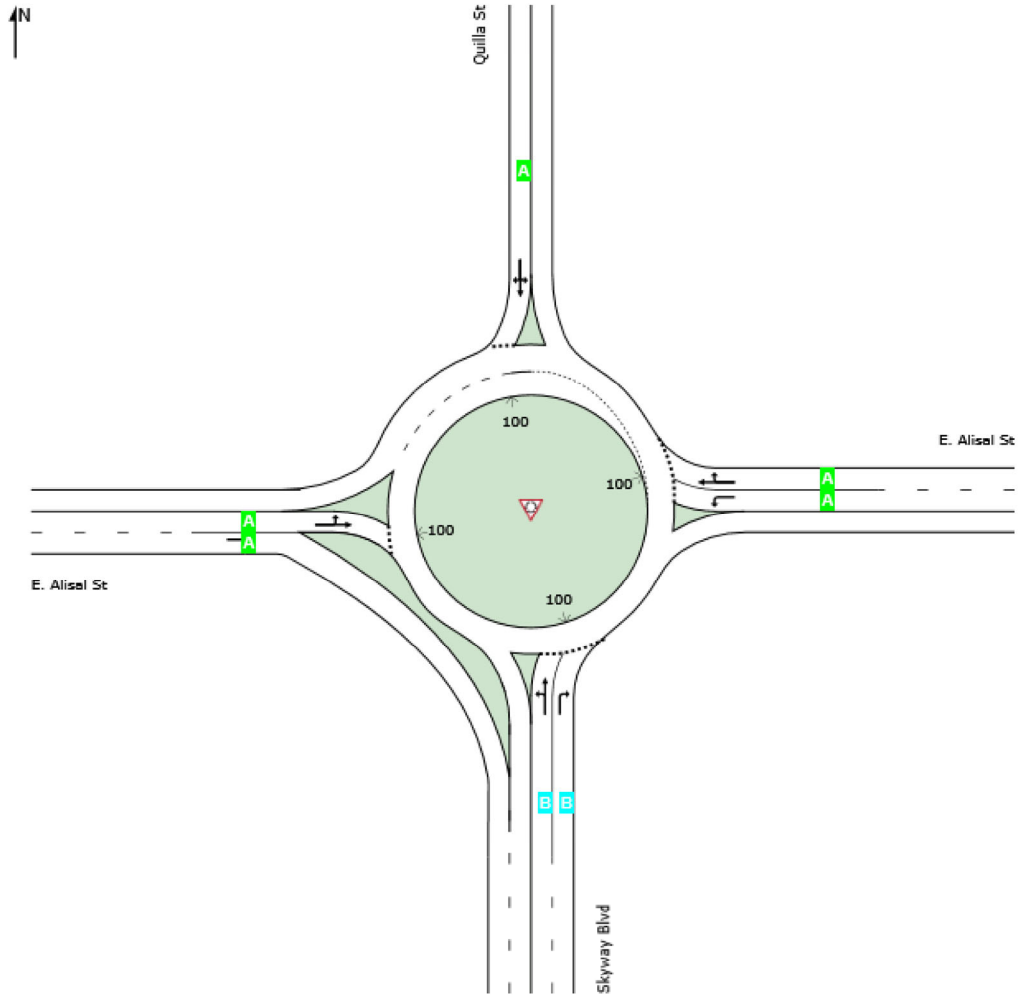
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	215	0	2	2	3	282
Future Vol, veh/h	215	0	2	2	3	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	291	0	3	3	4	381

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	385	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	954	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	954	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	954	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.3	-	-
HCM Control Delay (s)	8.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	90	30	352	393	696	321	144	80	32	215
v/c Ratio	0.87	0.33	0.59	0.25	0.99	0.97	0.26	0.08	0.37	0.86
Control Delay	109.8	57.7	28.6	19.7	64.6	86.3	31.0	0.8	61.1	70.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.8	57.7	28.6	19.7	64.6	86.3	31.0	0.8	61.1	70.0
Queue Length 50th (ft)	64	21	79	91	~490	228	80	0	22	128
Queue Length 95th (ft)	#141	46	94	121	#631	#352	122	5	49	#206
Internal Link Dist (ft)		256			427		121			526
Turn Bay Length (ft)	150			200				50		
Base Capacity (vph)	104	384	598	1599	701	332	553	1041	97	276
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.08	0.59	0.25	0.99	0.97	0.26	0.08	0.33	0.78

Intersection Summary

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

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

HCM 6th Signalized Intersection Summary
2: Terven Ave/Terven Avenue & Airport Boulevard/US 101 SB Ramps

09/09/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	289	322	511	60	263	118	66	26	99	77
Future Volume (veh/h)	74	25	289	322	511	60	263	118	66	26	99	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	352	393	623	73	321	144	0	32	121	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	70	627	1468	619	73	334	572		34	136	106
Arrive On Green	0.07	0.06	0.06	0.42	0.42	0.42	0.20	0.32	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	914	710
Grp Volume(v), veh/h	90	30	352	393	0	696	321	144	0	32	0	215
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1624
Q Serve(g_s), s	6.8	2.9	3.6	8.1	0.0	45.5	20.8	6.5	0.0	2.9	0.0	14.2
Cycle Q Clear(g_c), s	6.8	2.9	3.6	8.1	0.0	45.5	20.8	6.5	0.0	2.9	0.0	14.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	103	70	627	1468	0	692	334	572		34	0	242
V/C Ratio(X)	0.87	0.43	0.56	0.27	0.00	1.01	0.96	0.25		0.94	0.00	0.89
Avail Cap(c_a), veh/h	103	337	1210	1468	0	692	334	572		91	0	253
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	49.2	15.7	20.4	0.0	31.9	43.2	27.4	0.0	53.0	0.0	45.6
Incr Delay (d2), s/veh	48.9	1.6	0.3	0.0	0.0	35.7	38.5	0.1	0.0	56.2	0.0	27.9
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	3.8	0.8	2.2	3.1	0.0	23.6	11.8	2.7	0.0	1.4	0.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.1	50.8	16.0	20.4	0.0	67.6	81.8	27.5	0.0	109.2	0.0	73.5
LnGrp LOS	F	D	B	C	A	F	F	C		F	A	E
Approach Vol, veh/h		472			1089			465	A		247	
Approach Delay, s/veh		34.1			50.6			65.0			78.1	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	50.1	12.3	26.4	20.5	11.6	50.8	7.6	39.3
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	19.5	33.9	21.9	* 17	7.9	45.5	8.3	* 31
Max Q Clear Time (g_c+I1), s	10.1	5.6	22.8	16.2	8.8	47.5	4.9	8.5
Green Ext Time (p_c), s	1.2	1.0	0.0	0.1	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	521	166	124	309	92	154
v/c Ratio	0.55	0.08	0.53	0.24	0.35	0.66
Control Delay	17.9	0.8	40.0	5.3	33.3	44.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	0.8	40.0	5.3	33.3	44.9
Queue Length 50th (ft)	182	0	58	49	41	71
Queue Length 95th (ft)	305	8	108	84	83	131
Internal Link Dist (ft)	654			606	1684	
Turn Bay Length (ft)		250	400		150	
Base Capacity (vph)	946	2152	290	1268	312	279
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.08	0.43	0.24	0.29	0.55

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	153	114	284	85	142
Future Volume (veh/h)	479	153	114	284	85	142
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	166	124	309	92	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1004	1843	158	1317	220	196
Arrive On Green	0.55	0.55	0.09	0.72	0.13	0.13
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	166	124	309	92	154
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	13.5	1.6	5.2	4.3	3.7	7.2
Cycle Q Clear(g_c), s	13.5	1.6	5.2	4.3	3.7	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1004	1843	158	1317	220	196
V/C Ratio(X)	0.52	0.09	0.78	0.23	0.42	0.79
Avail Cap(c_a), veh/h	1004	1843	302	1317	325	289
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.9	4.3	33.6	3.7	30.4	32.0
Incr Delay (d2), s/veh	1.9	0.1	8.3	0.4	1.3	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.6	2.4	1.0	1.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	4.4	41.9	4.1	31.7	40.3
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	687			433	246	
Approach Delay, s/veh	10.8			14.9	37.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	12.8	47.2				60.0	15.5
Change Period (Y+Rc), s	* 6	* 6				* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54	14.0
Max Q Clear Time (g_c+I1), s	7.2	15.5				6.3	9.2
Green Ext Time (p_c), s	0.1	3.6				1.8	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	167	24	6	4	16	460
Future Vol, veh/h	167	24	6	4	16	460
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	182	26	7	4	17	500
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.2	8.8	14
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	70%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	111	80	16	460
LT Vol	6	0	111	56	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	460
Lane Flow Rate	8	3	121	87	17	500
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.013	0.005	0.208	0.14	0.025	0.62
Departure Headway (Hd)	6.026	5.612	6.2	5.837	5.171	4.467
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	635	576	610	693	810
Service Time	3.787	3.373	3.975	3.612	2.899	2.195
HCM Lane V/C Ratio	0.014	0.005	0.21	0.143	0.025	0.617
HCM Control Delay	8.9	8.4	10.6	9.6	8	14.2
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0	0	0.8	0.5	0.1	4.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	293	0	1	2	3	734
Future Vol, veh/h	293	0	1	2	3	734
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	318	0	1	2	3	798

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	801	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	517	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	517	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	517	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.325	-	-
HCM Control Delay (s)	12	-	10.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Queues

2: Terven Ave/Terven Avenue & Airport Boulevard/US 101 SB Ramps

09/09/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	133	58	978	232	286	250	159	145	74	243
v/c Ratio	0.75	0.16	0.71	0.58	0.71	0.81	0.28	0.17	0.45	0.69
Control Delay	62.0	25.7	19.2	39.1	37.6	53.3	23.4	2.9	42.1	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	25.7	19.2	39.1	37.6	53.3	23.4	2.9	42.1	35.6
Queue Length 50th (ft)	66	23	206	56	126	120	61	0	35	94
Queue Length 95th (ft)	#154	54	285	91	#237	#236	113	29	75	#193
Internal Link Dist (ft)		256			427		121			526
Turn Bay Length (ft)	150			120				50		
Base Capacity (vph)	177	367	1392	432	400	320	561	848	194	353
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.16	0.70	0.54	0.71	0.78	0.28	0.17	0.38	0.69

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	900	213	233	30	230	146	133	68	133	90
Future Volume (veh/h)	122	53	900	213	233	30	230	146	133	68	133	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	978	232	253	33	250	159	0	74	145	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	165	406	1226	322	360	47	289	597		91	222	150
Arrive On Green	0.10	0.27	0.27	0.10	0.27	0.27	0.17	0.34	0.00	0.06	0.23	0.23
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	982	664
Grp Volume(v), veh/h	133	58	978	232	0	286	250	159	0	74	0	243
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1646
Q Serve(g_s), s	5.8	2.3	21.0	5.2	0.0	13.3	11.2	5.1	0.0	3.6	0.0	10.3
Cycle Q Clear(g_c), s	5.8	2.3	21.0	5.2	0.0	13.3	11.2	5.1	0.0	3.6	0.0	10.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	165	406	1226	322	0	407	289	597		91	0	373
V/C Ratio(X)	0.80	0.14	0.80	0.72	0.00	0.70	0.87	0.27		0.82	0.00	0.65
Avail Cap(c_a), veh/h	186	406	1226	453	0	407	336	597		205	0	373
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	21.1	18.3	33.7	0.0	25.1	30.9	18.4	0.0	35.8	0.0	27.0
Incr Delay (d2), s/veh	20.9	0.7	5.5	3.3	0.0	9.7	18.4	1.1	0.0	15.9	0.0	8.6
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	3.4	0.9	7.2	2.1	0.0	5.3	5.6	2.0	0.0	1.8	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	21.9	23.8	37.0	0.0	34.8	49.3	19.5	0.0	51.6	0.0	35.6
LnGrp LOS	D	C	C	D	A	C	D	B		D	A	D
Approach Vol, veh/h		1169			518			409	A		317	
Approach Delay, s/veh		27.2			35.8			37.7			39.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	26.3	17.8	21.6	11.1	26.4	9.0	30.4
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	10.5	18.9	15.5	* 17	8.3	21.1	10.2	* 23
Max Q Clear Time (g_c+I1), s	7.2	23.0	13.2	12.3	7.8	15.3	5.6	7.1
Green Ext Time (p_c), s	0.2	0.0	0.2	0.6	0.0	0.7	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	720	496	351	365	90	179
v/c Ratio	0.88	0.26	1.22	0.29	0.33	0.72
Control Delay	35.5	4.0	159.3	5.7	32.6	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	4.0	159.3	5.7	32.6	49.4
Queue Length 50th (ft)	322	34	~222	63	40	84
Queue Length 95th (ft)	#543	52	#381	101	82	#167
Internal Link Dist (ft)	654			609	1684	
Turn Bay Length (ft)		250	400		150	
Base Capacity (vph)	814	1946	287	1256	309	276
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.25	1.22	0.29	0.29	0.65

Intersection Summary

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	456	323	336	83	165
Future Volume (veh/h)	662	456	323	336	83	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	496	351	365	90	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	839	1637	297	1294	246	219
Arrive On Green	0.46	0.46	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	496	351	365	90	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	26.9	6.8	13.0	5.6	3.6	8.6
Cycle Q Clear(g_c), s	26.9	6.8	13.0	5.6	3.6	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	839	1637	297	1294	246	219
V/C Ratio(X)	0.86	0.30	1.18	0.28	0.37	0.82
Avail Cap(c_a), veh/h	839	1637	297	1294	320	284
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	18.7	7.6	31.9	4.2	29.9	32.0
Incr Delay (d2), s/veh	11.1	0.5	111.3	0.5	0.9	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	2.5	14.2	1.5	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.8	8.1	143.2	4.8	30.8	45.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1216			716	269	
Approach Delay, s/veh	20.9			72.6	40.4	
Approach LOS	C			E	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0	16.8
Change Period (Y+Rc), s	* 6	* 6				* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54	14.0
Max Q Clear Time (g_c+I1), s	15.0	28.9				7.6	10.6
Green Ext Time (p_c), s	0.0	3.3				2.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	710	25	20	67	0	199
Future Vol, veh/h	710	25	20	67	0	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	772	27	22	73	0	216
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.7	10.6	12.4
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	90%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	10%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	473	262	0	199
LT Vol	20	0	473	237	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	199
Lane Flow Rate	46	49	514	284	0	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.094	0.863	0.468	0	0.367
Departure Headway (Hd)	7.235	6.994	6.037	5.922	6.828	6.114
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	512	602	612	0	588
Service Time	4.978	4.737	3.755	3.639	4.567	3.853
HCM Lane V/C Ratio	0.093	0.096	0.854	0.464	0	0.367
HCM Control Delay	10.7	10.5	35.4	13.8	9.6	12.4
HCM Lane LOS	B	B	E	B	N	B
HCM 95th-tile Q	0.3	0.3	9.7	2.5	0	1.7

Kimley»Horn

C. EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	0	2	2	3	290
Future Vol, veh/h	238	0	2	2	3	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	322	0	3	3	4	392

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	396	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	944	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	944	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	944	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.332	-	-
HCM Control Delay (s)	8.8	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	351	511	60	265	122	76	26	110	77
Future Volume (veh/h)	74	25	0	351	511	60	265	122	76	26	110	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	428	623	73	323	149	0	32	134	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	324	149		62	260	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1179	544	1259	334	1401	1459
Grp Volume(v), veh/h	90	30	0	428	345	351	472	0	0	166	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1723	0	1259	1735	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.2	30.7	0.0	0.0	9.7	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.2	30.7	0.0	0.0	9.7	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.68		1.00	0.19		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		322	0	271
V/C Ratio(X)	0.83	0.18	0.00	1.03	0.69	0.70	1.00	0.00		0.52	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		322	0	271
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.1	40.7	0.0	0.0	41.2	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	50.6	7.8	7.7	41.0	0.0	0.0	5.8	0.0	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	2.7	0.8	0.0	16.9	9.0	9.1	17.8	0.0	0.0	4.7	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	93.6	41.8	41.8	81.6	0.0	0.0	47.0	0.0	43.3
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1124			472	A		260	
Approach Delay, s/veh		53.9			61.5			81.6			45.7	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.7		11.7	9.0	23.2		32.7
Green Ext Time (p_c), s	0.0	0.0		0.5	0.1	2.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	153	122	300	85	165
Future Volume (veh/h)	524	153	122	300	85	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	166	133	326	92	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	974	1839	168	1294	247	219
Arrive On Green	0.53	0.53	0.10	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	166	133	326	92	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	16.2	1.6	5.7	4.9	3.7	8.6
Cycle Q Clear(g_c), s	16.2	1.6	5.7	4.9	3.7	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	974	1839	168	1294	247	219
V/C Ratio(X)	0.59	0.09	0.79	0.25	0.37	0.82
Avail Cap(c_a), veh/h	974	1839	297	1294	320	284
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.3	4.5	34.0	4.1	29.9	32.0
Incr Delay (d2), s/veh	2.6	0.1	8.0	0.5	0.9	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.6	2.6	1.3	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	4.6	42.0	4.6	30.9	45.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	736			459	271	
Approach Delay, s/veh	12.6			15.4	40.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.4	46.6			60.0	16.8
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	7.7	18.2			6.9	10.6
Green Ext Time (p_c), s	0.1	3.7			1.9	0.3

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	11	39	483
Future Vol, veh/h	175	24	6	11	39	483
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	26	7	12	42	525
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.4	8.8	15
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	71%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	117	82	39	483
LT Vol	6	0	117	58	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	483
Lane Flow Rate	11	8	127	89	42	525
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.223	0.148	0.061	0.658
Departure Headway (Hd)	6.019	5.705	6.319	5.968	5.214	4.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	623	564	596	686	798
Service Time	3.796	3.481	4.108	3.756	2.95	2.246
HCM Lane V/C Ratio	0.019	0.013	0.225	0.149	0.061	0.658
HCM Control Delay	8.9	8.6	10.9	9.8	8.3	15.5
HCM Lane LOS	A	A	B	A	A	C
HCM 95th-tile Q	0.1	0	0.8	0.5	0.2	5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	297	0	1	2	3	749
Future Vol, veh/h	297	0	1	2	3	749
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	323	0	1	2	3	814

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	817	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	508	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	508	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	508	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.33	-	-
HCM Control Delay (s)	12.1	-	10.5	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

HCM 6th Signalized Intersection Summary
2: Terven Ave/Terven Avenue & Airport Boulevard/US 101 SB Ramps

09/05/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	218	233	30	234	153	142	68	135	90
Future Volume (veh/h)	122	53	0	218	233	30	234	153	142	68	135	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	237	253	33	254	166	0	74	147	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	164	311	0	270	698	90	290	190		111	220	218
Arrive On Green	0.10	0.21	0.00	0.16	0.27	0.27	0.28	0.28	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1028	672	1535	582	1156	1144
Grp Volume(v), veh/h	133	58	0	237	141	145	420	0	0	221	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1738	0	1144
Q Serve(g_s), s	8.2	3.5	0.0	14.8	8.6	8.8	25.7	0.0	0.0	12.9	0.0	8.3
Cycle Q Clear(g_c), s	8.2	3.5	0.0	14.8	8.6	8.8	25.7	0.0	0.0	12.9	0.0	8.3
Prop In Lane	1.00		0.00	1.00		0.23	0.60		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	164	311	0	270	392	396	480	0		331	0	218
V/C Ratio(X)	0.81	0.19	0.00	0.88	0.36	0.37	0.87	0.00		0.67	0.00	0.45
Avail Cap(c_a), veh/h	337	311	0	413	392	396	480	0		331	0	218
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	35.5	0.0	44.9	32.0	32.1	37.3	0.0	0.0	40.9	0.0	39.1
Incr Delay (d2), s/veh	10.9	1.3	0.0	12.9	2.6	2.6	19.5	0.0	0.0	10.2	0.0	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	4.1	1.4	0.0	7.0	3.2	3.3	12.7	0.0	0.0	6.5	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	36.8	0.0	57.8	34.6	34.7	56.7	0.0	0.0	51.1	0.0	45.6
LnGrp LOS	E	D	A	E	C	C	E	A		D	A	D
Approach Vol, veh/h		191			523			420	A		319	
Approach Delay, s/veh		52.5			45.1			56.7			49.4	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.9	28.2		25.0	14.1	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	16.8	5.5		14.9	10.2	10.8		27.7
Green Ext Time (p_c), s	0.4	0.1		0.8	0.3	1.4		0.7

Intersection Summary	
HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	456	338	366	83	169
Future Volume (veh/h)	670	456	338	366	83	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	496	367	398	90	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	836	1641	296	1290	252	224
Arrive On Green	0.45	0.45	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	728	496	367	398	90	184
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	27.5	6.8	13.0	6.4	3.6	8.8
Cycle Q Clear(g_c), s	27.5	6.8	13.0	6.4	3.6	8.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	836	1641	296	1290	252	224
V/C Ratio(X)	0.87	0.30	1.24	0.31	0.36	0.82
Avail Cap(c_a), veh/h	836	1641	296	1290	318	283
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.0	7.6	32.0	4.4	29.8	32.0
Incr Delay (d2), s/veh	12.0	0.5	133.8	0.6	0.9	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	2.6	16.1	1.7	1.5	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.0	8.1	165.9	5.0	30.7	46.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1224			765	274	
Approach Delay, s/veh	21.7			82.2	41.1	
Approach LOS	C			F	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	17.1
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	15.0	29.5			8.4	10.8
Green Ext Time (p_c), s	0.0	3.1			2.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	725	25	20	81	4	203
Future Vol, veh/h	725	25	20	81	4	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	788	27	22	88	4	221
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	30.6	10.8	12.6
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	483	267	4	203
LT Vol	20	0	483	242	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	203
Lane Flow Rate	51	59	525	290	4	221
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.103	0.115	0.891	0.482	0.008	0.38
Departure Headway (Hd)	7.292	7.074	6.104	5.991	6.907	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	491	507	594	603	518	580
Service Time	5.04	4.823	3.826	3.713	4.651	3.936
HCM Lane V/C Ratio	0.104	0.116	0.884	0.481	0.008	0.381
HCM Control Delay	10.9	10.7	39.6	14.2	9.7	12.7
HCM Lane LOS	B	B	E	B	A	B
HCM 95th-tile Q	0.3	0.4	10.6	2.6	0	1.8

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	20	1.0	0.051	3.6	LOS A	0.3	6.6	0.37	0.19	0.37	33.6
8	T1	38	1.0	0.051	3.6	LOS A	0.3	6.6	0.37	0.19	0.37	35.1
18	R2	105	3.0	0.075	3.1	LOS A	0.4	10.6	0.36	0.18	0.36	35.0
Approach		164	2.3	0.075	3.3	LOS A	0.4	10.6	0.36	0.19	0.36	34.9
East: E. Alisal St												
1	L2	262	10.0	0.214	4.8	LOS A	1.2	32.0	0.23	0.10	0.23	32.5
6	T1	319	0.0	0.203	3.9	LOS A	1.1	28.7	0.20	0.08	0.20	34.6
16	R2	3	0.0	0.203	3.9	LOS A	1.1	28.7	0.20	0.08	0.20	34.8
Approach		584	4.5	0.214	4.3	LOS A	1.2	32.0	0.22	0.09	0.22	33.4
North: Quilla St												
7	L2	5	0.0	0.365	8.1	LOS A	1.6	41.3	0.58	0.56	0.58	33.8
4	T1	281	1.0	0.365	8.2	LOS A	1.6	41.3	0.58	0.56	0.58	33.6
14	R2	39	0.0	0.365	8.1	LOS A	1.6	41.3	0.58	0.56	0.58	30.5
Approach		326	0.9	0.365	8.2	LOS A	1.6	41.3	0.58	0.56	0.58	33.3
West: E. Alisal St												
5	L2	5	0.0	0.155	4.4	LOS A	1.0	24.8	0.63	0.47	0.63	34.2
2	T1	173	3.0	0.155	4.5	LOS A	1.0	24.8	0.63	0.47	0.63	33.9
12	R2	101	2.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		280	2.6	0.155	2.9	LOS A	1.0	24.8	0.40	0.30	0.40	34.8
All Vehicles		1353	3.0	0.365	4.8	LOS A	1.6	41.3	0.36	0.26	0.36	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

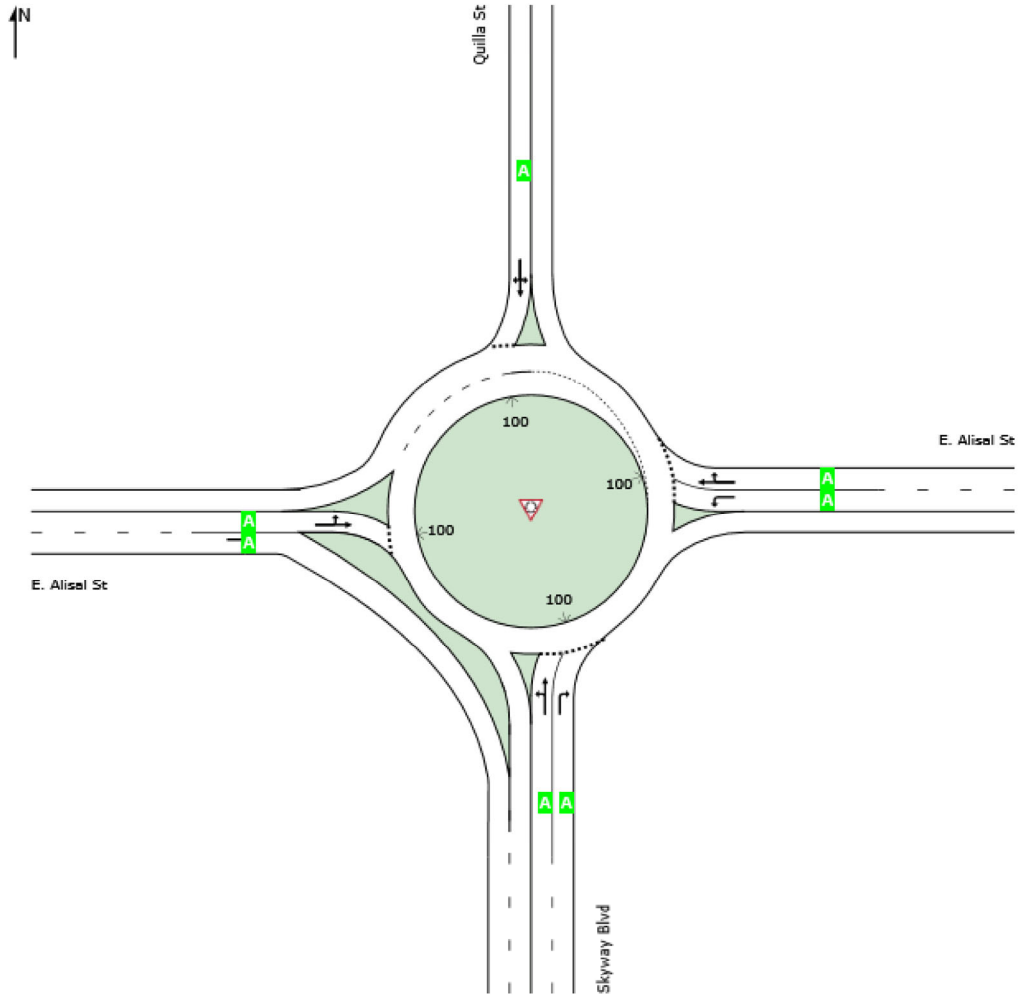
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	195	1.0	0.611	13.8	LOS B	6.9	174.2	0.88	0.96	1.24	27.7
8	T1	320	1.0	0.611	13.8	LOS B	6.9	174.2	0.88	0.96	1.24	30.3
18	R2	712	3.0	0.659	12.8	LOS B	9.0	231.1	0.90	0.95	1.28	30.4
Approach		1227	2.2	0.659	13.2	LOS B	9.0	231.1	0.90	0.96	1.27	30.0
East: E. Alisal St												
1	L2	162	10.0	0.227	7.7	LOS A	1.4	38.4	0.73	0.62	0.73	31.3
6	T1	414	0.0	0.386	7.2	LOS A	3.1	78.2	0.78	0.62	0.78	32.3
16	R2	14	0.0	0.386	7.2	LOS A	3.1	78.2	0.78	0.62	0.78	33.1
Approach		589	2.7	0.386	7.4	LOS A	3.1	78.2	0.77	0.62	0.77	31.9
North: Quilla St												
7	L2	17	0.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	33.8
4	T1	104	1.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	33.6
14	R2	70	0.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	30.4
Approach		191	0.5	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	32.6
West: E. Alisal St												
5	L2	27	0.0	0.424	6.7	LOS A	3.0	76.6	0.56	0.39	0.56	32.6
2	T1	537	3.0	0.424	6.8	LOS A	3.0	76.6	0.56	0.39	0.56	32.3
12	R2	76	2.0	0.046	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		639	2.8	0.424	6.0	LOS A	3.0	76.6	0.49	0.34	0.49	32.8
All Vehicles		2647	2.3	0.659	9.8	LOS A	9.0	231.1	0.75	0.71	0.92	31.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

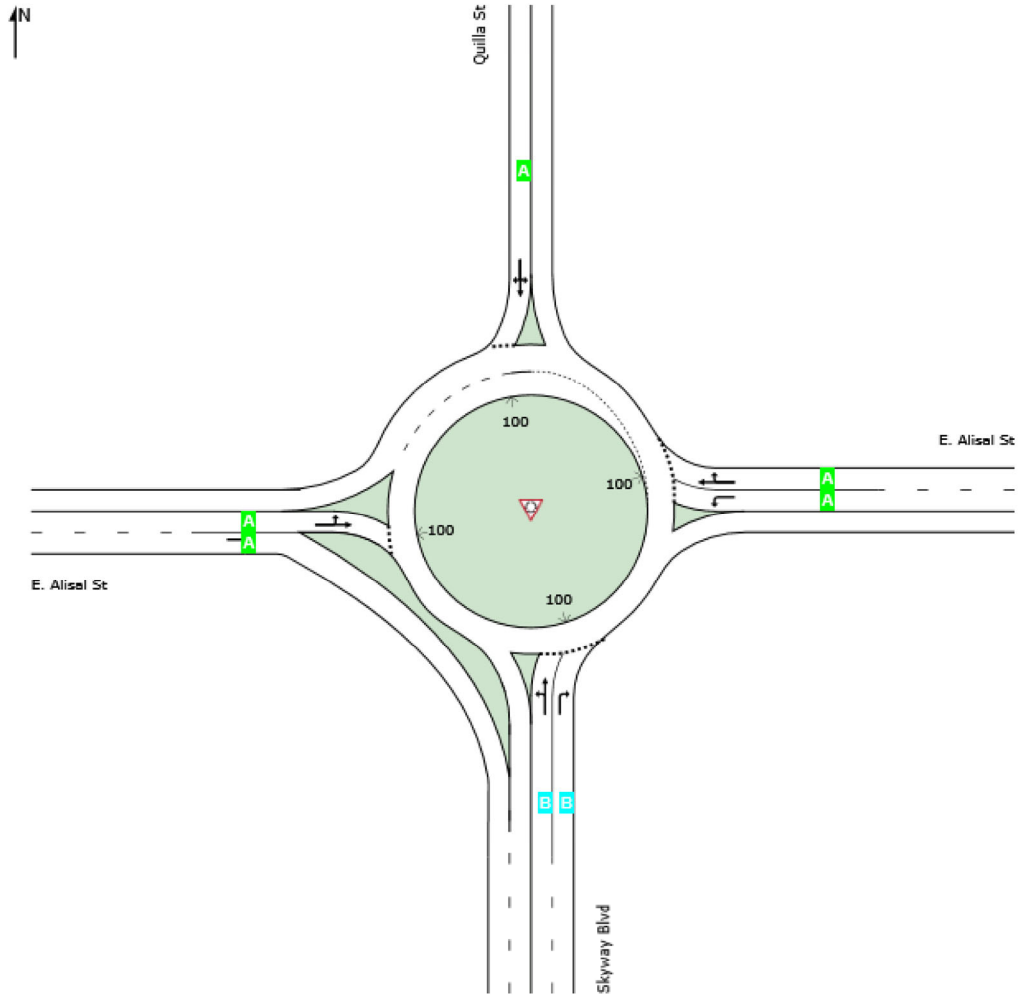
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	0	2	2	3	290
Future Vol, veh/h	238	0	2	2	3	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	322	0	3	3	4	392

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	396	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	944	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	944	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	944	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.332	-	-
HCM Control Delay (s)	8.8	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

HCM 6th Signalized Intersection Summary
2: Terven Ave/Terven Avenue & Airport Boulevard/US 101 SB Ramps

09/09/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	294	351	511	60	265	122	76	26	110	77
Future Volume (veh/h)	74	25	294	351	511	60	265	122	76	26	110	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	359	428	623	73	323	149	0	32	134	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	69	627	1401	612	72	335	583		34	148	104
Arrive On Green	0.07	0.06	0.06	0.41	0.41	0.41	0.20	0.33	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	958	672
Grp Volume(v), veh/h	90	30	359	428	0	696	323	149	0	32	0	228
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1631
Q Serve(g_s), s	6.9	2.9	3.8	9.2	0.0	45.3	21.1	6.8	0.0	2.9	0.0	15.1
Cycle Q Clear(g_c), s	6.9	2.9	3.8	9.2	0.0	45.3	21.1	6.8	0.0	2.9	0.0	15.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	103	69	627	1401	0	684	335	583		34	0	252
V/C Ratio(X)	0.88	0.43	0.57	0.31	0.00	1.02	0.96	0.26		0.94	0.00	0.90
Avail Cap(c_a), veh/h	103	320	1174	1401	0	684	335	583		91	0	252
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	49.6	15.7	22.2	0.0	32.4	43.6	27.2	0.0	53.3	0.0	45.7
Incr Delay (d2), s/veh	50.7	1.6	0.3	0.0	0.0	38.8	39.4	0.1	0.0	56.9	0.0	32.0
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	3.9	0.8	2.2	3.6	0.0	24.1	12.0	2.8	0.0	1.4	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.2	51.2	16.1	22.2	0.0	71.2	82.9	27.3	0.0	110.2	0.0	77.7
LnGrp LOS	F	D	B	C	A	F	F	C		F	A	E
Approach Vol, veh/h		479			1124			472	A		260	
Approach Delay, s/veh		34.3			52.6			65.4			81.7	
Approach LOS		C			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.9	12.3	26.6	21.2	11.6	50.6	7.6	40.2
Change Period (Y+Rc), s	5.3	* 5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	20.8	* 32	22.1	* 17	7.9	45.3	8.3	* 31
Max Q Clear Time (g_c+I1), s	11.2	5.8	23.1	17.1	8.9	47.3	4.9	8.8
Green Ext Time (p_c), s	0.6	1.0	0.0	0.0	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	153	122	300	85	165
Future Volume (veh/h)	524	153	122	300	85	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	166	133	326	92	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	974	1839	168	1294	247	219
Arrive On Green	0.53	0.53	0.10	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	166	133	326	92	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	16.2	1.6	5.7	4.9	3.7	8.6
Cycle Q Clear(g_c), s	16.2	1.6	5.7	4.9	3.7	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	974	1839	168	1294	247	219
V/C Ratio(X)	0.59	0.09	0.79	0.25	0.37	0.82
Avail Cap(c_a), veh/h	974	1839	297	1294	320	284
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.3	4.5	34.0	4.1	29.9	32.0
Incr Delay (d2), s/veh	2.6	0.1	8.0	0.5	0.9	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.6	2.6	1.3	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	4.6	42.0	4.6	30.9	45.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	736			459	271	
Approach Delay, s/veh	12.6			15.4	40.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.4	46.6			60.0	16.8
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	7.7	18.2			6.9	10.6
Green Ext Time (p_c), s	0.1	3.7			1.9	0.3

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	11	39	483
Future Vol, veh/h	175	24	6	11	39	483
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	26	7	12	42	525
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.4	8.8	15
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	71%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	117	82	39	483
LT Vol	6	0	117	58	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	483
Lane Flow Rate	11	8	127	89	42	525
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.223	0.148	0.061	0.658
Departure Headway (Hd)	6.019	5.705	6.319	5.968	5.214	4.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	623	564	596	686	798
Service Time	3.796	3.481	4.108	3.756	2.95	2.246
HCM Lane V/C Ratio	0.019	0.013	0.225	0.149	0.061	0.658
HCM Control Delay	8.9	8.6	10.9	9.8	8.3	15.5
HCM Lane LOS	A	A	B	A	A	C
HCM 95th-tile Q	0.1	0	0.8	0.5	0.2	5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	297	0	1	2	3	749
Future Vol, veh/h	297	0	1	2	3	749
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	323	0	1	2	3	814

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	817	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	508	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	508	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	508	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.33	-	-
HCM Control Delay (s)	12.1	-	10.5	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	901	218	233	30	234	153	142	68	135	90
Future Volume (veh/h)	122	53	901	218	233	30	234	153	142	68	135	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	979	237	253	33	254	166	0	74	147	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	171	358	1164	346	354	46	305	548		90	186	124
Arrive On Green	0.10	0.24	0.24	0.10	0.27	0.27	0.18	0.31	0.00	0.06	0.19	0.19
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	988	659
Grp Volume(v), veh/h	133	58	979	237	0	286	254	166	0	74	0	245
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1647
Q Serve(g_s), s	5.1	2.1	9.4	4.7	0.0	11.9	10.0	4.9	0.0	3.2	0.0	9.7
Cycle Q Clear(g_c), s	5.1	2.1	9.4	4.7	0.0	11.9	10.0	4.9	0.0	3.2	0.0	9.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	171	358	1164	346	0	401	305	548		90	0	310
V/C Ratio(X)	0.78	0.16	0.84	0.68	0.00	0.71	0.83	0.30		0.82	0.00	0.79
Avail Cap(c_a), veh/h	337	687	1771	658	0	690	600	915		265	0	551
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.0	20.4	5.1	29.4	0.0	22.5	26.8	17.8	0.0	31.7	0.0	26.4
Incr Delay (d2), s/veh	8.9	0.2	2.4	2.4	0.0	2.4	5.9	0.3	0.0	16.2	0.0	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	2.5	0.7	2.6	1.8	0.0	3.9	4.1	1.8	0.0	1.6	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	20.6	7.4	31.8	0.0	24.9	32.7	18.1	0.0	47.9	0.0	30.8
LnGrp LOS	D	C	A	C	A	C	C	B		D	A	C
Approach Vol, veh/h		1170			523			420	A		319	
Approach Delay, s/veh		11.7			28.0			26.9			34.8	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	21.7	17.0	17.0	10.4	23.7	8.5	25.5
Change Period (Y+Rc), s	5.3	* 5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	13.5	* 32	24.5	* 23	13.3	31.7	11.7	* 36
Max Q Clear Time (g_c+I1), s	6.7	11.4	12.0	11.7	7.1	13.9	5.2	6.9
Green Ext Time (p_c), s	0.4	5.0	0.6	1.1	0.2	1.4	0.1	0.8

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	456	338	366	83	169
Future Volume (veh/h)	670	456	338	366	83	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	496	367	398	90	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	836	1641	296	1290	252	224
Arrive On Green	0.45	0.45	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	728	496	367	398	90	184
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	27.5	6.8	13.0	6.4	3.6	8.8
Cycle Q Clear(g_c), s	27.5	6.8	13.0	6.4	3.6	8.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	836	1641	296	1290	252	224
V/C Ratio(X)	0.87	0.30	1.24	0.31	0.36	0.82
Avail Cap(c_a), veh/h	836	1641	296	1290	318	283
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.0	7.6	32.0	4.4	29.8	32.0
Incr Delay (d2), s/veh	12.0	0.5	133.8	0.6	0.9	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	2.6	16.1	1.7	1.5	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.0	8.1	165.9	5.0	30.7	46.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1224			765	274	
Approach Delay, s/veh	21.7			82.2	41.1	
Approach LOS	C			F	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	17.1
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	15.0	29.5			8.4	10.8
Green Ext Time (p_c), s	0.0	3.1			2.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	725	25	20	81	4	203
Future Vol, veh/h	725	25	20	81	4	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	788	27	22	88	4	221
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	30.6	10.8	12.6
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	483	267	4	203
LT Vol	20	0	483	242	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	203
Lane Flow Rate	51	59	525	290	4	221
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.103	0.115	0.891	0.482	0.008	0.38
Departure Headway (Hd)	7.292	7.074	6.104	5.991	6.907	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	491	507	594	603	518	580
Service Time	5.04	4.823	3.826	3.713	4.651	3.936
HCM Lane V/C Ratio	0.104	0.116	0.884	0.481	0.008	0.381
HCM Control Delay	10.9	10.7	39.6	14.2	9.7	12.7
HCM Lane LOS	B	B	E	B	A	B
HCM 95th-tile Q	0.3	0.4	10.6	2.6	0	1.8

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D. BACKGROUND CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	228	98	20	28	222	297
Future Vol, veh/h	228	98	20	28	222	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	308	132	27	38	300	401

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	392	300	701	0	-	0
Stage 1	300	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	586	558	710	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	564	558	710	-	-	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.8	4.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	710	-	562	-	-
HCM Lane V/C Ratio	0.038	-	0.784	-	-
HCM Control Delay (s)	10.3	-	30.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	7.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	454	511	60	281	128	90	26	132	77
Future Volume (veh/h)	74	25	0	454	511	60	281	128	90	26	132	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	554	623	73	343	156	0	32	161	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	325	148		53	269	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1184	538	1259	288	1449	1459
Grp Volume(v), veh/h	90	30	0	554	345	351	499	0	0	193	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1722	0	1259	1737	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.2	30.8	0.0	0.0	11.4	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.2	30.8	0.0	0.0	11.4	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.69		1.00	0.17		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		322	0	271
V/C Ratio(X)	0.83	0.18	0.00	1.33	0.69	0.70	1.06	0.00		0.60	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		322	0	271
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.1	40.7	0.0	0.0	41.9	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	162.9	7.8	7.7	56.8	0.0	0.0	8.0	0.0	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	2.7	0.8	0.0	30.0	9.0	9.1	19.9	0.0	0.0	5.7	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	205.9	41.8	41.8	97.5	0.0	0.0	49.9	0.0	43.3
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1250			499	A		287	
Approach Delay, s/veh		53.9			114.5			97.5			47.7	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.7		13.4	9.0	23.2		32.8
Green Ext Time (p_c), s	0.0	0.0		0.6	0.1	2.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	98.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	369	186	284	137	166
Future Volume (veh/h)	479	369	186	284	137	166
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	401	202	309	149	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	894	1724	242	1292	250	222
Arrive On Green	0.49	0.49	0.14	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	401	202	309	149	180
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.6	4.9	8.6	4.6	6.1	8.6
Cycle Q Clear(g_c), s	15.6	4.9	8.6	4.6	6.1	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	894	1724	242	1292	250	222
V/C Ratio(X)	0.58	0.23	0.84	0.24	0.60	0.81
Avail Cap(c_a), veh/h	894	1724	296	1292	319	284
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	14.2	6.2	32.3	4.1	30.9	32.0
Incr Delay (d2), s/veh	2.8	0.3	15.6	0.4	2.3	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	1.8	4.4	1.2	2.6	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	6.5	47.9	4.6	33.2	44.9
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	922			511	329	
Approach Delay, s/veh	12.4			21.7	39.6	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	16.6	43.4			60.0	17.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	10.6	17.6			6.6	10.6
Green Ext Time (p_c), s	0.1	4.4			1.8	0.4

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	191	24	6	4	16	532
Future Vol, veh/h	191	24	6	4	16	532
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	26	7	4	17	578
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.8	9	18.5
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	73%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	127	88	16	532
LT Vol	6	0	127	64	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	532
Lane Flow Rate	8	3	138	95	17	578
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.014	0.005	0.249	0.163	0.025	0.732
Departure Headway (Hd)	6.31	5.895	6.486	6.156	5.263	4.558
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	611	558	586	678	792
Service Time	4.01	3.595	4.186	3.856	3.013	2.309
HCM Lane V/C Ratio	0.014	0.005	0.247	0.162	0.025	0.73
HCM Control Delay	9.1	8.6	11.3	10.1	8.1	18.8
HCM Lane LOS	A	A	B	B	A	C
HCM 95th-tile Q	0	0	1	0.6	0.1	6.6

Intersection	
Int Delay, s/veh	24.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	309	15	139	206	35	757
Future Vol, veh/h	309	15	139	206	35	757
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	336	16	151	224	38	823

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	564	38	861	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	466	1040	486	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 321	1040	486	-	-	-
Mov Cap-2 Maneuver	~ 321	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	102.7	6.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	486	-	332	-	-
HCM Lane V/C Ratio	0.311	-	1.061	-	-
HCM Control Delay (s)	15.7	-	102.7	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.3	-	12.8	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	249	233	30	280	174	254	68	152	90
Future Volume (veh/h)	122	53	0	249	233	30	280	174	254	68	152	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	271	253	33	304	189	0	74	165	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	163	328	0	301	777	100	282	175		98	218	208
Arrive On Green	0.09	0.22	0.00	0.18	0.30	0.30	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1048	651	1535	539	1201	1144
Grp Volume(v), veh/h	133	58	0	271	141	145	493	0	0	239	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1699	0	1535	1740	0	1144
Q Serve(g_s), s	8.7	3.6	0.0	17.8	8.7	8.8	30.8	0.0	0.0	14.9	0.0	8.8
Cycle Q Clear(g_c), s	8.7	3.6	0.0	17.8	8.7	8.8	30.8	0.0	0.0	14.9	0.0	8.8
Prop In Lane	1.00		0.00	1.00		0.23	0.62		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	163	328	0	301	436	441	457	0		316	0	208
V/C Ratio(X)	0.82	0.18	0.00	0.90	0.32	0.33	1.08	0.00		0.76	0.00	0.47
Avail Cap(c_a), veh/h	321	328	0	393	436	441	457	0		316	0	208
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	36.1	0.0	46.2	30.8	30.9	41.9	0.0	0.0	44.4	0.0	41.9
Incr Delay (d2), s/veh	11.3	1.2	0.0	19.2	2.0	2.0	64.8	0.0	0.0	15.5	0.0	7.5
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	4.3	1.4	0.0	8.9	3.1	3.2	20.5	0.0	0.0	7.8	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	37.3	0.0	65.4	32.8	32.9	106.7	0.0	0.0	59.9	0.0	49.4
LnGrp LOS	E	D	A	E	C	C	F	A		E	A	D
Approach Vol, veh/h		191			557			493	A		337	
Approach Delay, s/veh		54.7			48.7			106.7			56.9	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.9	30.6		25.0	14.5	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	19.8	5.6		16.9	10.7	10.8		32.8
Green Ext Time (p_c), s	0.4	0.1		0.6	0.3	1.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	541	357	336	282	246
Future Volume (veh/h)	662	541	357	336	282	246
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	588	388	365	307	267
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	736	1586	390	1268	312	277
Arrive On Green	0.40	0.40	0.22	0.69	0.18	0.18
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	588	388	365	307	267
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	34.7	10.4	19.9	6.9	15.7	15.3
Cycle Q Clear(g_c), s	34.7	10.4	19.9	6.9	15.7	15.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	736	1586	390	1268	312	277
V/C Ratio(X)	0.98	0.37	1.00	0.29	0.99	0.96
Avail Cap(c_a), veh/h	736	1586	390	1268	312	277
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	26.6	10.2	35.0	5.4	36.9	36.7
Incr Delay (d2), s/veh	28.2	0.7	44.6	0.6	46.8	43.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	4.4	12.7	2.1	10.5	9.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.8	10.9	79.6	6.0	83.6	80.5
LnGrp LOS	D	B	E	A	F	F
Approach Vol, veh/h	1308			753	574	
Approach Delay, s/veh	35.1			43.9	82.2	
Approach LOS	D			D	F	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	26.0	42.0			68.0	22.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 20	* 36			* 62	16.0
Max Q Clear Time (g_c+I1), s	21.9	36.7			8.9	17.7
Green Ext Time (p_c), s	0.0	0.0			2.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	34.6
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	791	25	20	67	0	233
Future Vol, veh/h	791	25	20	67	0	233
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	860	27	22	73	0	253
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	43	10.9	14.1
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	91%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	527	289	0	233
LT Vol	20	0	527	264	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	233
Lane Flow Rate	46	49	573	314	0	253
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.096	0.098	0.985	0.53	0	0.446
Departure Headway (Hd)	7.519	7.277	6.185	6.08	7.048	6.333
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	492	590	593	0	567
Service Time	5.272	5.031	3.911	3.806	4.796	4.081
HCM Lane V/C Ratio	0.097	0.1	0.971	0.53	0	0.446
HCM Control Delay	11.1	10.8	58.1	15.5	9.8	14.1
HCM Lane LOS	B	B	F	C	N	B
HCM 95th-tile Q	0.3	0.3	14.1	3.1	0	2.3

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	18	1.0	0.057	3.6	LOS A	0.3	7.5	0.37	0.20	0.37	33.8
8	T1	48	1.0	0.057	3.6	LOS A	0.3	7.5	0.37	0.20	0.37	35.3
18	R2	107	3.0	0.076	3.2	LOS A	0.4	10.9	0.36	0.18	0.36	35.0
Approach		173	2.2	0.076	3.3	LOS A	0.4	10.9	0.37	0.19	0.37	35.0
East: E. Alisal St												
1	L2	261	10.0	0.215	4.9	LOS A	1.2	32.1	0.25	0.11	0.25	32.5
6	T1	319	0.0	0.204	3.9	LOS A	1.2	28.9	0.22	0.09	0.22	34.6
16	R2	3	0.0	0.204	3.9	LOS A	1.2	28.9	0.22	0.09	0.22	34.8
Approach		583	4.5	0.215	4.3	LOS A	1.2	32.1	0.23	0.10	0.23	33.4
North: Quilla St												
7	L2	5	0.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.5
4	T1	318	1.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.3
14	R2	39	0.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	30.1
Approach		363	0.9	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.0
West: E. Alisal St												
5	L2	5	0.0	0.159	4.5	LOS A	1.0	26.3	0.66	0.49	0.66	34.1
2	T1	173	3.0	0.159	4.6	LOS A	1.0	26.3	0.66	0.49	0.66	33.8
12	R2	93	2.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		271	2.6	0.159	3.1	LOS A	1.0	26.3	0.43	0.33	0.43	34.6
All Vehicles		1390	2.9	0.407	5.1	LOS A	2.1	52.7	0.38	0.29	0.40	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

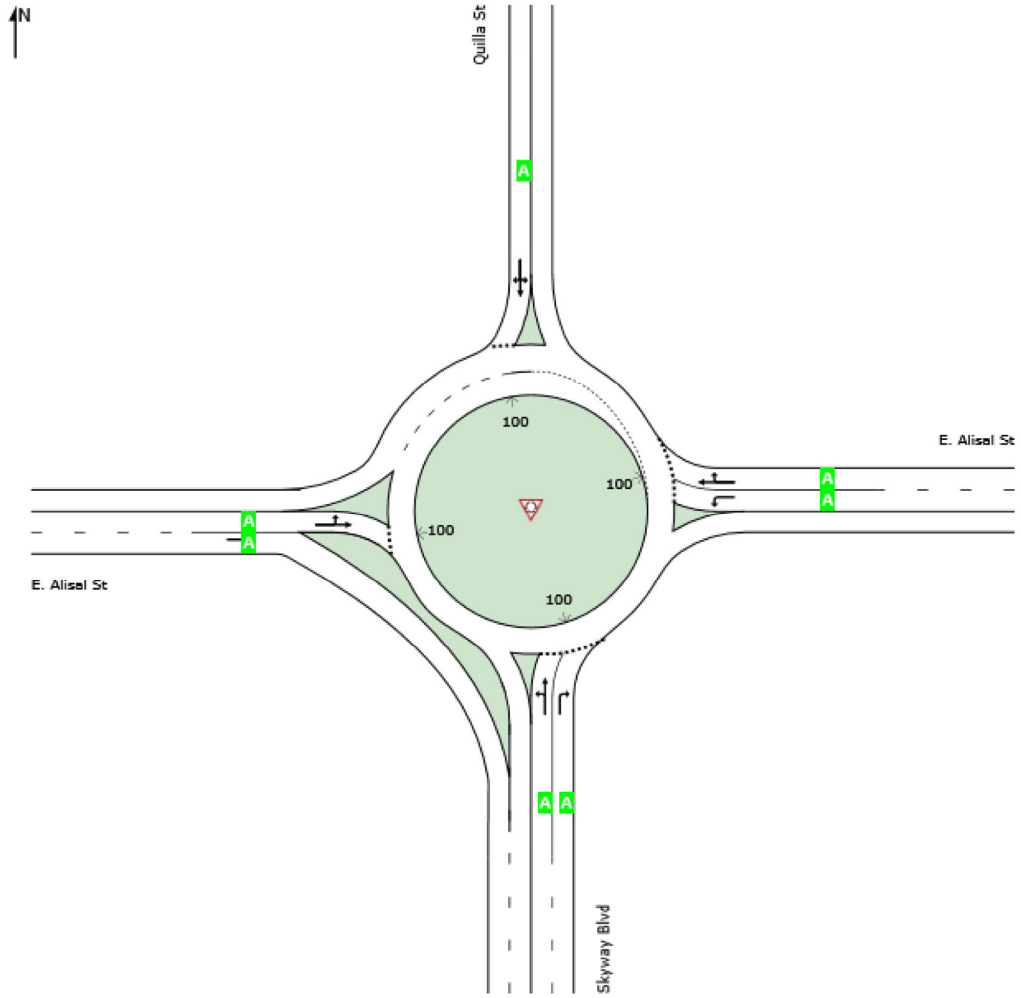
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	194	1.0	0.668	15.8	LOS C	8.8	221.1	0.92	1.06	1.41	26.9
8	T1	369	1.0	0.668	15.8	LOS C	8.8	221.1	0.92	1.06	1.41	29.6
18	R2	719	3.0	0.669	13.2	LOS B	9.5	242.2	0.91	0.98	1.32	30.2
Approach		1282	2.1	0.669	14.3	LOS B	9.5	242.2	0.92	1.01	1.36	29.6
East: E. Alisal St												
1	L2	171	10.0	0.253	8.4	LOS A	1.6	44.3	0.77	0.67	0.77	31.0
6	T1	414	0.0	0.406	7.8	LOS A	3.4	85.5	0.83	0.68	0.83	31.9
16	R2	14	0.0	0.406	7.8	LOS A	3.4	85.5	0.83	0.68	0.83	32.8
Approach		599	2.9	0.406	8.0	LOS A	3.4	85.5	0.81	0.68	0.81	31.6
North: Quilla St												
7	L2	17	0.0	0.283	8.2	LOS A	1.4	35.9	0.68	0.67	0.68	33.5
4	T1	121	1.0	0.283	8.3	LOS A	1.4	35.9	0.68	0.67	0.68	33.4
14	R2	70	0.0	0.283	8.2	LOS A	1.4	35.9	0.68	0.67	0.68	30.2
Approach		209	0.6	0.283	8.3	LOS A	1.4	35.9	0.68	0.67	0.68	32.5
West: E. Alisal St												
5	L2	27	0.0	0.431	6.9	LOS A	3.1	78.9	0.58	0.42	0.58	32.5
2	T1	537	3.0	0.431	7.0	LOS A	3.1	78.9	0.58	0.42	0.58	32.2
12	R2	78	2.0	0.047	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		641	2.8	0.431	6.1	LOS A	3.1	78.9	0.51	0.37	0.51	32.7
All Vehicles		2731	2.3	0.669	10.6	LOS B	9.5	242.2	0.78	0.76	0.99	30.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

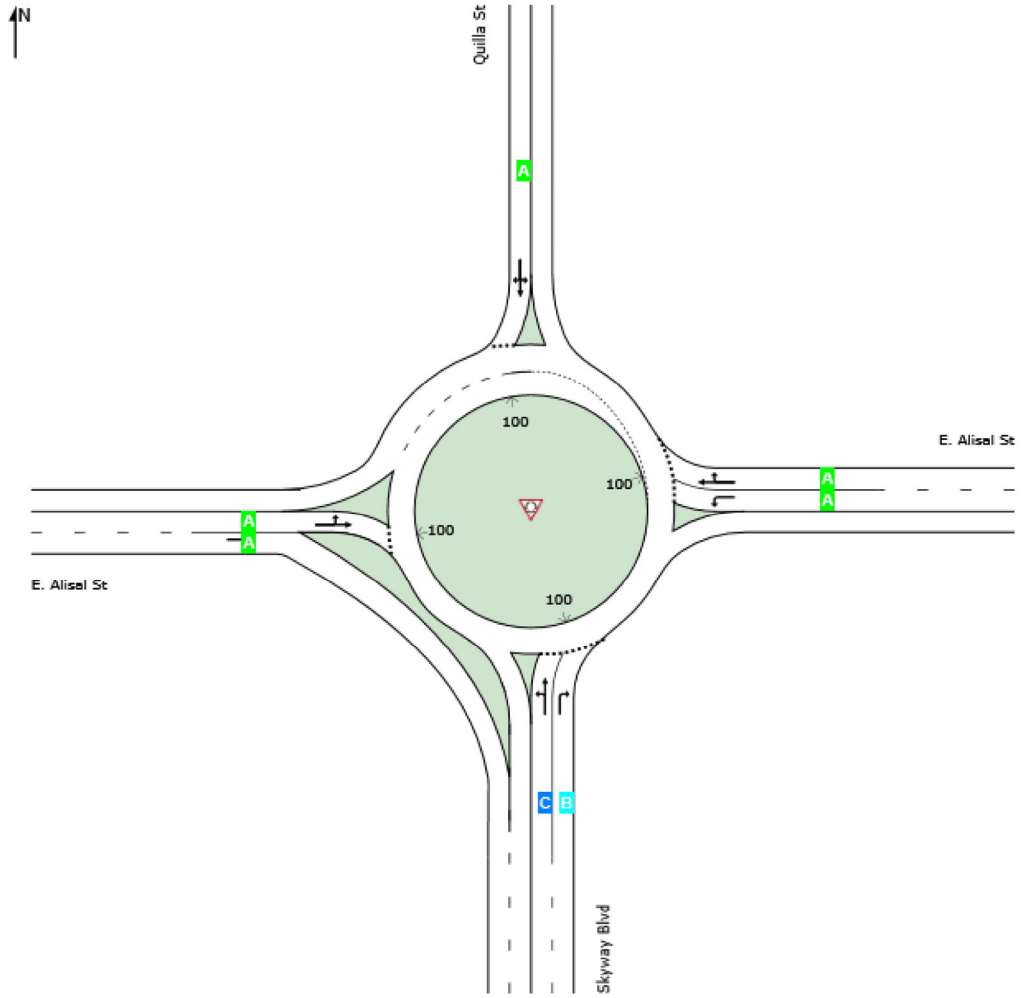
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Kimley»Horn

E. BACKGROUND PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	251	98	20	28	222	305
Future Vol, veh/h	251	98	20	28	222	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	339	132	27	38	300	412

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	392	300	712	0	-	0
Stage 1	300	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	586	558	703	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	564	558	703	-	-	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.3	4.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	703	-	562	-	-
HCM Lane V/C Ratio	0.038	-	0.839	-	-
HCM Control Delay (s)	10.3	-	36.3	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	8.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	483	511	60	283	132	100	26	143	77
Future Volume (veh/h)	74	25	0	483	511	60	283	132	100	26	143	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	589	623	73	345	161	0	32	174	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	110	164	0	417	896	105	322	150		50	272	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1175	548	1259	270	1468	1459
Grp Volume(v), veh/h	90	30	0	589	345	351	506	0	0	206	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1723	0	1259	1738	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.3	30.8	0.0	0.0	12.3	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.3	30.8	0.0	0.0	12.3	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.68		1.00	0.16		1.00
Lane Grp Cap(c), veh/h	110	164	0	417	497	504	472	0		322	0	270
V/C Ratio(X)	0.82	0.18	0.00	1.41	0.69	0.70	1.07	0.00		0.64	0.00	0.35
Avail Cap(c_a), veh/h	271	164	0	417	497	504	472	0		322	0	270
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.2	40.8	0.0	0.0	42.3	0.0	39.9
Incr Delay (d2), s/veh	16.4	2.4	0.0	199.2	7.8	7.8	61.7	0.0	0.0	9.4	0.0	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	3.0	0.8	0.0	34.2	9.0	9.1	20.5	0.0	0.0	6.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	44.0	0.0	242.2	41.9	41.9	102.5	0.0	0.0	51.7	0.0	43.4
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1285			506	A		300	
Approach Delay, s/veh		61.6			133.7			102.5			49.1	
Approach LOS		E			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.3		25.0	12.3	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.7		14.3	9.0	23.3		32.8
Green Ext Time (p_c), s	0.0	0.0		0.8	0.2	3.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	111.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	369	194	300	137	189
Future Volume (veh/h)	524	369	194	300	137	189
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	401	211	326	149	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	867	1722	250	1271	274	244
Arrive On Green	0.47	0.47	0.14	0.69	0.16	0.16
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	401	211	326	149	205
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	18.6	5.0	9.2	5.2	6.1	10.0
Cycle Q Clear(g_c), s	18.6	5.0	9.2	5.2	6.1	10.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	867	1722	250	1271	274	244
V/C Ratio(X)	0.66	0.23	0.84	0.26	0.54	0.84
Avail Cap(c_a), veh/h	867	1722	291	1271	314	279
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	15.9	6.4	32.7	4.6	30.4	32.1
Incr Delay (d2), s/veh	3.9	0.3	17.6	0.5	1.7	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	1.9	4.8	1.4	2.6	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	6.7	50.3	5.0	32.1	50.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	971			537	354	
Approach Delay, s/veh	14.4			22.8	42.6	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	17.2	42.8			60.0	18.2
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	11.2	20.6			7.2	12.0
Green Ext Time (p_c), s	0.1	4.4			1.9	0.3

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	199	24	6	11	39	555
Future Vol, veh/h	199	24	6	11	39	555
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	26	7	12	42	603
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	11.1	9	20.5
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	73%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	133	90	39	555
LT Vol	6	0	133	66	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	555
Lane Flow Rate	11	8	144	98	42	603
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.265	0.172	0.063	0.772
Departure Headway (Hd)	6.309	5.994	6.618	6.297	5.308	4.604
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	599	547	573	671	784
Service Time	4.026	3.711	4.318	3.997	3.067	2.362
HCM Lane V/C Ratio	0.019	0.013	0.263	0.171	0.063	0.769
HCM Control Delay	9.1	8.8	11.7	10.3	8.4	21.3
HCM Lane LOS	A	A	B	B	A	C
HCM 95th-tile Q	0.1	0	1.1	0.6	0.2	7.6

Intersection	
Int Delay, s/veh	25.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	313	15	139	206	35	772
Future Vol, veh/h	313	15	139	206	35	772
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	340	16	151	224	38	839

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	564	38	877	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	466	1040	478	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 319	1040	478	-	-	-
Mov Cap-2 Maneuver	~ 319	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	110.2	6.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	478	-	329	-	-
HCM Lane V/C Ratio	0.316	-	1.084	-	-
HCM Control Delay (s)	16	-	110.2	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.3	-	13.4	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	254	233	30	284	181	263	68	154	90
Future Volume (veh/h)	122	53	0	254	233	30	284	181	263	68	154	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	276	253	33	309	197	0	74	167	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	163	324	0	306	777	100	279	178		97	219	208
Arrive On Green	0.09	0.22	0.00	0.18	0.30	0.30	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1038	662	1535	534	1206	1144
Grp Volume(v), veh/h	133	58	0	276	141	145	506	0	0	241	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1740	0	1144
Q Serve(g_s), s	8.7	3.6	0.0	18.1	8.7	8.8	30.8	0.0	0.0	15.1	0.0	8.8
Cycle Q Clear(g_c), s	8.7	3.6	0.0	18.1	8.7	8.8	30.8	0.0	0.0	15.1	0.0	8.8
Prop In Lane	1.00		0.00	1.00		0.23	0.61		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	163	324	0	306	436	441	457	0		316	0	208
V/C Ratio(X)	0.82	0.18	0.00	0.90	0.32	0.33	1.11	0.00		0.76	0.00	0.47
Avail Cap(c_a), veh/h	321	324	0	393	436	441	457	0		316	0	208
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	36.4	0.0	46.0	30.8	30.9	41.9	0.0	0.0	44.5	0.0	41.9
Incr Delay (d2), s/veh	11.3	1.2	0.0	19.8	2.0	2.0	74.3	0.0	0.0	15.9	0.0	7.5
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	4.3	1.4	0.0	9.1	3.1	3.2	21.8	0.0	0.0	7.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	37.6	0.0	65.8	32.8	32.9	116.2	0.0	0.0	60.4	0.0	49.4
LnGrp LOS	E	D	A	E	C	C	F	A		E	A	D
Approach Vol, veh/h		191			562			506	A		339	
Approach Delay, s/veh		54.7			49.0			116.2			57.2	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.2	30.3		25.0	14.5	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	20.1	5.6		17.1	10.7	10.8		32.8
Green Ext Time (p_c), s	0.4	0.1		0.6	0.3	1.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	72.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	541	372	366	282	250
Future Volume (veh/h)	670	541	372	366	282	250
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	588	404	398	307	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	736	1586	390	1268	312	277
Arrive On Green	0.40	0.40	0.22	0.69	0.18	0.18
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	728	588	404	398	307	272
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	35.3	10.4	20.0	7.7	15.7	15.6
Cycle Q Clear(g_c), s	35.3	10.4	20.0	7.7	15.7	15.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	736	1586	390	1268	312	277
V/C Ratio(X)	0.99	0.37	1.04	0.31	0.99	0.98
Avail Cap(c_a), veh/h	736	1586	390	1268	312	277
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	26.8	10.2	35.0	5.6	36.9	36.8
Incr Delay (d2), s/veh	30.5	0.7	55.5	0.6	46.8	48.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.0	4.4	13.9	2.4	10.5	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.3	10.9	90.5	6.2	83.6	85.4
LnGrp LOS	E	B	F	A	F	F
Approach Vol, veh/h	1316			802	579	
Approach Delay, s/veh	36.6			48.7	84.5	
Approach LOS	D			D	F	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	26.0	42.0			68.0	22.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 20	* 36			* 62	16.0
Max Q Clear Time (g_c+I1), s	22.0	37.3			9.7	17.7
Green Ext Time (p_c), s	0.0	0.0			2.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	38.1
Intersection LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	806	25	20	81	4	237
Future Vol, veh/h	806	25	20	81	4	237
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	876	27	22	88	4	258
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	48.2	11.1	14.4
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	537	294	4	237
LT Vol	20	0	537	269	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	237
Lane Flow Rate	51	59	584	319	4	258
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.106	0.12	1.014	0.545	0.009	0.459
Departure Headway (Hd)	7.631	7.357	6.253	6.15	7.126	6.41
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	487	584	587	502	562
Service Time	5.331	5.113	3.98	3.877	4.876	4.161
HCM Lane V/C Ratio	0.108	0.121	1	0.543	0.008	0.459
HCM Control Delay	11.2	11.1	65.8	16	9.9	14.5
HCM Lane LOS	B	B	F	C	A	B
HCM 95th-tile Q	0.4	0.4	15.3	3.3	0	2.4

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	23	1.0	0.065	3.6	LOS A	0.3	8.8	0.38	0.20	0.38	33.7
8	T1	53	1.0	0.065	3.6	LOS A	0.3	8.8	0.38	0.20	0.38	35.1
18	R2	113	3.0	0.080	3.2	LOS A	0.5	11.5	0.36	0.19	0.36	35.0
Approach		189	2.2	0.080	3.4	LOS A	0.5	11.5	0.37	0.19	0.37	34.9
East: E. Alisal St												
1	L2	276	10.0	0.229	5.0	LOS A	1.3	34.6	0.27	0.12	0.27	32.4
6	T1	319	0.0	0.205	3.9	LOS A	1.2	29.2	0.24	0.10	0.24	34.6
16	R2	3	0.0	0.205	3.9	LOS A	1.2	29.2	0.24	0.10	0.24	34.8
Approach		598	4.6	0.229	4.4	LOS A	1.3	34.6	0.25	0.11	0.25	33.4
North: Quilla St												
7	L2	5	0.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	33.2
4	T1	335	1.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	33.1
14	R2	39	0.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	29.8
Approach		380	0.9	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	32.8
West: E. Alisal St												
5	L2	5	0.0	0.163	4.6	LOS A	1.1	27.5	0.68	0.52	0.68	34.0
2	T1	173	3.0	0.163	4.8	LOS A	1.1	27.5	0.68	0.52	0.68	33.8
12	R2	110	2.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		288	2.6	0.163	3.0	LOS A	1.1	27.5	0.42	0.32	0.42	34.7
All Vehicles		1455	2.9	0.431	5.3	LOS A	2.4	60.1	0.39	0.31	0.43	33.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

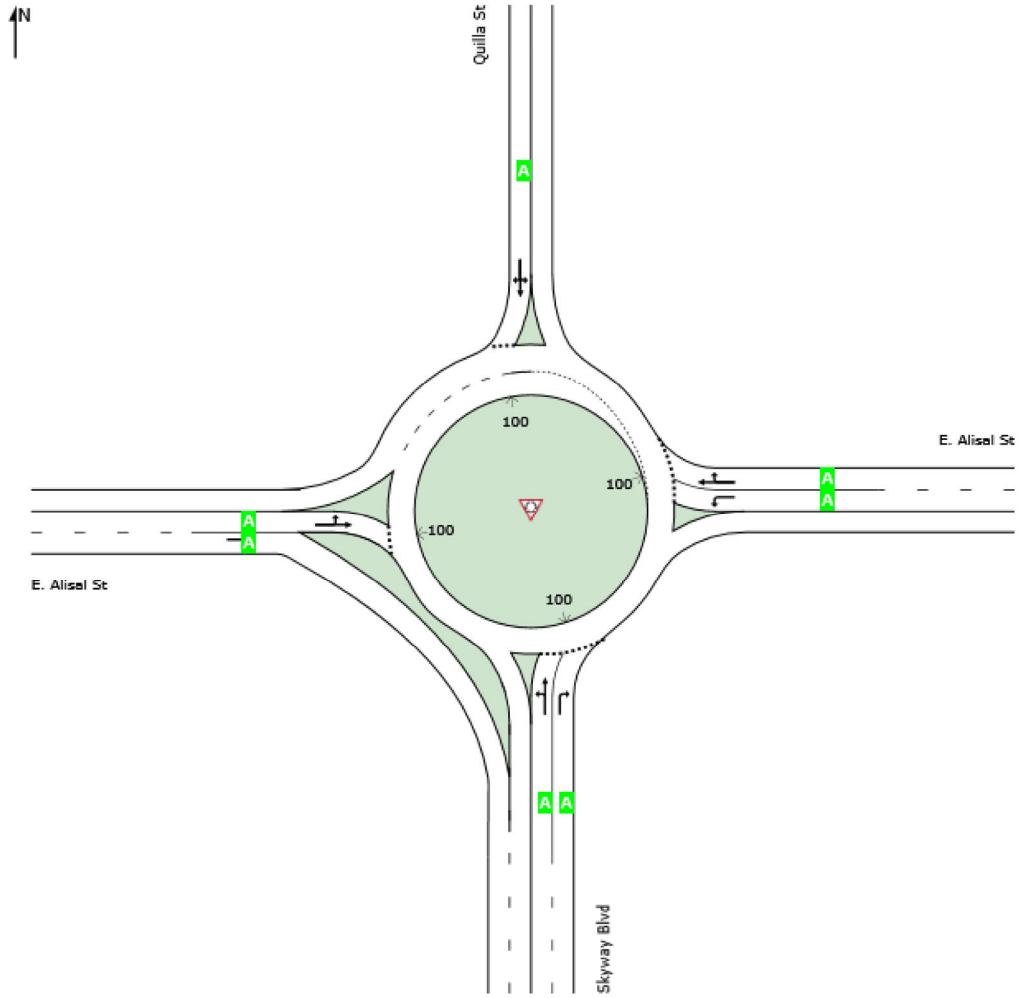
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	204	1.0	0.694	16.9	LOS C	9.7	245.2	0.94	1.10	1.50	26.5
8	T1	380	1.0	0.694	16.9	LOS C	9.7	245.2	0.94	1.10	1.50	29.2
18	R2	729	3.0	0.679	13.5	LOS B	9.9	252.6	0.92	0.99	1.35	30.1
Approach		1313	2.1	0.694	15.0	LOS C	9.9	252.6	0.93	1.04	1.41	29.3
East: E. Alisal St												
1	L2	173	10.0	0.263	8.7	LOS A	1.7	46.7	0.79	0.70	0.79	30.8
6	T1	414	0.0	0.416	8.1	LOS A	3.6	89.2	0.85	0.70	0.85	31.8
16	R2	14	0.0	0.416	8.1	LOS A	3.6	89.2	0.85	0.70	0.85	32.7
Approach		601	2.9	0.416	8.3	LOS A	3.6	89.2	0.84	0.70	0.84	31.4
North: Quilla St												
7	L2	17	0.0	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	33.5
4	T1	124	1.0	0.291	8.5	LOS A	1.5	37.1	0.69	0.68	0.69	33.3
14	R2	70	0.0	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	30.1
Approach		212	0.6	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	32.4
West: E. Alisal St												
5	L2	27	0.0	0.433	6.9	LOS A	3.1	79.5	0.59	0.42	0.59	32.4
2	T1	537	3.0	0.433	7.0	LOS A	3.1	79.5	0.59	0.42	0.59	32.2
12	R2	81	2.0	0.049	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		645	2.8	0.433	6.1	LOS A	3.1	79.5	0.52	0.37	0.52	32.7
All Vehicles		2770	2.3	0.694	11.0	LOS B	9.9	252.6	0.79	0.78	1.02	30.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

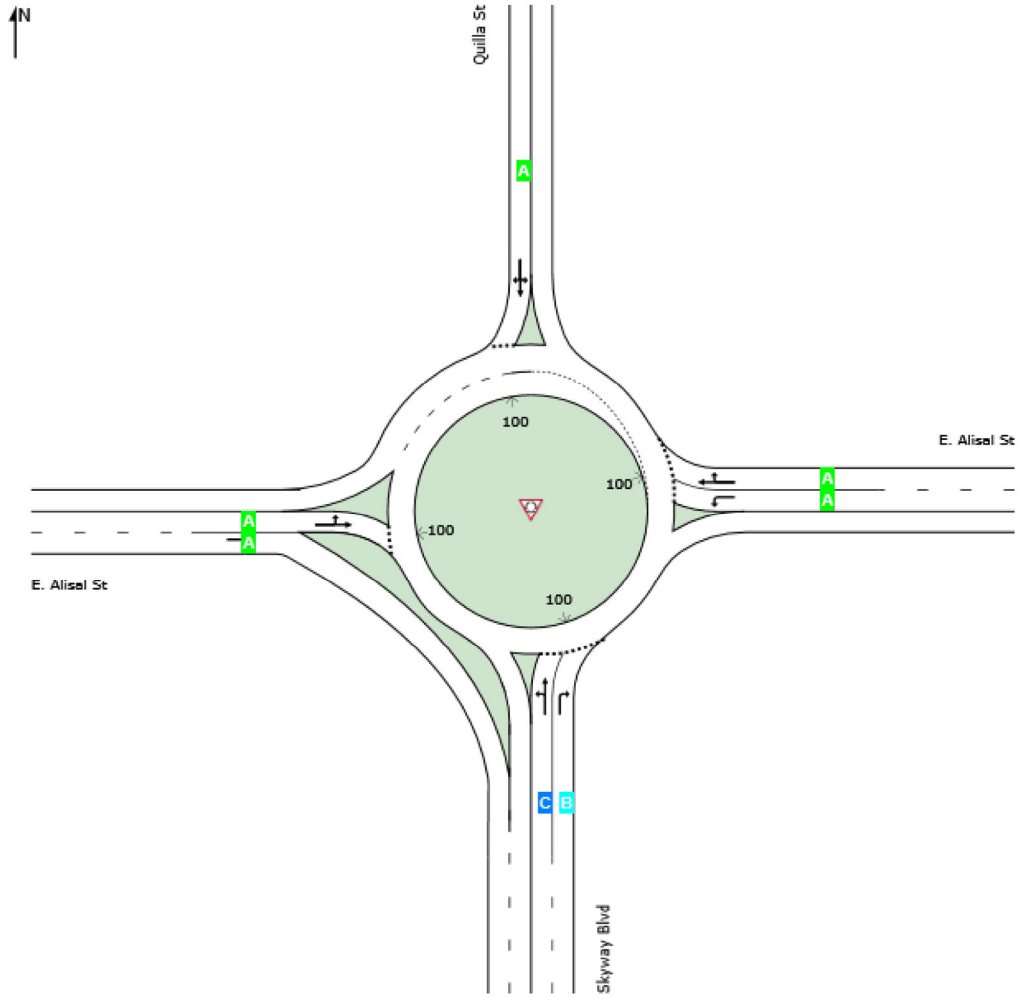
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	C	A	A	A	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

HCM 6th Signalized Intersection Summary
1: Roy Diaz Street & US 101 NB Ramps

09/09/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	251	98	20	28	222	305
Future Volume (veh/h)	251	98	20	28	222	305
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	339	132	27	38	300	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	399	155	35	516	368	
Arrive On Green	0.36	0.36	0.03	0.45	0.32	0.00
Sat Flow, veh/h	1099	428	1104	1159	1159	1359
Grp Volume(v), veh/h	472	0	27	38	300	0
Grp Sat Flow(s),veh/h/ln	1531	0	1104	1159	1159	1359
Q Serve(g_s), s	13.3	0.0	1.1	0.9	11.2	0.0
Cycle Q Clear(g_c), s	13.3	0.0	1.1	0.9	11.2	0.0
Prop In Lane	0.72	0.28	1.00			1.00
Lane Grp Cap(c), veh/h	555	0	35	516	368	
V/C Ratio(X)	0.85	0.00	0.77	0.07	0.82	
Avail Cap(c_a), veh/h	1947	0	153	1276	1003	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.7	0.0	22.5	7.4	14.7	0.0
Incr Delay (d2), s/veh	3.8	0.0	29.5	0.1	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.5	0.2	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.5	0.0	52.0	7.5	19.2	0.0
LnGrp LOS	B	A	D	A	B	
Approach Vol, veh/h	472			65	300	A
Approach Delay, s/veh	17.5			26.0	19.2	
Approach LOS	B			C	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.5	6.0	19.3		25.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		59.5	6.5	40.5		51.5
Max Q Clear Time (g_c+I1), s		15.3	3.1	13.2		2.9
Green Ext Time (p_c), s		1.7	0.0	1.9		0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	345	483	511	60	283	132	100	26	143	77
Future Volume (veh/h)	74	25	345	483	511	60	283	132	100	26	143	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	421	589	623	73	345	161	0	32	174	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	299	1160	675	593	70	356	605		34	165	89
Arrive On Green	0.07	0.28	0.28	0.20	0.40	0.40	0.21	0.34	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	1070	578
Grp Volume(v), veh/h	90	30	421	589	0	696	345	161	0	32	0	268
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1648
Q Serve(g_s), s	6.9	2.3	12.1	18.2	0.0	43.9	22.6	7.2	0.0	2.9	0.0	17.0
Cycle Q Clear(g_c), s	6.9	2.3	12.1	18.2	0.0	43.9	22.6	7.2	0.0	2.9	0.0	17.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	103	299	1160	675	0	663	356	605		34	0	255
V/C Ratio(X)	0.88	0.10	0.36	0.87	0.00	1.05	0.97	0.27		0.94	0.00	1.05
Avail Cap(c_a), veh/h	103	299	1160	845	0	663	356	605		91	0	255
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	29.7	17.4	42.9	0.0	33.1	42.9	26.4	0.0	53.3	0.0	46.5
Incr Delay (d2), s/veh	52.6	0.7	0.9	8.4	0.0	48.7	39.1	1.1	0.0	56.9	0.0	70.8
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	4.0	0.7	3.2	8.3	0.0	25.3	12.8	3.1	0.0	1.4	0.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	30.3	18.3	51.3	0.0	81.8	81.9	27.4	0.0	110.2	0.0	117.3
LnGrp LOS	F	C	B	D	A	F	F	C		F	A	F
Approach Vol, veh/h		541			1285			506	A		300	
Approach Delay, s/veh		33.1			67.8			64.6			116.6	
Approach LOS		C			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.2	35.6	28.0	21.2	11.6	49.2	7.6	41.6
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	26.3	24.9	23.5	* 17	7.9	43.9	8.3	* 32
Max Q Clear Time (g_c+I1), s	20.2	14.1	24.6	19.0	8.9	45.9	4.9	9.2
Green Ext Time (p_c), s	1.3	1.5	0.0	0.0	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	369	194	300	137	189
Future Volume (veh/h)	524	369	194	300	137	189
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	401	211	326	149	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	923	1769	334	1262	250	223
Arrive On Green	0.50	0.50	0.10	0.69	0.14	0.14
Sat Flow, veh/h	1841	2745	3401	1841	1753	1560
Grp Volume(v), veh/h	570	401	211	326	149	205
Grp Sat Flow(s),veh/h/ln	1841	1373	1700	1841	1753	1560
Q Serve(g_s), s	15.6	4.3	4.2	4.7	5.6	9.1
Cycle Q Clear(g_c), s	15.6	4.3	4.2	4.7	5.6	9.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	923	1769	334	1262	250	223
V/C Ratio(X)	0.62	0.23	0.63	0.26	0.59	0.92
Avail Cap(c_a), veh/h	923	1769	340	1262	250	223
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.6	5.2	30.3	4.2	28.1	29.6
Incr Delay (d2), s/veh	3.1	0.3	3.6	0.5	3.8	39.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.5	1.7	1.2	2.5	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.7	5.5	34.0	4.7	31.9	68.6
LnGrp LOS	B	A	C	A	C	E
Approach Vol, veh/h	971			537	354	
Approach Delay, s/veh	11.5			16.2	53.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.9	41.1			54.0	16.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 7	* 35			* 48	10.0
Max Q Clear Time (g_c+I1), s	6.2	17.6			6.7	11.1
Green Ext Time (p_c), s	0.1	4.8			1.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	199	24	6	11	39	555
Future Volume (veh/h)	199	24	6	11	39	555
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	0	7	12	42	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	702		532	724	536	
Arrive On Green	0.20	0.00	0.29	0.29	0.29	0.00
Sat Flow, veh/h	3563	1610	701	2611	1870	1585
Grp Volume(v), veh/h	240	0	12	7	42	0
Grp Sat Flow(s),veh/h/ln	1781	1610	1611	1617	1870	1585
Q Serve(g_s), s	1.0	0.0	0.0	0.1	0.3	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.1	0.1	0.3	0.0
Prop In Lane	1.00	1.00	0.60			1.00
Lane Grp Cap(c), veh/h	702		793	464	536	
V/C Ratio(X)	0.34		0.01	0.02	0.08	
Avail Cap(c_a), veh/h	3678		1933	1669	1931	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	4.5	4.5	4.5	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	0.0	4.5	4.5	4.6	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	240	A		19	42	A
Approach Delay, s/veh	6.3			4.5	4.6	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		9.5		7.9		9.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		2.1		3.0		2.3
Green Ext Time (p_c), s		0.0		0.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

HCM 6th Signalized Intersection Summary
1: Roy Diaz Street & US 101 NB Ramps

09/09/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	313	15	139	206	35	772
Future Volume (veh/h)	313	15	139	206	35	772
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	418	1900	1411	1811
Adj Flow Rate, veh/h	340	16	151	224	38	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	100	0	33	6
Cap, veh/h	412	19	148	1051	134	
Arrive On Green	0.27	0.27	0.37	0.55	0.09	0.00
Sat Flow, veh/h	1514	71	398	1900	1411	1535
Grp Volume(v), veh/h	357	0	151	224	38	0
Grp Sat Flow(s),veh/h/ln	1589	0	398	1900	1411	1535
Q Serve(g_s), s	10.9	0.0	19.2	3.1	1.3	0.0
Cycle Q Clear(g_c), s	10.9	0.0	19.2	3.1	1.3	0.0
Prop In Lane	0.95	0.04	1.00			1.00
Lane Grp Cap(c), veh/h	433	0	148	1051	134	
V/C Ratio(X)	0.82	0.00	1.02	0.21	0.28	
Avail Cap(c_a), veh/h	1663	0	266	2098	492	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	0.0	16.2	5.8	21.7	0.0
Incr Delay (d2), s/veh	4.0	0.0	47.5	0.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	3.3	0.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	0.0	63.7	5.9	22.9	0.0
LnGrp LOS	C	A	F	A	C	
Approach Vol, veh/h	357			375	38	A
Approach Delay, s/veh	21.6			29.2	22.9	
Approach LOS	C			C	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		18.5	23.6	9.4		33.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		54.0	34.5	18.0		57.0
Max Q Clear Time (g_c+I1), s		12.9	21.2	3.3		5.1
Green Ext Time (p_c), s		1.1	0.4	0.1		1.3

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

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

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	932	254	233	30	284	181	263	68	154	90
Future Volume (veh/h)	122	53	932	254	233	30	284	181	263	68	154	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	1013	276	253	33	309	197	0	74	167	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	165	343	1203	367	322	42	346	652		91	233	137
Arrive On Green	0.10	0.23	0.23	0.11	0.25	0.25	0.21	0.37	0.00	0.06	0.22	0.22
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	1043	612
Grp Volume(v), veh/h	133	58	1013	276	0	286	309	197	0	74	0	265
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1655
Q Serve(g_s), s	5.9	2.4	17.9	6.3	0.0	14.0	14.0	6.2	0.0	3.7	0.0	11.5
Cycle Q Clear(g_c), s	5.9	2.4	17.9	6.3	0.0	14.0	14.0	6.2	0.0	3.7	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	165	343	1203	367	0	364	346	652		91	0	370
V/C Ratio(X)	0.81	0.17	0.84	0.75	0.00	0.79	0.89	0.30		0.81	0.00	0.72
Avail Cap(c_a), veh/h	184	343	1203	516	0	364	375	652		202	0	370
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	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	24.0	19.5	33.6	0.0	27.4	30.0	17.3	0.0	36.2	0.0	27.9
Incr Delay (d2), s/veh	21.4	1.1	7.2	3.9	0.0	15.5	21.6	1.2	0.0	15.8	0.0	11.2
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	3.4	0.9	8.1	2.6	0.0	6.1	7.2	2.4	0.0	1.8	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	25.0	26.7	37.4	0.0	43.0	51.6	18.5	0.0	52.0	0.0	39.2
LnGrp LOS	E	C	C	D	A	D	D	B		D	A	D
Approach Vol, veh/h		1204			562			506	A		339	
Approach Delay, s/veh		29.8			40.3			38.7			42.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	23.2	20.6	21.6	11.1	24.4	9.1	33.2
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	12.1	15.3	17.5	* 17	8.3	19.1	10.2	* 25
Max Q Clear Time (g_c+I1), s	8.3	19.9	16.0	13.5	7.9	16.0	5.7	8.2
Green Ext Time (p_c), s	0.3	0.0	0.2	0.6	0.0	0.4	0.1	0.8

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	541	372	366	282	250
Future Volume (veh/h)	670	541	372	366	282	250
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	588	404	398	307	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	864	1825	456	1234	342	305
Arrive On Green	0.47	0.47	0.13	0.67	0.20	0.20
Sat Flow, veh/h	1841	2745	3401	1841	1753	1560
Grp Volume(v), veh/h	728	588	404	398	307	272
Grp Sat Flow(s),veh/h/ln	1841	1373	1700	1841	1753	1560
Q Serve(g_s), s	31.1	8.2	10.4	8.1	15.3	15.2
Cycle Q Clear(g_c), s	31.1	8.2	10.4	8.1	15.3	15.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	864	1825	456	1234	342	305
V/C Ratio(X)	0.84	0.32	0.89	0.32	0.90	0.89
Avail Cap(c_a), veh/h	864	1825	456	1234	353	314
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	20.8	6.4	38.1	6.2	35.1	35.1
Incr Delay (d2), s/veh	9.8	0.5	21.5	0.7	24.0	25.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	3.7	5.5	2.6	8.6	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.6	6.9	59.6	6.9	59.1	60.6
LnGrp LOS	C	A	E	A	E	E
Approach Vol, veh/h	1316			802	579	
Approach Delay, s/veh	20.0			33.4	59.8	
Approach LOS	C			C	E	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.0	48.0			66.0	23.5
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 42			* 60	18.0
Max Q Clear Time (g_c+I1), s	12.4	33.1			10.1	17.3
Green Ext Time (p_c), s	0.0	4.6			2.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	806	25	20	81	4	237
Future Volume (veh/h)	806	25	20	81	4	237
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	901	0	22	88	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	1439		281	644	398	
Arrive On Green	0.40	0.00	0.21	0.21	0.21	0.00
Sat Flow, veh/h	3563	1610	349	3110	1870	1585
Grp Volume(v), veh/h	901	0	63	47	4	0
Grp Sat Flow(s),veh/h/ln	1781	1610	1757	1617	1870	1585
Q Serve(g_s), s	4.7	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	0.6	0.6	0.0	0.0
Prop In Lane	1.00	1.00	0.35			1.00
Lane Grp Cap(c), veh/h	1439		581	344	398	
V/C Ratio(X)	0.63		0.11	0.14	0.01	
Avail Cap(c_a), veh/h	2730		1511	1239	1433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.5	7.5	7.3	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.0	0.0	7.6	7.7	7.3	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	901	A		110	4	A
Approach Delay, s/veh	6.0			7.6	7.3	
Approach LOS	A			A	A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	9.5	14.0	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	6.7	2.0
Green Ext Time (p_c), s	0.4	2.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

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F. CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	195	100	21	31	221	313
Future Vol, veh/h	195	100	21	31	221	313
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	264	135	28	42	299	423

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	397	299	722	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	582	558	696	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	559	558	696	-	-	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.8	4.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	696	-	559	-	-
HCM Lane V/C Ratio	0.041	-	0.713	-	-
HCM Control Delay (s)	10.4	-	25.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	5.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	23	0	435	360	84	289	154	98	10	85	31
Future Volume (veh/h)	76	23	0	435	360	84	289	154	98	10	85	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	93	28	0	530	439	102	352	188	0	12	104	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	112	166	0	416	800	185	308	164		33	289	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1428	1085	0	1781	2595	598	1125	601	1259	180	1562	1459
Grp Volume(v), veh/h	93	28	0	530	271	270	540	0	0	116	0	38
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1585	1725	0	1259	1743	0	1459
Q Serve(g_s), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	6.5	0.0	2.5
Cycle Q Clear(g_c), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	6.5	0.0	2.5
Prop In Lane	1.00		0.00	1.00		0.38	0.65		1.00	0.10		1.00
Lane Grp Cap(c), veh/h	112	166	0	416	496	489	472	0		322	0	270
V/C Ratio(X)	0.83	0.17	0.00	1.27	0.55	0.55	1.14	0.00		0.36	0.00	0.14
Avail Cap(c_a), veh/h	270	166	0	416	496	489	472	0		322	0	270
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.4	0.0	43.1	32.3	32.4	40.8	0.0	0.0	40.0	0.0	38.4
Incr Delay (d2), s/veh	6.0	2.2	0.0	140.4	4.3	4.5	87.0	0.0	0.0	3.1	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	2.8	0.8	0.0	27.3	6.5	6.5	23.9	0.0	0.0	3.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	43.6	0.0	183.5	36.6	36.9	127.9	0.0	0.0	43.1	0.0	39.5
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		121			1071			540	A		154	
Approach Delay, s/veh		54.0			109.4			127.9			42.2	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.5		25.0	12.5	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.5		8.5	9.2	18.0		32.8
Green Ext Time (p_c), s	0.0	0.0		0.3	0.1	2.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	105.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	454	414	136	146	137	97
Future Volume (veh/h)	454	414	136	146	137	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	493	450	148	159	149	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1000	1800	186	1341	197	176
Arrive On Green	0.54	0.54	0.11	0.73	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	493	450	148	159	149	105
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	12.6	5.1	6.2	1.9	6.2	4.8
Cycle Q Clear(g_c), s	12.6	5.1	6.2	1.9	6.2	4.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1000	1800	186	1341	197	176
V/C Ratio(X)	0.49	0.25	0.80	0.12	0.75	0.60
Avail Cap(c_a), veh/h	1000	1800	302	1341	302	269
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.8	5.3	33.0	3.0	32.5	31.9
Incr Delay (d2), s/veh	1.7	0.3	7.6	0.2	5.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	1.7	2.8	0.4	2.8	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.5	5.7	40.6	3.2	38.2	35.1
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	943			307	254	
Approach Delay, s/veh	9.2			21.2	36.9	
Approach LOS	A			C	D	

Timer - Assigned Phs	1	2		6	8
Phs Duration (G+Y+Rc), s	14.0	47.0		61.0	14.5
Change Period (Y+Rc), s	* 6	* 6		* 6	6.0
Max Green Setting (Gmax), s	* 13	* 36		* 55	13.0
Max Q Clear Time (g_c+I1), s	8.2	14.6		3.9	8.2
Green Ext Time (p_c), s	0.1	4.7		0.8	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	119	15	3	1	2	321
Future Vol, veh/h	119	15	3	1	2	321
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	16	3	1	2	349
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.2	8.3	9.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	90%	0%	100%	73%	0%	0%
Vol Thru, %	10%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	1	79	55	2	321
LT Vol	3	0	79	40	0	0
Through Vol	0	1	0	0	2	0
RT Vol	0	0	0	15	0	321
Lane Flow Rate	4	1	86	59	2	349
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.006	0.001	0.139	0.09	0.003	0.413
Departure Headway (Hd)	5.684	5.231	5.804	5.474	4.964	4.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	631	685	618	654	724	848
Service Time	3.408	2.955	3.538	3.208	2.675	1.973
HCM Lane V/C Ratio	0.006	0.001	0.139	0.09	0.003	0.412
HCM Control Delay	8.4	8	9.5	8.8	7.7	9.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	0.5	0.3	0	2

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	191	16	142	204	32	125
Future Vol, veh/h	191	16	142	204	32	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	208	17	154	222	35	136

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	565	35	171	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	465	1044	980	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	1044	980	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.8	3.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	980	-	412	-	-
HCM Lane V/C Ratio	0.157	-	0.546	-	-
HCM Control Delay (s)	9.4	-	23.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	28	0	235	182	31	144	92	208	38	99	51
Future Volume (veh/h)	75	28	0	235	182	31	144	92	208	38	99	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	82	30	0	255	198	34	157	100	0	41	108	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	106	260	0	289	696	117	304	194		95	250	226
Arrive On Green	0.06	0.17	0.00	0.17	0.28	0.28	0.29	0.29	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1725	1485	0	1711	2463	416	1038	661	1535	480	1263	1144
Grp Volume(v), veh/h	82	30	0	255	114	118	257	0	0	149	0	55
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1440	1700	0	1535	1743	0	1144
Q Serve(g_s), s	4.9	1.8	0.0	15.3	6.5	6.7	13.2	0.0	0.0	7.9	0.0	4.3
Cycle Q Clear(g_c), s	4.9	1.8	0.0	15.3	6.5	6.7	13.2	0.0	0.0	7.9	0.0	4.3
Prop In Lane	1.00		0.00	1.00		0.29	0.61		1.00	0.28		1.00
Lane Grp Cap(c), veh/h	106	260	0	289	406	407	498	0		345	0	226
V/C Ratio(X)	0.77	0.12	0.00	0.88	0.28	0.29	0.52	0.00		0.43	0.00	0.24
Avail Cap(c_a), veh/h	349	260	0	428	406	407	498	0		345	0	226
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	36.5	0.0	42.7	29.4	29.5	31.0	0.0	0.0	37.0	0.0	35.5
Incr Delay (d2), s/veh	13.4	0.9	0.0	13.6	1.7	1.8	3.8	0.0	0.0	3.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.7	0.0	7.3	2.4	2.4	5.7	0.0	0.0	3.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	37.4	0.0	56.2	31.1	31.3	34.8	0.0	0.0	40.9	0.0	38.1
LnGrp LOS	E	D	A	E	C	C	C	A		D	A	D
Approach Vol, veh/h		112			487			257	A		204	
Approach Delay, s/veh		55.4			44.3			34.8			40.2	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.5	23.7		25.0	10.2	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	17.3	3.8		9.9	6.9	8.7		15.2
Green Ext Time (p_c), s	0.5	0.1		0.7	0.2	1.1		1.1

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	421	423	226	175	285	177
Future Volume (veh/h)	421	423	226	175	285	177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	458	460	246	190	310	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	458	460	246	190	310	192
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.9	6.2	10.9	3.0	14.0	9.3
Cycle Q Clear(g_c), s	14.9	6.2	10.9	3.0	14.0	9.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.57	0.27	0.86	0.15	1.01	0.70
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.8	7.2	32.6	4.7	33.0	31.0
Incr Delay (d2), s/veh	2.9	0.4	27.6	0.3	54.1	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.6	6.5	0.9	10.3	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	7.6	60.2	5.0	87.1	38.9
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	918			436	502	
Approach Delay, s/veh	13.7			36.1	68.7	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	20.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	12.9	16.9			5.0	16.0
Green Ext Time (p_c), s	0.0	4.3			1.0	0.0

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	551	17	20	52	6	340
Future Vol, veh/h	551	17	20	52	6	340
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	599	18	22	57	7	370
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	19.5	10.4	16.4
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	100%	92%	0%	0%
Vol Thru, %	46%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	35	367	201	6	340
LT Vol	20	0	367	184	0	0
Through Vol	17	35	0	0	6	0
RT Vol	0	0	0	17	0	340
Lane Flow Rate	41	38	399	218	7	370
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.081	0.072	0.707	0.38	0.012	0.591
Departure Headway (Hd)	7.179	6.905	6.379	6.277	6.469	5.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	498	518	567	574	553	625
Service Time	4.934	4.659	4.11	4.008	4.212	3.5
HCM Lane V/C Ratio	0.082	0.073	0.704	0.38	0.013	0.592
HCM Control Delay	10.6	10.2	23.1	12.8	9.3	16.5
HCM Lane LOS	B	B	C	B	A	C
HCM 95th-tile Q	0.3	0.2	5.7	1.8	0	3.9

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	9	8.0	0.043	5.5	LOS A	0.2	4.0	0.47	0.36	0.47	32.3
8	T1	23	0.0	0.043	5.2	LOS A	0.2	4.0	0.47	0.36	0.47	34.5
18	R2	77	13.0	0.114	6.6	LOS A	0.4	10.9	0.49	0.41	0.49	33.0
Approach		109	9.8	0.114	6.2	LOS A	0.4	10.9	0.48	0.40	0.48	33.2
East: E. Alisal St												
1	L2	237	2.0	0.215	5.2	LOS A	1.0	25.6	0.18	0.07	0.18	32.6
6	T1	411	3.0	0.387	7.3	LOS A	2.2	57.4	0.22	0.09	0.22	32.1
16	R2	12	0.0	0.387	7.2	LOS A	2.2	57.4	0.22	0.09	0.22	33.1
Approach		660	2.6	0.387	6.6	LOS A	2.2	57.4	0.20	0.08	0.20	32.3
North: Quilla St												
7	L2	15	25.0	0.315	12.0	LOS B	1.3	32.2	0.64	0.65	0.68	31.8
4	T1	144	0.0	0.315	10.4	LOS B	1.3	32.2	0.64	0.65	0.68	32.4
14	R2	24	3.0	0.315	10.6	LOS B	1.3	32.2	0.64	0.65	0.68	28.9
Approach		183	2.4	0.315	10.6	LOS B	1.3	32.2	0.64	0.65	0.68	31.9
West: E. Alisal St												
5	L2	13	0.0	0.507	12.3	LOS B	3.4	89.8	0.66	0.75	0.92	29.3
2	T1	351	6.0	0.507	12.6	LOS B	3.4	89.8	0.66	0.75	0.92	29.0
12	R2	111	6.0	0.070	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.2
Approach		476	5.8	0.507	9.6	LOS A	3.4	89.8	0.50	0.57	0.71	30.4
All Vehicles		1427	4.2	0.507	8.1	LOS A	3.4	89.8	0.38	0.34	0.45	31.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

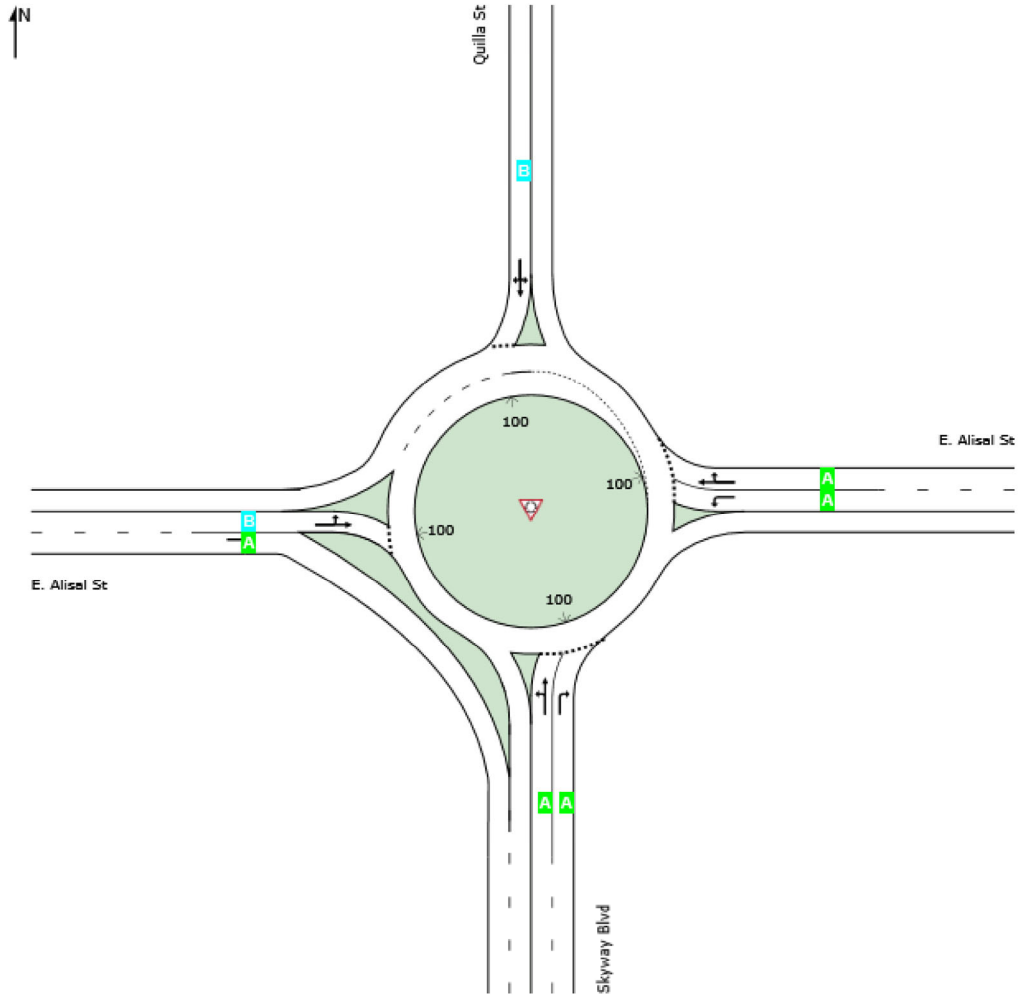
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	38	1.0	0.217	6.7	LOS A	0.9	22.5	0.46	0.37	0.46	32.0
8	T1	138	1.0	0.217	6.7	LOS A	0.9	22.5	0.46	0.37	0.46	33.8
18	R2	278	3.0	0.348	8.6	LOS A	1.6	39.9	0.51	0.43	0.51	32.2
Approach		454	2.2	0.348	7.9	LOS A	1.6	39.9	0.49	0.40	0.49	32.7
East: E. Alisal St												
1	L2	138	10.0	0.167	6.1	LOS A	0.6	16.5	0.36	0.24	0.36	32.0
6	T1	334	0.0	0.384	8.3	LOS A	1.9	48.4	0.45	0.33	0.45	31.6
16	R2	15	0.0	0.384	8.3	LOS A	1.9	48.4	0.45	0.33	0.45	32.6
Approach		487	2.8	0.384	7.7	LOS A	1.9	48.4	0.42	0.30	0.42	31.8
North: Quilla St												
7	L2	4	0.0	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	34.6
4	T1	38	1.0	0.081	6.2	LOS A	0.3	7.2	0.51	0.45	0.51	34.5
14	R2	13	0.0	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	31.4
Approach		55	0.7	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	33.9
West: E. Alisal St												
5	L2	13	0.0	0.314	7.4	LOS A	1.4	36.3	0.41	0.30	0.41	32.1
2	T1	264	3.0	0.314	7.5	LOS A	1.4	36.3	0.41	0.30	0.41	31.9
12	R2	24	2.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		301	2.8	0.314	6.9	LOS A	1.4	36.3	0.38	0.27	0.38	32.2
All Vehicles		1298	2.5	0.384	7.5	LOS A	1.9	48.4	0.44	0.34	0.44	32.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

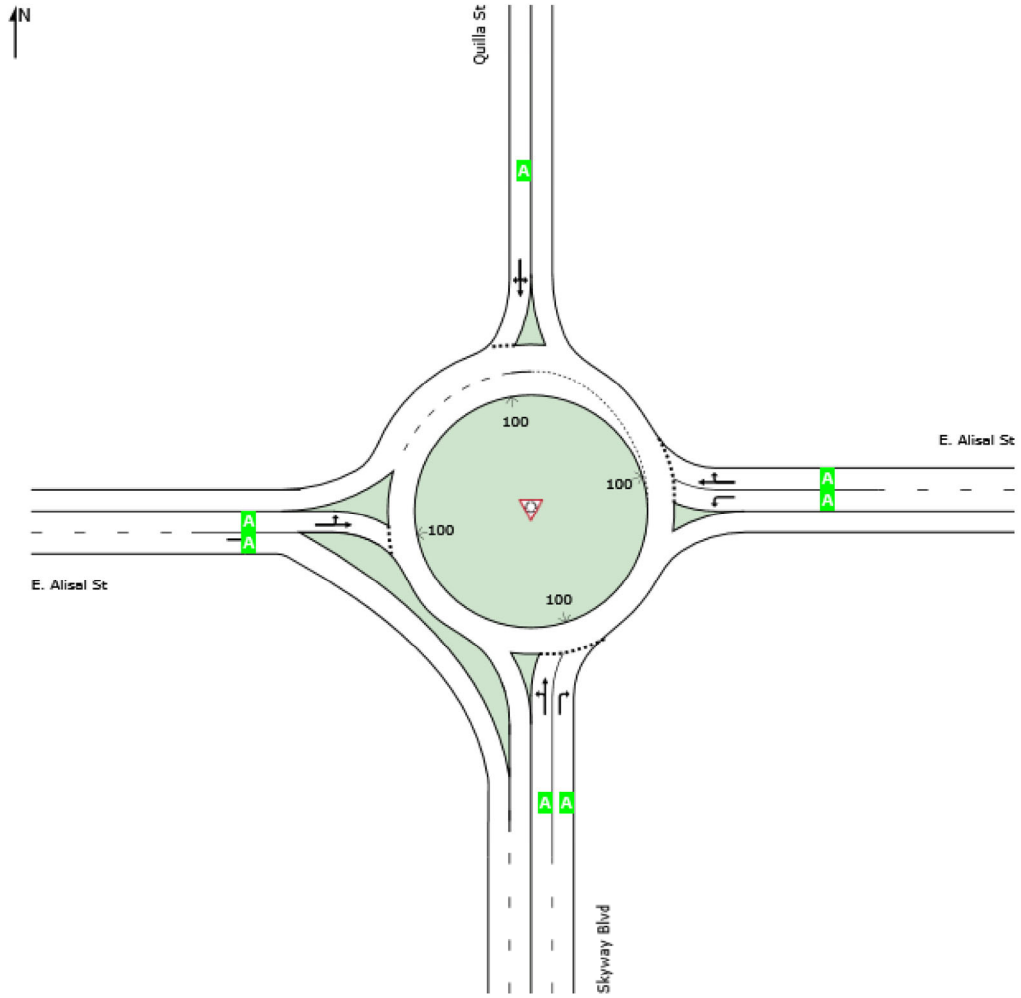
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Kimley»Horn

G. CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	10.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	218	100	21	31	221	321
Future Vol, veh/h	218	100	21	31	221	321
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	295	135	28	42	299	434

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	397	299	733	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	582	558	689	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	558	558	689	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.8	4.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	689	-	558	-	-
HCM Lane V/C Ratio	0.041	-	0.77	-	-
HCM Control Delay (s)	10.4	-	29.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	23	0	464	360	84	291	158	108	10	96	31
Future Volume (veh/h)	76	23	0	464	360	84	291	158	108	10	96	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	93	28	0	566	439	102	355	193	0	12	117	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	112	166	0	416	800	185	306	166		30	292	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1428	1085	0	1781	2595	598	1118	608	1259	162	1581	1459
Grp Volume(v), veh/h	93	28	0	566	271	270	548	0	0	129	0	38
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1585	1726	0	1259	1744	0	1459
Q Serve(g_s), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	7.3	0.0	2.5
Cycle Q Clear(g_c), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	7.3	0.0	2.5
Prop In Lane	1.00		0.00	1.00		0.38	0.65		1.00	0.09		1.00
Lane Grp Cap(c), veh/h	112	166	0	416	496	489	472	0		322	0	270
V/C Ratio(X)	0.83	0.17	0.00	1.36	0.55	0.55	1.16	0.00		0.40	0.00	0.14
Avail Cap(c_a), veh/h	270	166	0	416	496	489	472	0		322	0	270
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.4	0.0	43.1	32.3	32.4	40.8	0.0	0.0	40.4	0.0	38.4
Incr Delay (d2), s/veh	6.0	2.2	0.0	176.6	4.3	4.5	93.3	0.0	0.0	3.7	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	2.8	0.8	0.0	31.5	6.5	6.5	24.7	0.0	0.0	3.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	43.6	0.0	219.7	36.6	36.9	134.2	0.0	0.0	44.0	0.0	39.5
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		121			1107			548	A		167	
Approach Delay, s/veh		54.0			130.3			134.2			43.0	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.5		25.0	12.5	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.5		9.3	9.2	18.0		32.8
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	2.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	119.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	499	414	144	162	137	120
Future Volume (veh/h)	499	414	144	162	137	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	542	450	157	176	149	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	980	1776	196	1334	201	179
Arrive On Green	0.53	0.53	0.11	0.72	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	542	450	157	176	149	130
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.5	5.2	6.5	2.2	6.1	6.0
Cycle Q Clear(g_c), s	14.5	5.2	6.5	2.2	6.1	6.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	980	1776	196	1334	201	179
V/C Ratio(X)	0.55	0.25	0.80	0.13	0.74	0.73
Avail Cap(c_a), veh/h	980	1776	306	1334	329	293
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.6	5.6	32.3	3.1	31.9	31.9
Incr Delay (d2), s/veh	2.2	0.3	8.1	0.2	5.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.7	3.0	0.5	2.8	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	5.9	40.4	3.3	37.3	37.5
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	992			333	279	
Approach Delay, s/veh	10.2			20.8	37.4	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.3	45.7			60.0	14.5
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	8.5	16.5			4.2	8.1
Green Ext Time (p_c), s	0.1	4.9			0.9	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	15	3	8	25	344
Future Vol, veh/h	127	15	3	8	25	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	16	3	9	27	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.4	8.3	10.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	53%	0%	100%	74%	0%	0%
Vol Thru, %	47%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	5	85	57	25	344
LT Vol	3	0	85	42	0	0
Through Vol	3	5	0	0	25	0
RT Vol	0	0	0	15	0	344
Lane Flow Rate	6	6	92	62	27	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.01	0.009	0.151	0.097	0.038	0.447
Departure Headway (Hd)	5.581	5.314	5.926	5.611	5.003	4.3
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	673	605	638	718	841
Service Time	3.314	3.047	3.672	3.356	2.719	2.016
HCM Lane V/C Ratio	0.009	0.009	0.152	0.097	0.038	0.445
HCM Control Delay	8.4	8.1	9.7	9	7.9	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0	0.5	0.3	0.1	2.3

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	195	16	142	204	32	140
Future Vol, veh/h	195	16	142	204	32	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	212	17	154	222	35	152

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	565	35	187	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	465	1044	965	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	391	1044	965	-	-	-
Mov Cap-2 Maneuver	391	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	3.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	965	-	410	-	-
HCM Lane V/C Ratio	0.16	-	0.559	-	-
HCM Control Delay (s)	9.4	-	24.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	28	0	240	182	31	148	99	217	38	101	51
Future Volume (veh/h)	75	28	0	240	182	31	148	99	217	38	101	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	82	30	0	261	198	34	161	108	0	41	110	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	106	254	0	295	696	117	298	200		94	251	226
Arrive On Green	0.06	0.17	0.00	0.17	0.28	0.28	0.29	0.29	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1725	1485	0	1711	2463	416	1018	683	1535	473	1270	1144
Grp Volume(v), veh/h	82	30	0	261	114	118	269	0	0	151	0	55
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1440	1701	0	1535	1743	0	1144
Q Serve(g_s), s	4.9	1.8	0.0	15.7	6.5	6.7	14.0	0.0	0.0	8.0	0.0	4.3
Cycle Q Clear(g_c), s	4.9	1.8	0.0	15.7	6.5	6.7	14.0	0.0	0.0	8.0	0.0	4.3
Prop In Lane	1.00		0.00	1.00		0.29	0.60		1.00	0.27		1.00
Lane Grp Cap(c), veh/h	106	254	0	295	406	407	498	0		345	0	226
V/C Ratio(X)	0.77	0.12	0.00	0.88	0.28	0.29	0.54	0.00		0.44	0.00	0.24
Avail Cap(c_a), veh/h	349	254	0	428	406	407	498	0		345	0	226
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	36.8	0.0	42.5	29.4	29.5	31.2	0.0	0.0	37.0	0.0	35.5
Incr Delay (d2), s/veh	13.4	0.9	0.0	14.2	1.7	1.8	4.2	0.0	0.0	4.0	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.7	0.0	7.5	2.4	2.4	6.0	0.0	0.0	3.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	37.8	0.0	56.7	31.1	31.3	35.4	0.0	0.0	41.1	0.0	38.1
LnGrp LOS	E	D	A	E	C	C	D	A		D	A	D
Approach Vol, veh/h		112			493			269	A		206	
Approach Delay, s/veh		55.5			44.7			35.4			40.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.8	23.3		25.0	10.2	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	17.7	3.8		10.0	6.9	8.7		16.0
Green Ext Time (p_c), s	0.5	0.1		0.7	0.2	1.1		1.2

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	429	423	241	205	285	181
Future Volume (veh/h)	429	423	241	205	285	181
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	466	460	262	223	310	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	466	460	262	223	310	197
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.3	6.2	11.8	3.6	14.0	9.5
Cycle Q Clear(g_c), s	15.3	6.2	11.8	3.6	14.0	9.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.58	0.27	0.92	0.18	1.01	0.72
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.9	7.2	33.0	4.8	33.0	31.2
Incr Delay (d2), s/veh	3.0	0.4	36.2	0.3	54.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.6	7.5	1.0	10.3	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	7.6	69.2	5.1	87.1	40.1
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	926			485	507	
Approach Delay, s/veh	13.8			39.7	68.8	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	20.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	13.8	17.3			5.6	16.0
Green Ext Time (p_c), s	0.0	4.3			1.2	0.0

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	566	17	20	66	10	344
Future Vol, veh/h	566	17	20	66	10	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	615	18	22	72	11	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	21	10.6	17.1
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	48%	0%	100%	92%	0%	0%
Vol Thru, %	52%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	44	377	206	10	344
LT Vol	20	0	377	189	0	0
Through Vol	22	44	0	0	10	0
RT Vol	0	0	0	17	0	344
Lane Flow Rate	46	48	410	224	11	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.093	0.736	0.395	0.02	0.607
Departure Headway (Hd)	7.228	6.984	6.46	6.36	6.554	5.842
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	512	562	566	545	617
Service Time	4.989	4.745	4.195	4.095	4.304	3.592
HCM Lane V/C Ratio	0.093	0.094	0.73	0.396	0.02	0.606
HCM Control Delay	10.7	10.5	25.2	13.2	9.4	17.3
HCM Lane LOS	B	B	D	B	A	C
HCM 95th-tile Q	0.3	0.3	6.2	1.9	0.1	4.1

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	13	1.0	0.050	5.2	LOS A	0.2	4.5	0.43	0.32	0.43	32.6
8	T1	26	1.0	0.050	5.2	LOS A	0.2	4.5	0.43	0.32	0.43	34.3
18	R2	72	3.0	0.096	5.7	LOS A	0.3	8.9	0.45	0.35	0.45	33.6
Approach		111	2.3	0.096	5.5	LOS A	0.3	8.9	0.44	0.34	0.44	33.7
East: E. Alisal St												
1	L2	221	10.0	0.231	6.0	LOS A	0.9	25.1	0.18	0.08	0.18	32.0
6	T1	359	0.0	0.351	7.0	LOS A	1.8	45.9	0.22	0.09	0.22	32.4
16	R2	11	0.0	0.351	7.0	LOS A	1.8	45.9	0.22	0.09	0.22	33.2
Approach		590	3.7	0.351	6.6	LOS A	1.8	45.9	0.20	0.09	0.20	32.2
North: Quilla St												
7	L2	13	0.0	0.284	9.4	LOS A	1.1	27.8	0.61	0.61	0.61	33.0
4	T1	143	1.0	0.284	9.5	LOS A	1.1	27.8	0.61	0.61	0.61	32.8
14	R2	21	0.0	0.284	9.4	LOS A	1.1	27.8	0.61	0.61	0.61	29.6
Approach		177	0.8	0.284	9.5	LOS A	1.1	27.8	0.61	0.61	0.61	32.5
West: E. Alisal St												
5	L2	12	0.0	0.446	11.2	LOS B	2.5	63.5	0.62	0.65	0.76	29.9
2	T1	306	3.0	0.446	11.3	LOS B	2.5	63.5	0.62	0.65	0.76	29.7
12	R2	114	2.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		432	2.7	0.446	8.3	LOS A	2.5	63.5	0.46	0.48	0.56	31.2
All Vehicles		1310	2.9	0.446	7.5	LOS A	2.5	63.5	0.36	0.31	0.40	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

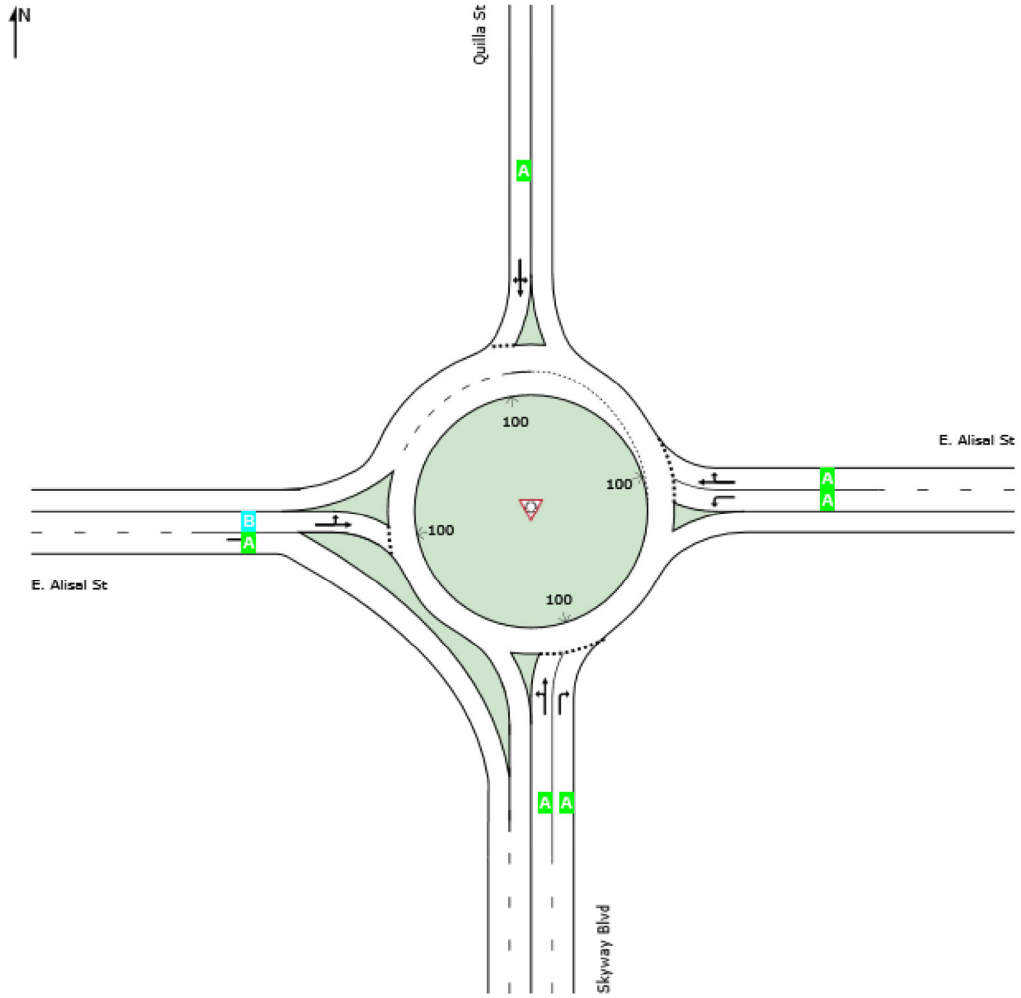
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	49	1.0	0.243	7.1	LOS A	1.0	25.7	0.47	0.38	0.47	31.7
8	T1	149	1.0	0.243	7.1	LOS A	1.0	25.7	0.47	0.38	0.47	33.6
18	R2	287	3.0	0.360	8.8	LOS A	1.6	41.7	0.51	0.43	0.51	32.1
Approach		485	2.2	0.360	8.1	LOS A	1.6	41.7	0.49	0.41	0.49	32.5
East: E. Alisal St												
1	L2	140	10.0	0.174	6.3	LOS A	0.6	17.2	0.38	0.26	0.38	31.9
6	T1	334	0.0	0.392	8.6	LOS A	2.0	49.4	0.47	0.36	0.47	31.4
16	R2	15	0.0	0.392	8.6	LOS A	2.0	49.4	0.47	0.36	0.47	32.5
Approach		489	2.9	0.392	7.9	LOS A	2.0	49.4	0.44	0.33	0.44	31.6
North: Quilla St												
7	L2	4	0.0	0.087	6.2	LOS A	0.3	7.7	0.52	0.47	0.52	34.6
4	T1	41	1.0	0.087	6.3	LOS A	0.3	7.7	0.52	0.47	0.52	34.4
14	R2	13	0.0	0.087	6.2	LOS A	0.3	7.7	0.52	0.47	0.52	31.4
Approach		59	0.7	0.087	6.3	LOS A	0.3	7.7	0.52	0.47	0.52	33.9
West: E. Alisal St												
5	L2	13	0.0	0.316	7.5	LOS A	1.4	36.5	0.42	0.31	0.42	32.1
2	T1	264	3.0	0.316	7.6	LOS A	1.4	36.5	0.42	0.31	0.42	31.9
12	R2	28	2.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		304	2.8	0.316	6.9	LOS A	1.4	36.5	0.38	0.28	0.38	32.2
All Vehicles		1337	2.5	0.392	7.7	LOS A	2.0	49.4	0.45	0.35	0.45	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

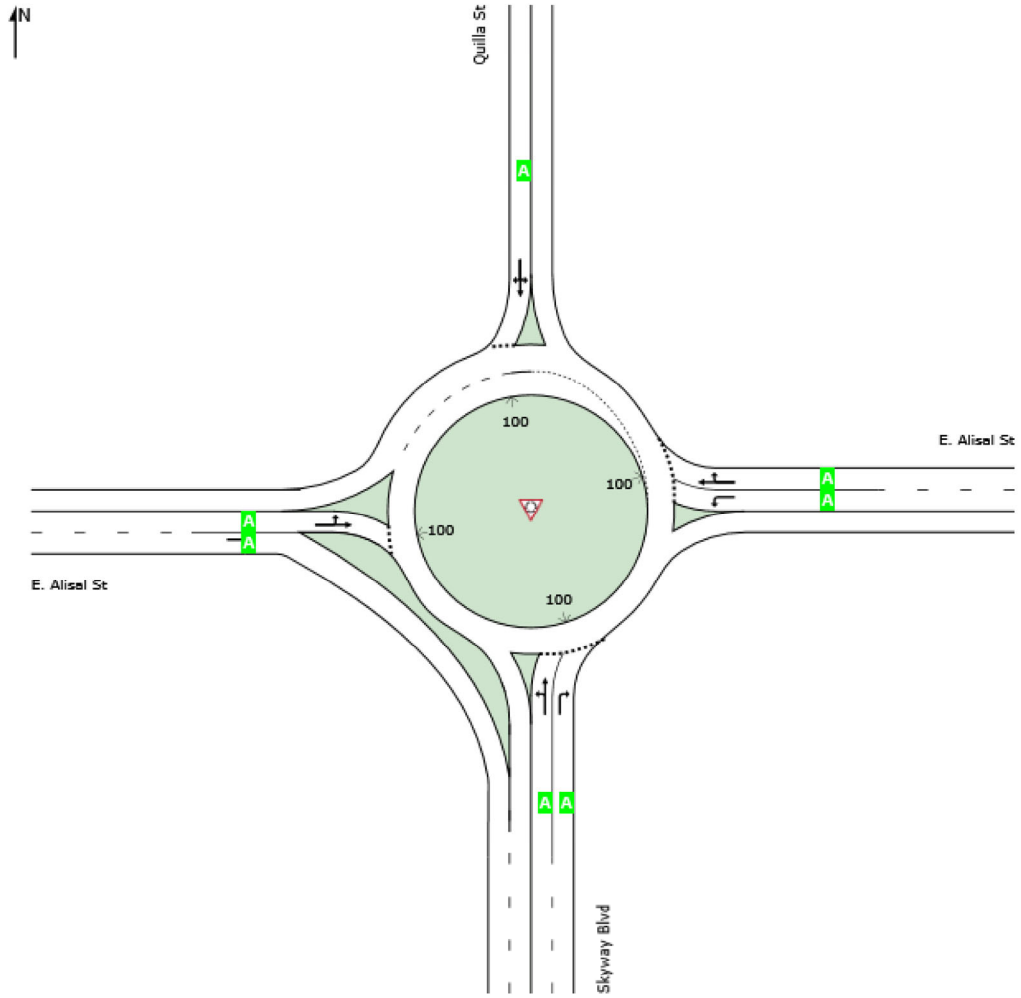
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

HCM 6th Signalized Intersection Summary
1: Roy Diaz Street & US 101 NB Ramps

09/09/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	218	100	21	31	221	321
Future Volume (veh/h)	218	100	21	31	221	321
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	295	135	28	42	299	434
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	362	166	289	460	460	539
Arrive On Green	0.35	0.35	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1044	478	448	1159	1159	1359
Grp Volume(v), veh/h	431	0	28	42	299	434
Grp Sat Flow(s),veh/h/ln	1525	0	448	1159	1159	1359
Q Serve(g_s), s	9.0	0.0	1.9	0.8	7.4	9.9
Cycle Q Clear(g_c), s	9.0	0.0	9.3	0.8	7.4	9.9
Prop In Lane	0.68	0.31	1.00			1.00
Lane Grp Cap(c), veh/h	529	0	289	460	460	539
V/C Ratio(X)	0.81	0.00	0.10	0.09	0.65	0.80
Avail Cap(c_a), veh/h	976	0	347	610	610	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	0.0	12.4	6.6	8.6	9.4
Incr Delay (d2), s/veh	3.1	0.0	0.1	0.1	1.6	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.2	0.1	1.3	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.5	0.0	12.5	6.7	10.2	14.4
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	431			70	733	
Approach Delay, s/veh	13.5			9.0	12.7	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		16.7		18.4			18.4
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		22.5		18.5			18.5
Max Q Clear Time (g_c+I1), s		11.0		11.9			11.3
Green Ext Time (p_c), s		1.2		2.0			0.2

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	292	23	108	291	158	360	84	464	96	10	31
Future Volume (veh/h)	76	292	23	108	291	158	360	84	464	96	10	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1589	1589	1485	1752	1781	1693	1870	1870	1752	1263	1263
Adj Flow Rate, veh/h	93	356	28	132	355	193	439	102	566	117	12	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	21	21	28	10	8	14	2	2	10	43	43
Cap, veh/h	122	577	45	159	560	390	577	703	627	151	362	323
Arrive On Green	0.09	0.14	0.14	0.11	0.17	0.17	0.18	0.40	0.40	0.09	0.30	0.30
Sat Flow, veh/h	1428	4105	318	1414	3328	1510	3127	1777	1585	1668	1200	1070
Grp Volume(v), veh/h	93	249	135	132	355	193	439	102	566	117	12	38
Grp Sat Flow(s),veh/h/ln	1428	1446	1531	1414	1664	1510	1564	1777	1585	1668	1200	1070
Q Serve(g_s), s	4.3	5.5	5.6	6.2	6.7	7.4	9.1	2.5	22.8	4.7	0.5	1.7
Cycle Q Clear(g_c), s	4.3	5.5	5.6	6.2	6.7	7.4	9.1	2.5	22.8	4.7	0.5	1.7
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	122	407	215	159	560	390	577	703	627	151	362	323
V/C Ratio(X)	0.76	0.61	0.63	0.83	0.63	0.49	0.76	0.15	0.90	0.78	0.03	0.12
Avail Cap(c_a), veh/h	406	923	489	527	1357	752	1450	910	812	503	420	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	27.5	27.5	29.5	26.3	21.4	26.3	13.2	19.3	30.2	16.7	17.2
Incr Delay (d2), s/veh	3.7	0.6	1.1	4.1	0.9	0.7	2.1	0.0	9.6	8.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.9	2.1	2.1	2.5	2.4	3.2	0.9	8.6	2.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	28.0	28.6	33.6	27.2	22.1	28.4	13.2	28.9	38.5	16.7	17.2
LnGrp LOS	C	C	C	C	C	C	C	B	C	D	B	B
Approach Vol, veh/h		477			680			1107			167	
Approach Delay, s/veh		29.4			27.0			27.3			32.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	31.1	11.4	14.9	17.0	24.7	9.5	16.7
Change Period (Y+Rc), s	4.5	* 4.2	3.7	5.3	4.5	* 4.2	3.7	5.3
Max Green Setting (Gmax), s	20.5	* 35	25.3	21.7	31.5	* 24	19.3	27.7
Max Q Clear Time (g_c+I1), s	6.7	24.8	8.2	7.6	11.1	3.7	6.3	9.4
Green Ext Time (p_c), s	0.2	2.1	0.1	1.5	1.5	0.1	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	499	414	144	162	137	120
Future Volume (veh/h)	499	414	144	162	137	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	542	450	157	176	149	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	980	1776	196	1334	201	179
Arrive On Green	0.53	0.53	0.11	0.72	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	542	450	157	176	149	130
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.5	5.2	6.5	2.2	6.1	6.0
Cycle Q Clear(g_c), s	14.5	5.2	6.5	2.2	6.1	6.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	980	1776	196	1334	201	179
V/C Ratio(X)	0.55	0.25	0.80	0.13	0.74	0.73
Avail Cap(c_a), veh/h	980	1776	306	1334	329	293
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.6	5.6	32.3	3.1	31.9	31.9
Incr Delay (d2), s/veh	2.2	0.3	8.1	0.2	5.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.7	3.0	0.5	2.8	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	5.9	40.4	3.3	37.3	37.5
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	992			333	279	
Approach Delay, s/veh	10.2			20.8	37.4	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2		6	8
Phs Duration (G+Y+Rc), s	14.3	45.7		60.0	14.5
Change Period (Y+Rc), s	* 6	* 6		* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35		* 54	14.0
Max Q Clear Time (g_c+I1), s	8.5	16.5		4.2	8.1
Green Ext Time (p_c), s	0.1	4.9		0.9	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	15	3	8	25	344
Future Vol, veh/h	127	15	3	8	25	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	16	3	9	27	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.4	8.3	10.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	53%	0%	100%	74%	0%	0%
Vol Thru, %	47%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	5	85	57	25	344
LT Vol	3	0	85	42	0	0
Through Vol	3	5	0	0	25	0
RT Vol	0	0	0	15	0	344
Lane Flow Rate	6	6	92	62	27	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.01	0.009	0.151	0.097	0.038	0.447
Departure Headway (Hd)	5.581	5.314	5.926	5.611	5.003	4.3
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	673	605	638	718	841
Service Time	3.314	3.047	3.672	3.356	2.719	2.016
HCM Lane V/C Ratio	0.009	0.009	0.152	0.097	0.038	0.445
HCM Control Delay	8.4	8.1	9.7	9	7.9	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0	0.5	0.3	0.1	2.3

HCM 6th Signalized Intersection Summary
1: Roy Diaz Street & US 101 NB Ramps

09/09/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	16	142	204	32	140
Future Volume (veh/h)	195	16	142	204	32	140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	264	22	192	276	43	189
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	380	32	537	468	468	549
Arrive On Green	0.26	0.26	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1443	120	712	1159	1159	1359
Grp Volume(v), veh/h	287	0	192	276	43	189
Grp Sat Flow(s),veh/h/ln	1569	0	712	1159	1159	1359
Q Serve(g_s), s	4.5	0.0	6.2	5.0	0.6	2.6
Cycle Q Clear(g_c), s	4.5	0.0	6.8	5.0	0.6	2.6
Prop In Lane	0.92	0.08	1.00			1.00
Lane Grp Cap(c), veh/h	414	0	537	468	468	549
V/C Ratio(X)	0.69	0.00	0.36	0.59	0.09	0.34
Avail Cap(c_a), veh/h	1044	0	723	771	771	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	7.1	6.3	5.0	5.6
Incr Delay (d2), s/veh	2.1	0.0	0.4	1.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.5	0.7	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	0.0	7.5	7.5	5.1	6.0
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	287			468	232	
Approach Delay, s/veh	11.1			7.5	5.8	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		11.6		15.4			15.4
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		18.0		18.0			18.0
Max Q Clear Time (g_c+I1), s		6.5		4.6			8.8
Green Ext Time (p_c), s		0.7		0.7			2.2

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	629	28	217	148	99	182	31	240	101	38	51
Future Volume (veh/h)	75	629	28	217	148	99	182	31	240	101	38	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1500	1589	1589	1485	1752	1781	1693	1870	1870	1752	1263	1263
Adj Flow Rate, veh/h	91	767	34	265	180	121	222	38	293	123	46	62
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	21	21	28	10	8	14	2	2	10	43	43
Cap, veh/h	115	1039	46	301	1253	710	314	372	332	157	243	217
Arrive On Green	0.08	0.24	0.24	0.21	0.38	0.38	0.10	0.21	0.21	0.09	0.20	0.20
Sat Flow, veh/h	1428	4258	188	1414	3328	1510	3127	1777	1585	1668	1200	1070
Grp Volume(v), veh/h	91	520	281	265	180	121	222	38	293	123	46	62
Grp Sat Flow(s),veh/h/ln	1428	1446	1555	1414	1664	1510	1564	1777	1585	1668	1200	1070
Q Serve(g_s), s	4.6	12.2	12.3	13.4	2.6	3.4	5.1	1.3	13.2	5.3	2.3	3.6
Cycle Q Clear(g_c), s	4.6	12.2	12.3	13.4	2.6	3.4	5.1	1.3	13.2	5.3	2.3	3.6
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	115	706	379	301	1253	710	314	372	332	157	243	217
V/C Ratio(X)	0.79	0.74	0.74	0.88	0.14	0.17	0.71	0.10	0.88	0.79	0.19	0.29
Avail Cap(c_a), veh/h	302	1244	669	697	2367	1215	620	405	361	396	321	286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	25.7	25.7	28.1	15.1	11.2	32.1	23.5	28.3	32.7	24.3	24.9
Incr Delay (d2), s/veh	4.6	0.6	1.1	3.4	0.0	0.1	2.9	0.0	19.5	8.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.1	4.5	4.4	0.9	1.0	1.9	0.5	6.3	2.5	0.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	26.2	26.8	31.5	15.2	11.3	35.0	23.6	47.7	41.0	24.5	25.1
LnGrp LOS	D	C	C	C	B	B	D	C	D	D	C	C
Approach Vol, veh/h		892			566			553			231	
Approach Delay, s/veh		27.6			22.0			41.0			33.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	19.6	19.4	23.3	11.9	19.1	9.6	33.0
Change Period (Y+Rc), s	4.5	* 4.2	3.7	5.3	4.5	* 4.2	3.7	5.3
Max Green Setting (Gmax), s	7.5	* 17	36.3	31.7	14.6	* 20	15.6	52.4
Max Q Clear Time (g_c+I1), s	7.3	15.2	15.4	14.3	7.1	5.6	6.6	5.4
Green Ext Time (p_c), s	0.2	0.2	0.4	3.7	0.4	0.3	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	429	423	241	205	285	181
Future Volume (veh/h)	429	423	241	205	285	181
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	466	460	262	223	310	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	466	460	262	223	310	197
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.3	6.2	11.8	3.6	14.0	9.5
Cycle Q Clear(g_c), s	15.3	6.2	11.8	3.6	14.0	9.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.58	0.27	0.92	0.18	1.01	0.72
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.9	7.2	33.0	4.8	33.0	31.2
Incr Delay (d2), s/veh	3.0	0.4	36.2	0.3	54.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.6	7.5	1.0	10.3	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	7.6	69.2	5.1	87.1	40.1
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	926			485	507	
Approach Delay, s/veh	13.8			39.7	68.8	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.0	41.0			60.0	20.0
Change Period (Y+Rc), s	* 6	* 6			* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35			* 54	14.0
Max Q Clear Time (g_c+I1), s	13.8	17.3			5.6	16.0
Green Ext Time (p_c), s	0.0	4.3			1.2	0.0

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	566	17	20	66	10	344
Future Vol, veh/h	566	17	20	66	10	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	615	18	22	72	11	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	21	10.6	17.1
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	48%	0%	100%	92%	0%	0%
Vol Thru, %	52%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	44	377	206	10	344
LT Vol	20	0	377	189	0	0
Through Vol	22	44	0	0	10	0
RT Vol	0	0	0	17	0	344
Lane Flow Rate	46	48	410	224	11	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.093	0.736	0.395	0.02	0.607
Departure Headway (Hd)	7.228	6.984	6.46	6.36	6.554	5.842
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	512	562	566	545	617
Service Time	4.989	4.745	4.195	4.095	4.304	3.592
HCM Lane V/C Ratio	0.093	0.094	0.73	0.396	0.02	0.606
HCM Control Delay	10.7	10.5	25.2	13.2	9.4	17.3
HCM Lane LOS	B	B	D	B	A	C
HCM 95th-tile Q	0.3	0.3	6.2	1.9	0.1	4.1

H. HCS FREEWAY SEGMENT ANALYSIS OUTPUT SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2489	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1444
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
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Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2721	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1578
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1876	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1088
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1643	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	953
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1795	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1041
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1962	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1138
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1352	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	784
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1185	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	688
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2497	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1448
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2736	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1587
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1905	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1105
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1648	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	956
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1818	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1054
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1966	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1140
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1362	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	790
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1194	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	692
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2558	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1484
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2799	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1624
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2050	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1189
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1717	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	996
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2069	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1200
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2062	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1407	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	816
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1332	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	772
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2566	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1488
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

Analyst	Kimley-Horn	Date	8/14/2019
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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2814	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1632
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2079	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1206
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1722	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	999
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2092	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1214
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2066	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1198
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1417	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	822
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1341	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	778
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2912	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1689
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3184	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1847
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	64.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2195	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1273
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1923	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1116
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2100	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1218
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2295	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1331
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1582	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	918
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1386	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	804
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2920	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1694
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3199	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1856
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3199	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1237
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2224	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1290
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1928	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1118
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2123	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1232
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2299	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1334
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1592	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	924
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1395	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	809
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

I. PEAK HOUR SIGNAL WARRANT ANALYSIS

Standard:

07 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

08 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

01 The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.**

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

01 The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

Standard:

02 **This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.**

03 **The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:**

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Option:

04 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to evaluate the criteria in the second category of the Standard.

05 If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Guidance:

06 *If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal should be traffic-actuated.*

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

01 The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

02 **The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:**

A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or

B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 may be used in place of Figure 4C-5 to evaluate Criterion A in Paragraph 2, and Figure 4C-8 may be used in place of Figure 4C-7 to evaluate Criterion B in Paragraph 2.

Standard:

04 **The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

05 **If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E.**

Guidance:

06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Skyway Boulevard** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Airport Boulevard** NB SB # OF APPROACH LANES: **2**

CITY, STATE: **Salinas CA**

COMMENTS: **Background Plus Project**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**600**	**200**		**900**	**100**		**480**	**160**		**720**	**80**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM																	
08:30 AM TO 09:30 AM	1,387	326		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM	1,949	532		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:30 PM TO 06:30 PM																	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	3,336	858		2	2	**2**	2	2	**2**	2	2	**2**	2	2	**2**	**2**	**2**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

09/18/19
Kimley-Horn and Associates

Kimley»Horn

J. SENSITIVITY ANALYSIS

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	311	0	2	2	3	354
Future Vol, veh/h	311	0	2	2	3	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	420	0	3	3	4	478

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	482	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	872	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	872	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	4.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	872	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.434	-	-
HCM Control Delay (s)	9.1	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	2.2	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	378	0	1	2	3	833
Future Vol, veh/h	378	0	1	2	3	833
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	411	0	1	2	3	905

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	908	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	462	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	462	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	462	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.42	-	-
HCM Control Delay (s)	12.8	-	11.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	2.1	-	-