

APPENDIX J

Transportation CEQA Memorandum



MEMORANDUM

Date: July 11, 2025
To: Dan Amsden, MIG
Emily Creel, SWCA
From: Joe Fernandez and Michelle Matson, CCTC
Subject: Atascadero General Plan Update- Transportation CEQA

This memorandum evaluates potential mobility impacts of the Atascadero General Plan Update (AGPU) including vehicle miles traveled (VMT) in accordance with state law as well as level of service (LOS) in accordance with current City policies.

SUMMARY

The AGPU includes a variety of goals, policies, and programs that focus land use growth on existing mixed-use corridors, an approach that has been shown to be VMT-efficient by increasing density, the diversity of land uses, and support of non-auto travel options. As a result, the updated General Plan is expected to produce lower levels of VMT per resident and employee than the current General Plan.

The City of Atascadero currently generates VMT at rates above the regional average. While the new plan improves VMT performance, it remains above the regional average.

The current General Plan includes a local policy striving to maintain LOS C or better operations on City streets during the peak 15-minute period of the peak hours of travel. Given infrastructure funding constraints, it is financially infeasible to increase roadway capacity to meet this standard at all locations in the City during all time periods. Occasional traffic congestion is expected to exceed this threshold, typically for a short duration and usually associated with traffic peaks related to schools or special events.

ANALYSIS APPROACH

Travel forecasts are typically prepared using Travel Demand Models (TDM) which use land use and roadway network inputs to forecast future travel. The San Luis Obispo Council of Governments (SLOCOG) develops and maintains the SLOCOG TDM, which was used to estimate VMT and forecast traffic levels.

The SLOCOG TDM uses different land use categories than the land use model used in the AGPU. The AGPU land use model growth was allocated into the SLOCOG TDM Traffic Analysis Zone structure, then the land uses were apportioned into the TDM land use categories to evaluate the AGPU.

The AGPU land use buildout reflects the maximum development potential in the City. SLOCOG TDM land use forecasts are typically discounted from this level to match overall regional growth forecasts, which reflect typical growth rates that rarely reach maximum development potential on all parcels. The AGPU growth forecasts as evaluated herein reflect more growth in the City (and therefore the region) than SLOCOG's original forecasts. This results in conservatively high traffic and regional VMT forecasts.

The State Office of Planning and Research (OPR) publishes General Plan Guidelines that note that "When a new general plan or revision is being considered, the EIR must evaluate the proposed plans or revision's effects

on both the physical environment envisioned by an adopted plan.” Accordingly, this analysis compares the current general plan to the proposed general plan.

VEHICLE MILES TRAVELED

State law identifies vehicle miles traveled (VMT) as the appropriate metric to evaluate transportation impacts under the California Environmental Quality Act (CEQA). VMT quantifies the total amount of vehicle miles driven within a certain area. A car driving one mile generates one VMT.

OPR recommends thresholds for evaluating transportation VMT impacts associated with land use plans, which are applied herein since the City has not adopted VMT thresholds. OPR’s recommends that land use plans be evaluated based on the aggregate VMT effects of the plan.

Table 1 summarizes the AGPU’s effect on regional VMT:

Table 1: Regional VMT Summary

Regional VMT Summary				
Scenario->	Baseline (2015)	Current General Plan Buildout (2045)	Proposed General Plan Buildout (2045)	
Total Regional VMT ¹	8,796,917	11,203,335	11,348,867	
Population	271,859	302,069	307,885	
Total Employment	115,190	135,908	138,978	
Service Population (Population+Employees)	387,049	437,977	446,863	
<i>Regional VMT/Service Population</i>	<i>22.73</i>	<i>25.58</i>	<i>25.40</i>	
Residential VMT ¹	4,040,055	4,398,052	4,474,989	
<i>Residential VMT/Population</i>	<i>14.86</i>	<i>14.56</i>	<i>14.53</i>	
Commute VMT ¹	1,367,961	1,474,183	1,515,782	
<i>Commute VMT/Employee</i>	<i>11.88</i>	<i>10.85</i>	<i>10.91</i>	
1. Total regional VMT reflects daily automobile VMT within the San Luis Obispo County region. Residential VMT reflects all home-based productions. Commute VMT reflects home-based work attractions. Source: SLOCOG TDM, CCTC, 2025.				

The regional VMT analysis shows that:

- Total regional VMT increases with the AGPU. However, as previously noted this reflects an increase in overall regional population and employment, so total regional VMT does not provide an ‘apples to apples’ comparison between the current and proposed plans. A more appropriate metric is an efficiency metric of regional VMT per service population, discussed below.
- Service population is defined here as the sum of population and employment. On a regional basis the AGPU produces lower regional VMT per service population than the current plan. This indicates that the AGPU is more VMT-efficient than the current plan.
- Baseline residential VMT per capita in the region is 14.86. OPR recommends a threshold of 15 percent below the regional average for this metric, which captures trips from homes. This threshold corresponds to 12.63 residential VMT per capita.
- Baseline commute VMT per employee in the region is 11.88. OPR recommends a threshold of 15 percent below the regional average for this metric, which captures trips to work. This threshold corresponds to 10.09 commute VMT per employee.
- Travel demand models produce planning-level forecasts of travel primarily based on land use and network inputs. While the SLOCOG model offers some sensitivity to urban design it is a coarse tool

that does not fully reflect the VMT-reducing effects of compact, mixed-use urban design supported by the AGPU.

In summary, the AGPU will be more VMT-efficient on a regional basis than the current General Plan as it focuses growth in areas with a mix of uses, more travel options, and at levels that are more supportive of transit use. **Table 2** summarizes the VMT analysis within the City of Atascadero:

Table 2: Atascadero VMT Summary

Atascadero VMT Summary			
Scenario->	Baseline (2015)	Current General Plan Buildout (2045)	Proposed General Plan Buildout (2045)
Population	29,906	31,352	37,176
Total Employment	8,985	10,315	13,386
Residential VMT	556,552	542,924	602,702
<i>Residential VMT/Population</i>	<i>18.61</i>	<i>17.32</i>	<i>16.21</i>
Commute VMT	125,563	132,501	166,441
<i>Commute VMT/Employees</i>	<i>13.98</i>	<i>12.85</i>	<i>12.43</i>

1. Residential VMT reflects all home-based productions. Commute VMT reflects home-based work attractions.
Source: SLOCOG TDM, CCTC, 2025.

The Atascadero VMT analysis shows that:

- Residential VMT per capita is above OPR's recommended threshold (12.63) for all of the evaluated scenarios. The AGPU produces lower residential VMT per capita than the existing baseline and current plan.
- Commute VMT per employee is above OPR's recommended threshold (10.09) for all of the evaluated scenarios. The AGPU produces lower commute VMT per employee than the existing baseline and current plan.

In summary, the City of Atascadero generates residential and employment-based VMT at levels that are above OPR's recommended thresholds. The City's large geographic area and low-density development patterns require longer vehicle trips and reduce non-auto travel options. The AGPU focuses growth in more VMT-efficient areas at higher densities and with more travel options, so it produces less VMT per capita and per employee than the current General Plan.

TRAFFIC OPERATIONS

This section evaluates traffic operations under existing and future (cumulative) conditions. Existing conditions are described comprehensively in the Existing Conditions Report, which includes a section describing existing automobile level of service (LOS). LOS is reported at selected intersections during typical weekday morning (AM) and afternoon (PM) peak hours.

Cumulative conditions reflect buildout of the City and region, with a year 2045 horizon. The SLOCOG TDM was used to develop the traffic forecasts. As previously noted, the land use inputs conservatively reflect full buildout of City land uses and are not discounted to reflect lower historic growth rates or other factors.

Peak hour LOS analysis is conducted here for three primary reasons:

1. Identify intersection improvements to address traffic growth.
2. Estimate vehicular delay to inform the CEQA air quality analysis.

- Determine conformance to the City’s current General Plan Policy 1.3 which seeks to “maintain LOC C or better as the standard at all intersections and on all arterial and collector roads. Upon City Council approval, accept LOS D where residences are not directly impacted and improved to meet the City’s standard would be prohibitively costly or disruptive.”

Table 3 shows the existing and cumulative peak hour auto level of service (LOS) at the study intersections. The Synchro output sheets including queue reports are included in **Attachment A. Figures 1 and 2** show these results as well as daily traffic volumes under existing and cumulative conditions, respectively.

Table 3: Intersection Levels of Service

Existing and Cumulative Intersection Levels of Service						
Intersection	Control	Peak Hour	Existing Delay ¹	Existing LOS	Cumulative Delay ¹	Cumulative LOS
1. El Camino Real/San Benito Rd	TWSC	AM	2.5 (12.4)	- (B)	6.9 (58.8)	- (F)
		PM	1.1 (11.8)	- (B)	5.1 (58.4)	- (F)
2. El Camino Real/San Anselmo Rd (East)	TWSC	AM	5.5 (17.2)	- (C)	16.1 (89.9)	- (F)
		PM	2.6 (14.6)	- (B)	4.2 (42.2)	- (E)
3. El Camino Real/San Anselmo Rd (West)	Signal	AM	19.2	B	45.9	D
		PM	17.9	B	105.7	F
4. El Camino Real/Curbaril Ave ²	Signal	AM	32.5	C	33.9	C
		PM	36.2	D	43.2	D
5. El Camino Real/Santa Rosa Rd ²	Signal	AM	18.5	B	24.5	C
		PM	21.4	C	28.0	C
6. El Camino Real/San Gabriel Rd	TWSC	AM	1.0 (14.8)	- (B)	1.1 (17.5)	- (C)
		PM	2.0 (19.0)	- (C)	2.2 (24.6)	- (C)
7. El Camino Real/Santa Barbara Rd	Signal	AM	15.5	B	19.5	B
		PM	12.3	B	13.1	B
8. Traffic Wy/Ardilla Ave/US 101 SB Ramps ³	TWSC	AM	20.2 (79.5)	- (F)	49.0 (>200)	- (F)
		PM	5.6 (15.1)	- (C)	14.0 (46.3)	- (E)
9. Traffic Wy/Via Ave	TWSC	AM	3.4 (11.8)	- (B)	3.4 (11.7)	- (B)
		PM	3.4 (11.0)	- (B)	3.4 (11.8)	- (B)
10. SR 41/Curbaril Ave	Signal	AM	10.4	B	11.6	B
		PM	10.3	B	11.9	B
11. SR 41/Atascadero Ave ²	Signal	AM	41.6	D	42.2	D
		PM	25.7	C	33.2	C
12. SR 41/Mercedes Ave	TWSC	AM	2.5 (13.0)	- (B)	4.3 (22.5)	- (C)
		PM	2.5 (17.1)	- (C)	3.0 (25.7)	- (D)
13. Atascadero Ave/Santa Rosa Rd	AWSC	AM	11.7	B	13.9	B
		PM	8.8	A	11.1	B

1. HCM 6th average control delay in seconds per vehicle. For two-way stop controlled (TWSC) intersections the worst approach's delay is reported in parentheses next to the overall delay.
 2. Intersections were based on HCM 2000 methodology
 3. Intersection was analyzed using Sim Traffic due to non-standard geometry.
Unacceptable (City) operations shown in bold text.

Table 4 shows the queue summary for key movements at signalized intersections and side street approaches at two-way stop controlled intersections operating at LOS D or below.

Table 4: Intersection Queue Summary

Existing and Cumulative Intersection Queues					
Intersection	Movement	Storage Length (ft) ¹	Peak Hour	95th Percentile Queue (ft) ²	
				Existing	Cumulative
1. El Camino Real/San Benito Rd	EB	-	AM	0	13
			PM	3	83
	WB	-	AM	15	105
			PM	5	28
2. El Camino Real/San Anselmo Rd (East)	EB	-	AM	0	5
			PM	3	15
	WB	-	AM	70	270
			PM	25	98
3. El Camino Real/San Anselmo Rd (West)	NBL	125 w/TWLTL	AM	173	#683
			PM	204	#1290
	SBL	60	AM	42	65
			PM	34	51
4. El Camino Real/Curbaril Ave	NBL	125 w/TWLTL	AM	#184	#395
			PM	238	#398
	SBL	125 w/TWLTL	AM	26	30
			PM	#58	#62
5. El Camino Real/Santa Rosa Rd	NBL	105 w/TWLTL	AM	306	#609
			PM	#380	#678
	SBL	105 w/TWLTL	AM	6	15
			PM	0	0
7. El Camino Real/Santa Barbara Rd	NBL	120	AM	120	224
			PM	72	80
	SBL	160	AM	13	20
			PM	18	23
10. SR 41/Curbaril Ave	NBL	200 w/TWLTL	AM	13	14
			PM	16	24
	SBL	200 w/TWLTL	AM	37	65
			PM	49	108
11. SR 41/Atascadero Ave	NBL	150 w/TWLTL	AM	91	95
			PM	68	89
	SBL	200 w/TWLTL	AM	159	223
			PM	79	138
12. SR 41/Mercedes Ave	EB	-	AM	18	60
			PM	15	33
	WB	-	AM	0	0
			PM	0	5

1. TWLTL=Two-way left-turn lane.
2. Queue length in feet that would not be exceeded 95 percent of the time.
95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.
Bold indicates queue length longer than storage length.

The following intersections operate below the City's LOS standard or are forecast to experience queue spillback beyond available turn pocket storage space:

- El Camino Real/San Benito Road (#1) operates at LOS F on the side street approach under cumulative conditions. Installation of a traffic signal would result in acceptable LOS C or better operations.
- El Camino Real/San Anselmo Road (East, #2) operates at LOS E or F on the side street approach under cumulative conditions. Installation of a traffic signal would result in acceptable LOS B or better operations.
- El Camino Real/San Anselmo Road (West, #3) operates at LOS D and F under cumulative conditions during the weekday AM and PM peak hours, respectively. A second northbound left turn lane would be needed to provide LOS D operations. This would require widening San Anselmo Road to provide two westbound receiving lanes and may require additional right-of-way.
- El Camino Real/Curbaril Avenue (#4) operates at LOS D during the weekday PM peak hour under existing and cumulative conditions. An additional northbound left turn lane and designated eastbound right turn lane would result in LOS C operations, but would likely require additional right-of-way.
- El Camino Real/Santa Rosa Road (#5) queues on the northbound left-turn movement exceed available storage under existing and cumulative conditions. A second northbound left turn lane would be needed to accommodate the forecast volumes, which would require widening to provide two westbound receiving lanes on Santa Rosa Road. This may require additional right-of-way.
- El Camino Real/Santa Barbara Road (#7) queues on the northbound left-turn movement exceed available storage during the cumulative PM peak hour. Extending the northbound left-turn pocket to 225 feet would accommodate the queue.
- Traffic Way/Ardilla Avenue/US 101 Southbound Ramps (#8) operates at LOS F during the AM peak hour under existing and cumulative conditions, and operates at LOS E during the cumulative PM peak hour. Installation of a single-lane roundabout would provide LOS C or better operations.
- SR 41/Atascadero Avenue (#11) operates at LOS D during the AM peak hour under existing and cumulative conditions. The southbound left-turn queue exceeds available storage under cumulative conditions, but the queue can be accommodated within the existing two-way left-turn lane and no improvements are recommended.
- SR 41/Mercedes Avenue (#12) operates at LOS D during the cumulative PM peak hour on the side street approach. The peak hour traffic signal warrant is expected to be met under cumulative AM conditions. Adding east and westbound right turn lanes on the side street approaches would eliminate the need for a traffic signal but the westbound approach would continue to operate at LOS D. However, the volumes and queues on the westbound approach are minimal.

These results indicate that maintaining LOS C operations during all time periods would require major intersection expansions and right-of-way acquisitions which are likely financially infeasible.

DAILY TRAFFIC VOLUMES

Daily traffic volumes are shown on **Figures 1 and 2** and are shown in **Table 5**.

Table 5: Daily Traffic Volume Summary

Daily Traffic Volume Summary				
Roadway	Location	Average Daily Traffic (ADT)		
		2019	2022	2045 Forecast
Ardilla Rd	San Anselmo Rd to Portola Rd	3,100	-	3,400
Atascadero Ave	Atascadero Mall to Highway 41	2,000	4,400	4,600
	Highway 41 to Curbaril Ave	1,100	2,500	3,100
	Curbaril Ave to Santa Rosa Rd	2,200	-	2,700
	Santa Rosa Rd to San Rafael Rd	1,300	-	1,500
Capistrano Ave	San Rafael Rd to Santa Barbara Rd	1,200	-	1,600
	West Mall to Lewis Ave	700	-	800
	Lewis Ave to Highway 41	5,300	-	5,500
Carmelita Rd	Sycamore Rd to West Mall	700	-	800
	San Andres Ave to Curbaril Ave	400	-	400
Curbaril Ave	Curbaril Ave to Portola Rd	200	-	200
	Portola Rd to San Gabriel Rd	100	-	100
Del Rio Rd	San Marcos Rd to Carmelita Ave	100	-	100
	Carmelita Ave to Highway 41	-	1,200	1,400
	ECR to Highway 41	3,600	3,300	4,200
East Front St	ECR to Sycamore Rd	2,500	-	2,600
	Monterey Rd to Ramona Rd	4,200	-	4,300
	ECR to Potrero Rd	2,000	-	2,000
El Camino Real	Potrero Rd to San Anselmo Rd	900	-	1,000
	101 NB Ramps to Santa Rosa Rd	4,300	-	5,000
Graves Creek Rd	San Ramon Rd to Del Rio Rd	3,600	-	6,900
	Del Rio Rd to Rosario Ave	6,700	-	12,700
	Rosario Ave to Highway 41	11,400	-	16,000
	Highway 41 to San Diego Rd	14,100	-	17,200
Highway 41	San Diego Rd to Santa Barbara Rd	5,700	-	7,500
	Monterey Rd to San Fernando Rd	1,000	-	1,000
	Atascadero Ave to Curbaril Ave	-	10,200	13,900
Lewis Ave	Santa Rosa Rd to Curbaril Ave	-	11,100	13,400
	US 101 to Atascadero Ave	-	13,700	17,500
	Santa Ysabel Ave to Mercedes Ave	-	6,300	8,300
Mercedes Ave	Rocky Canyon Rd to Mercedes Ave	-	5,600	7,700
Monterey Rd	Traffic Way to Capistrano Ave	1,900	-	2,100
Navarette Ave	Capistrano Ave to Highway 41	2,300	2,100	2,400
Portola Rd	San Anselmo Rd to Del Rio Rd	1,800	-	1,800
	San Marcos Rd to Santa Lucia Rd	100	-	100
	Ardilla Rd to Highway 41	2,300	-	2,600
Potrero Rd	Highway 41 to Atascadero Ave	1,200	-	1,600
	Atascadero Ave to West Front Rd	1,200	-	1,400
San Anselmo Rd	Del Rio Rd to Traffic Way	900	-	900
	Ardilla Rd to ECR	4,200	-	4,600
	Del Rio Rd to Dolores Ave	1,000	-	1,100
San Benito Rd	Dolores Ave to ECR	3,400	-	3,500
	ECR to Del Rio Rd	900	-	1,300

Source: SLOCOG TDM, City of Atascadero Speed Surveys, CCTC, 2025.

Table 5 (Continued): Daily Traffic Volume Summary

Daily Traffic Volume Summary				
Roadway	Location	Average Daily Traffic (ADT)		
		2019	2022	2045 Forecast
San Gabriel Rd	San Marcos Rd to Highway 41	1,000	-	1,200
	Highway 41 to Atascadero Ave	1,300	-	1,400
	Santa Lucia Rd to San Marcos Rd	500	-	600
San Jacinto Ave	ECR to Nogales Ave	1,600	-	1,700
	Nogales Ave to Traffic Way	500	-	500
San Marcos Rd	San Adres Ave to Portola Rd	300	-	300
	Portola Rd to San Gabriel Rd	400	-	500
San Ramon Rd	ECR to 101 SB Ramps	3,700	-	5,500
Santa Barbara Rd	Atascadero Rd to SR 101	1,500	-	1,900
	SR 101 to Viejo Carrizo	8,600	-	9,700
Santa Cruz Rd	ECR to Carrizo Rd	900	-	1,300
Santa Lucia Rd	Ardilla Rd to Portola Rd	2,600	-	2,900
	Portola Rd to Laurel Rd	1,500	-	2,200
Santa Rosa Rd	ECR to Highway 41	2,700	-	3,100
Santa Ysabel Ave	Highway 41 to Curbaril Ave	1,700	-	1,800
Sycamore Rd	Capistrano Ave to Curbaril Ave	1,000	-	1,100
Traffic Way	ECR to Olmeda Ave	6,300	-	7,400
	Olmeda Ave to San Jacinto Ave	3,800	-	4,100
	San Jacinto Ave to Carrizo Rd	2,800	-	3,100
Venado Ave	Santa Lucia Rd to Ardilla Rd	100	-	100
Via Ave	Traffic Way to Capistrano Ave	2,100	-	2,300
Viejo Carrizo	ECR to Santa Barbara Rd	500	-	900
West Front Rd	101 SB Offramp to Santa Rosa Rd	6,800	-	7,900
	Santa Rosa Rd to SB 101 Onramp	1,100	-	1,400
West Mall	ECR to Atascadero Creek Bridge	1,600	-	2,000

Source: SLOCOG TDM, City of Atascadero Speed Surveys, CCTC, 2025.

ATTACHMENTS

Figure 1: Existing Traffic Volumes

Figure 2: Cumulative Traffic Volumes

Attachment A: Synchro Output Sheets

REFERENCES

City of Atascadero. 2016. General Plan.

California Governor's Office of Planning and Research (OPR). December 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA.

_____. General Plan Guidelines. Accessed from <https://lci.ca.gov/planning/general-plan/guidelines.html>

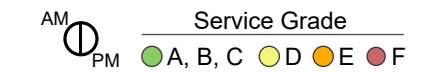
San Luis Obispo Council of Governments. 2023. Regional Transportation Plan/Sustainable Communities Strategy.

Transportation Research Board. 2017. Highway Capacity Manual, 2000 and 6th Edition.



Existing Traffic Volumes and LOS

Intersection Level of Service

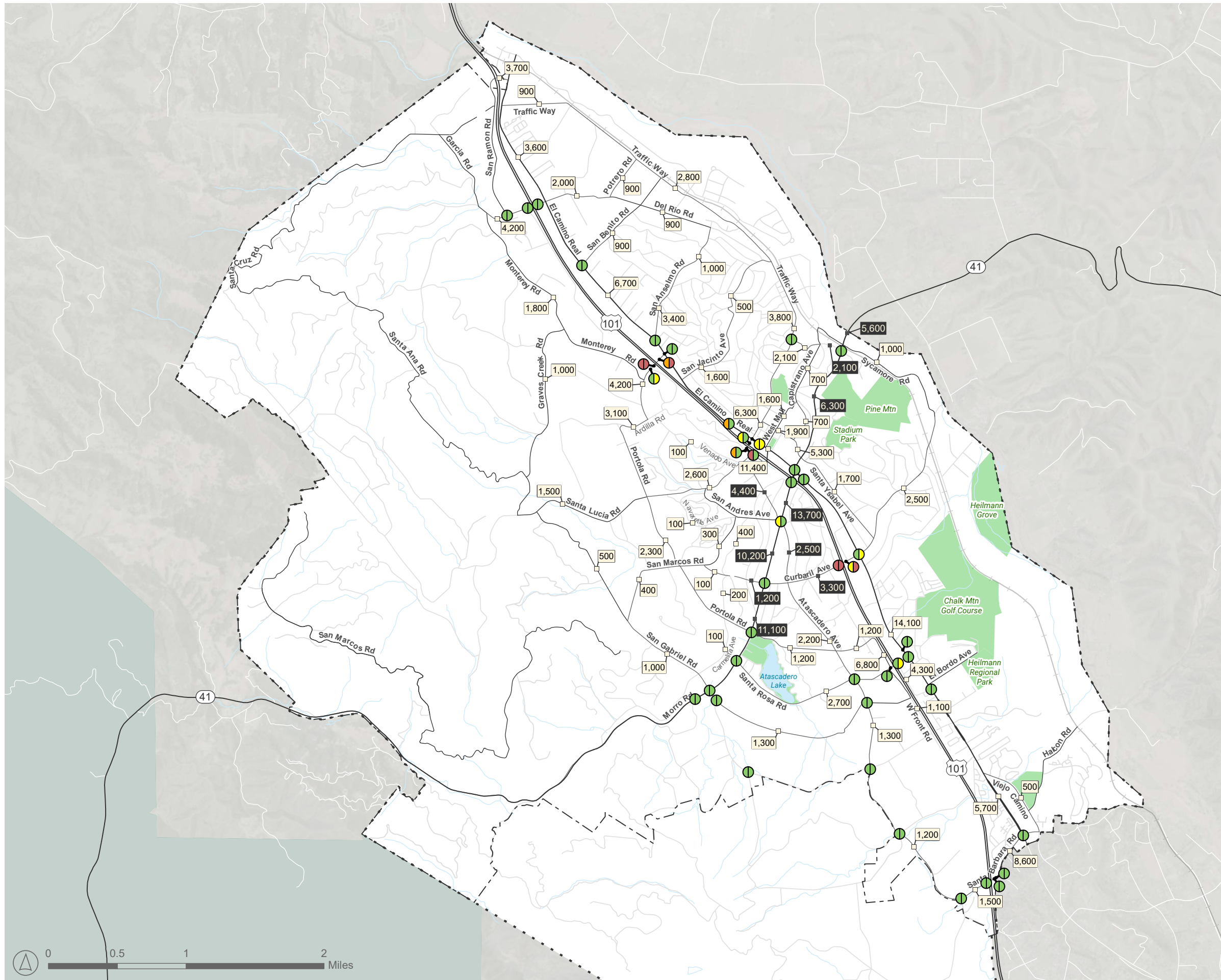


Daily Traffic Volumes



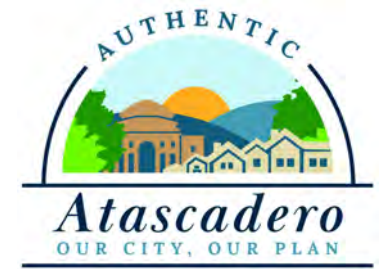
Basemap Features

- Atascadero City Limits
- Urban Reserve Line (SOI)
- Rail Line
- Recreation Area
- Water Body
- Waterway



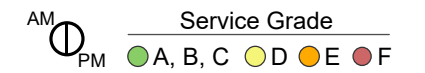
Source(s): Esri, County of San Luis Obispo Open Data, City of Atascadero 2022.





Cumulative Traffic Volumes and LOS

Intersection Level of Service

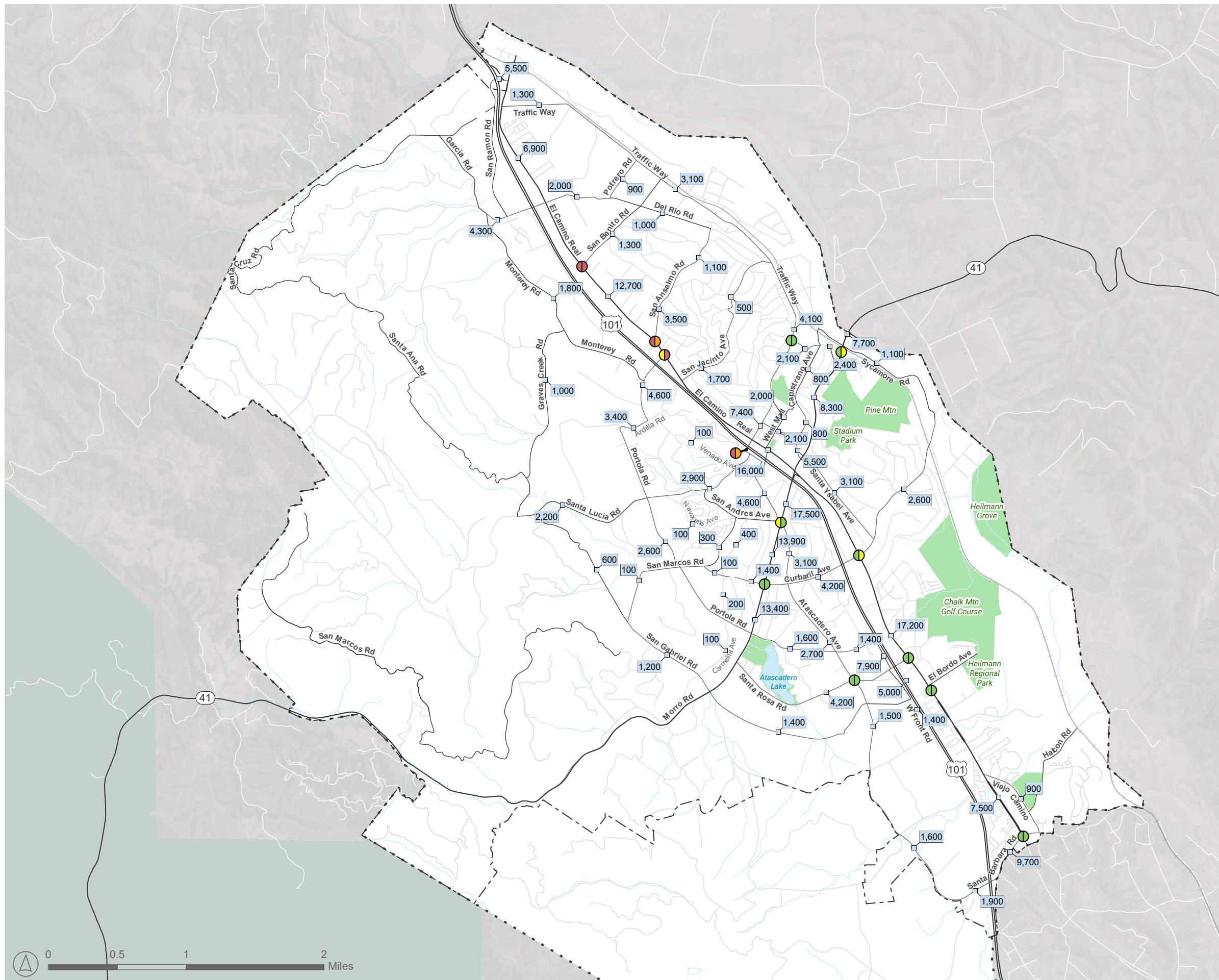


Daily Traffic Volumes



Basemap Features

- Atascadero City Limits
- Urban Reserve Line (SOI)
- Rail Line
- Recreation Area
- Water Body
- Waterway



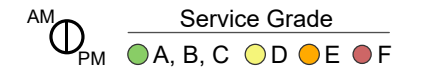
Source(s): Esri, County of San Luis Obispo Open Data, City of Atascadero 2022.





Cumulative Traffic Volumes and LOS

Intersection Level of Service

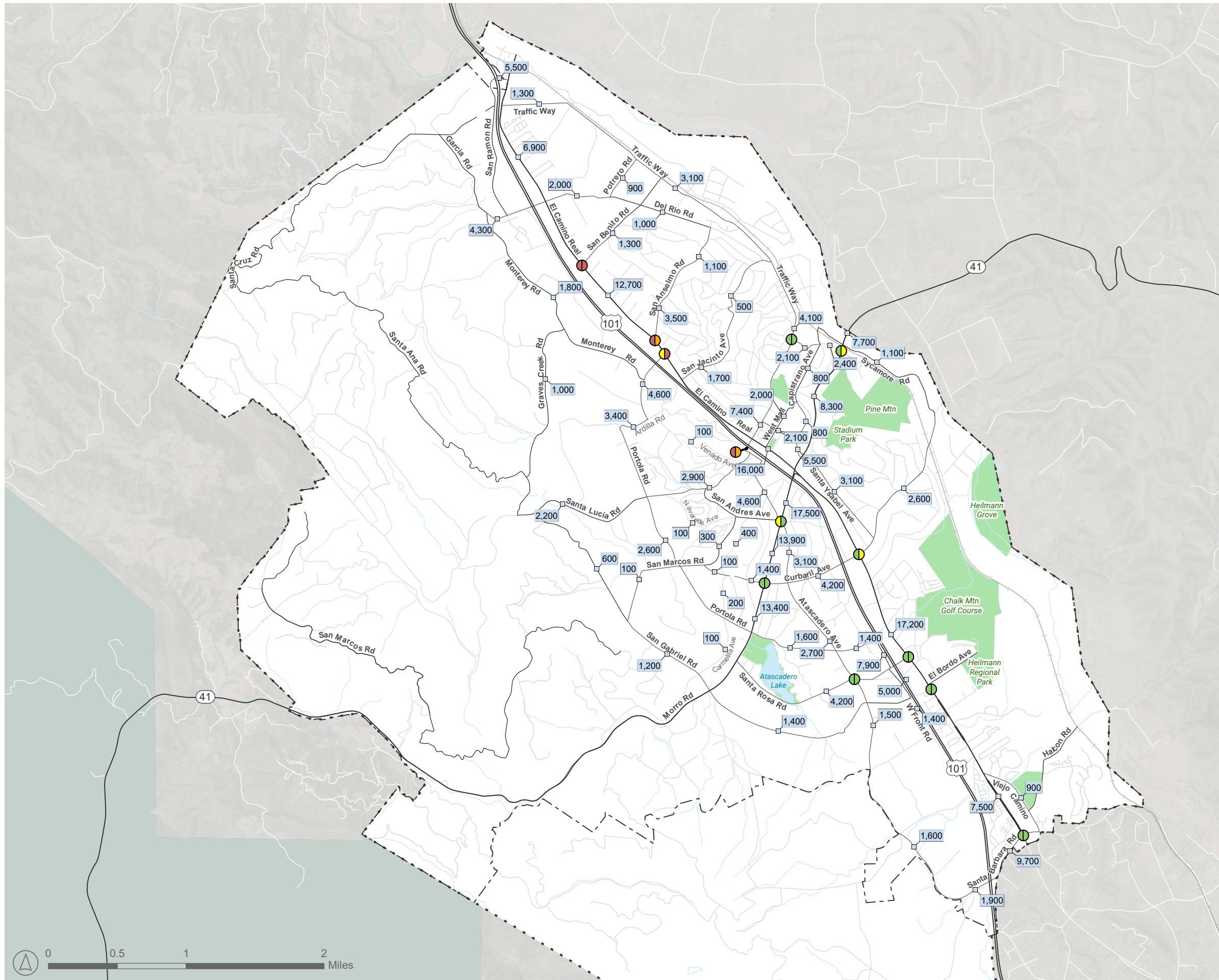


Daily Traffic Volumes



Basemap Features

- Atascadero City Limits
- Urban Reserve Line (SOI)
- Rail Line
- Recreation Area
- Water Body
- Waterway



Source(s): Esri, County of San Luis Obispo Open Data, City of Atascadero 2022.



Appendix A: Synchro Output Sheets

Existing Conditions

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	2	0	3	62	1	23	5	150	38	10	205	3
Future Vol, veh/h	2	0	3	62	1	23	5	150	38	10	205	3
Conflicting Peds, #/hr	1	0	1	1	0	1	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	3	67	1	25	5	163	41	11	223	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	457	463	228	443	444	185	228	0	0	204	0	0
Stage 1	249	249	-	194	194	-	-	-	-	-	-	-
Stage 2	208	214	-	249	250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	514	496	811	525	508	857	1340	-	-	1368	-	-
Stage 1	755	701	-	808	740	-	-	-	-	-	-	-
Stage 2	794	725	-	755	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	492	489	809	518	501	856	1337	-	-	1368	-	-
Mov Cap-2 Maneuver	492	489	-	518	501	-	-	-	-	-	-	-
Stage 1	750	694	-	805	737	-	-	-	-	-	-	-
Stage 2	766	722	-	745	693	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		12.4		0.2		0.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1337	-	-	643	579	1368	-	-
HCM Lane V/C Ratio	0.004	-	-	0.008	0.161	0.008	-	-
HCM Control Delay (s)	7.7	-	-	10.6	12.4	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕	↕	↕	↕↕	
Traffic Vol, veh/h	3	2	0	234	4	14	4	212	68	8	257	3
Future Vol, veh/h	3	2	0	234	4	14	4	212	68	8	257	3
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	2	0	272	5	16	5	247	79	9	299	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	457	656	151	427	578	127	302	0	0	327	0	0
Stage 1	319	319	-	258	258	-	-	-	-	-	-	-
Stage 2	138	337	-	169	320	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	487	384	868	512	425	900	1256	-	-	1229	-	-
Stage 1	667	652	-	724	693	-	-	-	-	-	-	-
Stage 2	851	640	-	816	651	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	469	379	868	504	419	897	1256	-	-	1228	-	-
Mov Cap-2 Maneuver	469	379	-	574	494	-	-	-	-	-	-	-
Stage 1	664	647	-	720	689	-	-	-	-	-	-	-
Stage 2	824	636	-	807	646	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.5		17.2		0.1		0.2	
HCM LOS	B		C					

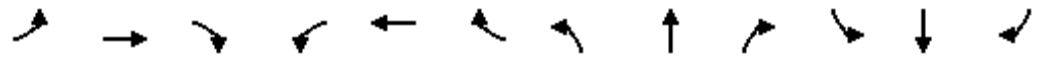
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	428	584	1228	-
HCM Lane V/C Ratio	0.004	-	-	0.014	0.502	0.008	-
HCM Control Delay (s)	7.9	0	-	13.5	17.2	8	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	2.8	0	-



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	173	164	77	246	192	33	212	379
v/c Ratio	0.48	0.36	0.39	0.59	0.12	0.22	0.24	0.56
Control Delay	30.0	7.6	30.2	30.0	13.2	35.9	22.7	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	7.6	30.2	30.0	13.2	35.9	22.7	6.8
Queue Length 50th (ft)	58	0	20	83	24	12	34	0
Queue Length 95th (ft)	131	41	64	173	51	42	73	54
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	1660	1485	731	978	2744	978	2797	1330
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11	0.11	0.25	0.07	0.03	0.08	0.28
Intersection Summary								

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing AM
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↕	↗
Traffic Volume (vph)	132	15	139	7	28	31	209	146	17	28	180	322
Future Volume (vph)	132	15	139	7	28	31	209	146	17	28	180	322
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1783	1583		1736		1770	3476		1770	3539	1583
Flt Permitted		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1783	1583		1736		1770	3476		1770	3539	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	155	18	164	8	33	36	246	172	20	33	212	379
RTOR Reduction (vph)	0	0	132	0	18	0	0	0	0	0	0	277
Lane Group Flow (vph)	0	173	32	0	59	0	246	192	0	33	212	102
Confl. Peds. (#/hr)									1	1		
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8									2
Actuated Green, G (s)		12.6	12.6		5.2		14.6	28.8		3.1	17.3	17.3
Effective Green, g (s)		12.6	12.6		5.2		14.6	28.8		3.1	17.3	17.3
Actuated g/C Ratio		0.20	0.20		0.08		0.23	0.45		0.05	0.27	0.27
Clearance Time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Vehicle Extension (s)		2.0	2.0		1.0		1.0	5.5		1.0	5.5	5.5
Lane Grp Cap (vph)		349	310		140		402	1559		85	953	426
v/s Ratio Prot		c0.10			c0.03		c0.14	0.06		0.02	0.06	
v/s Ratio Perm			0.02									c0.06
v/c Ratio		0.50	0.10		0.42		0.61	0.12		0.39	0.22	0.24
Uniform Delay, d1		23.0	21.2		28.1		22.3	10.3		29.6	18.2	18.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.4	0.1		0.7		1.9	0.1		1.1	0.3	0.7
Delay (s)		23.4	21.2		28.8		24.2	10.4		30.7	18.5	19.0
Level of Service		C	C		C		C	B		C	B	B
Approach Delay (s)		22.3			28.8		18.2			19.5		
Approach LOS		C			C		B			B		
Intersection Summary												
HCM 2000 Control Delay			20.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			64.2				Sum of lost time (s)			14.5		
Intersection Capacity Utilization			45.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing AM
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↕	↗
Traffic Volume (veh/h)	132	15	139	7	28	31	209	146	17	28	180	322
Future Volume (veh/h)	132	15	139	7	28	31	209	146	17	28	180	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	18	164	8	33	36	246	172	20	33	212	379
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	28	237	10	42	46	298	1541	177	96	1303	580
Arrive On Green	0.15	0.15	0.15	0.06	0.06	0.06	0.17	0.48	0.48	0.05	0.37	0.37
Sat Flow, veh/h	1604	186	1585	178	736	803	1781	3212	369	1781	3554	1583
Grp Volume(v), veh/h	173	0	164	77	0	0	246	94	98	33	212	379
Grp Sat Flow(s),veh/h/ln	1790	0	1585	1717	0	0	1781	1777	1804	1781	1777	1583
Q Serve(g_s), s	5.1	0.0	5.5	2.5	0.0	0.0	7.4	1.6	1.7	1.0	2.2	11.1
Cycle Q Clear(g_c), s	5.1	0.0	5.5	2.5	0.0	0.0	7.4	1.6	1.7	1.0	2.2	11.1
Prop In Lane	0.90		1.00	0.10		0.47	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	267	0	237	98	0	0	298	853	865	96	1303	580
V/C Ratio(X)	0.65	0.00	0.69	0.78	0.00	0.00	0.83	0.11	0.11	0.34	0.16	0.65
Avail Cap(c_a), veh/h	2053	0	1818	738	0	0	1021	1560	1584	1021	3120	1390
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	22.5	26.0	0.0	0.0	22.5	8.0	8.0	25.5	11.9	14.7
Incr Delay (d2), s/veh	1.0	0.0	1.4	5.1	0.0	0.0	2.2	0.2	0.2	0.8	0.2	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.9	1.1	0.0	0.0	2.9	0.5	0.5	0.4	0.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	23.9	31.0	0.0	0.0	24.7	8.1	8.1	26.2	12.1	18.1
LnGrp LOS	C	A	C	C	A	A	C	A	A	C	B	B
Approach Vol, veh/h		337			77			438			624	
Approach Delay, s/veh		23.6			31.0			17.4			16.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	24.5		6.7	6.5	30.8		11.8				
Change Period (Y+Rc), s	3.5	4.0		3.5	3.5	4.0		3.5				
Max Green Setting (Gmax), s	32.0	49.0		24.0	32.0	49.0		64.0				
Max Q Clear Time (g_c+I1), s	9.4	13.1		4.5	3.0	3.7		7.5				
Green Ext Time (p_c), s	0.1	7.3		0.1	0.0	2.5		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			19.2									
HCM 6th LOS			B									

























Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	181	260	298	41	199	269	39	13	231	50
v/c Ratio	0.63	0.56	0.75	0.09	0.73	0.16	0.05	0.10	0.22	0.09
Control Delay	44.4	9.1	45.1	0.4	52.0	16.5	0.1	41.8	27.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	9.1	45.1	0.4	52.0	16.5	0.1	41.8	27.7	0.3
Queue Length 50th (ft)	97	0	158	0	108	42	0	7	52	0
Queue Length 95th (ft)	153	60	234	0	#184	94	0	26	97	0
Internal Link Dist (ft)	306		234			460			694	
Turn Bay Length (ft)		150		160	125		125	125		125
Base Capacity (vph)	406	549	434	484	311	1712	800	127	1094	576
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	0.45	0.47	0.69	0.08	0.64	0.16	0.05	0.10	0.21	0.09

Intersection Summary

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

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave

Existing AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	111	250	72	214	39	191	258	37	12	222	48
Future Volume (vph)	62	111	250	72	214	39	191	258	37	12	222	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1830	1562		1840	1583	1770	3539	1546	1766	3539	1543
Flt Permitted		0.98	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1830	1562		1840	1583	1770	3539	1546	1766	3539	1543
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	65	116	260	75	223	41	199	269	39	12	231	50
RTOR Reduction (vph)	0	0	219	0	0	32	0	0	22	0	0	35
Lane Group Flow (vph)	0	181	41	0	298	9	199	269	17	13	231	15
Confl. Peds. (#/hr)			1	1					1	1		1
Confl. Bikes (#/hr)									1			2
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		14.3	14.3		19.4	19.4	13.9	39.9	39.9	0.9	26.9	26.9
Effective Green, g (s)		14.3	14.3		19.4	19.4	13.9	39.9	39.9	0.9	26.9	26.9
Actuated g/C Ratio		0.16	0.16		0.22	0.22	0.15	0.44	0.44	0.01	0.30	0.30
Clearance Time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.5	4.0	4.0	2.5	4.0	4.0
Lane Grp Cap (vph)		290	248		396	341	273	1568	685	17	1057	461
v/s Ratio Prot		c0.10			c0.16		c0.11	0.08		0.01	c0.07	
v/s Ratio Perm			0.03			0.01			0.01			0.01
v/c Ratio		0.62	0.17		0.75	0.03	0.73	0.17	0.03	0.76	0.22	0.03
Uniform Delay, d1		35.3	32.7		33.1	27.8	36.3	15.1	14.1	44.4	23.7	22.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		4.1	0.3		7.9	0.0	8.8	0.2	0.1	103.6	0.5	0.1
Delay (s)		39.5	33.0		40.9	27.9	45.1	15.3	14.2	148.1	24.1	22.5
Level of Service		D	C		D	C	D	B	B	F	C	C
Approach Delay (s)		35.7			39.3			26.9			29.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.5									C
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			90.0								15.5	
Intersection Capacity Utilization			61.2%									B
Analysis Period (min)			15									






















c Critical Lane Group



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	127	422	8	392	324	1	302	131
v/c Ratio	0.58	0.36	0.06	0.53	0.14	0.01	0.46	0.34
Control Delay	40.8	1.9	27.0	21.7	6.8	38.0	29.2	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	1.9	27.0	21.7	6.8	38.0	29.2	8.4
Queue Length 50th (ft)	48	0	1	110	19	0	58	0
Queue Length 95th (ft)	124	35	15	306	78	6	116	42
Internal Link Dist (ft)	486		78		253		275	
Turn Bay Length (ft)		195		105		100		100
Base Capacity (vph)	669	1188	712	760	2531	506	2027	929
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.36	0.01	0.52	0.13	0.00	0.15	0.14
Intersection Summary								

Atascadero General Plan Update
5: El Camino Real & Santa Rosa Rd

Existing AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	12	367	0	2	5	341	280	2	1	263	114
Future Volume (vph)	98	12	367	0	2	5	341	280	2	1	263	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.90		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.90		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1776	1583		1512		1770	3535		1770	3539	1536
Flt Permitted		0.74	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1380	1583		1512		1770	3535		1770	3539	1536
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	113	14	422	0	2	6	392	322	2	1	302	131
RTOR Reduction (vph)	0	0	203	0	6	0	0	0	0	0	0	101
Lane Group Flow (vph)	0	127	219	0	2	0	392	324	0	1	302	30
Confl. Peds. (#/hr)	5					5	4		5			4
Confl. Bikes (#/hr)									2			2
Turn Type	Perm	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	1		3		1	6		5	2	
Permitted Phases	4		4	3								2
Actuated Green, G (s)		11.4	41.5		0.8		30.1	46.9		0.7	17.5	17.5
Effective Green, g (s)		11.4	41.5		0.8		30.1	46.9		0.7	17.5	17.5
Actuated g/C Ratio		0.14	0.52		0.01		0.38	0.59		0.01	0.22	0.22
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)		197	922		15		667	2077		15	776	336
v/s Ratio Prot			0.09		c0.00		c0.22	0.09		0.00	c0.09	
v/s Ratio Perm		c0.09	0.05									0.02
v/c Ratio		0.64	0.24		0.14		0.59	0.16		0.07	0.39	0.09
Uniform Delay, d1		32.3	10.5		39.2		19.9	7.5		39.2	26.6	24.8
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		5.3	0.0		1.5		0.9	0.0		0.7	0.3	0.1
Delay (s)		37.6	10.5		40.7		20.7	7.5		39.9	26.9	24.9
Level of Service		D	B		D		C	A		D	C	C
Approach Delay (s)		16.8			40.7			14.8			26.3	
Approach LOS		B			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			18.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			79.8				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			53.8%				ICU Level of Service			A		
Analysis Period (min)			15									

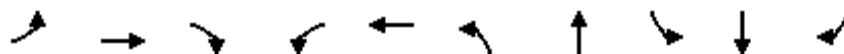
c Critical Lane Group

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	14	0	37	0	1	1	55	536	0	2	483	8
Future Vol, veh/h	14	0	37	0	1	1	55	536	0	2	483	8
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	43	0	1	1	63	616	0	2	555	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1000	1305	281	1025	1314	312	567	0	0	617	0	0
Stage 1	562	562	-	743	743	-	-	-	-	-	-	-
Stage 2	438	743	-	282	571	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	197	159	716	189	157	684	1001	-	-	959	-	-
Stage 1	479	508	-	373	420	-	-	-	-	-	-	-
Stage 2	567	420	-	701	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	185	148	714	169	146	681	998	-	-	958	-	-
Mov Cap-2 Maneuver	304	267	-	270	255	-	-	-	-	-	-	-
Stage 1	447	505	-	349	393	-	-	-	-	-	-	-
Stage 2	527	393	-	658	500	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.8		14.8		0.8		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	998	-	-	521	371	958	-
HCM Lane V/C Ratio	0.063	-	-	0.113	0.006	0.002	-
HCM Control Delay (s)	8.9	-	-	12.8	14.8	8.8	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	98	99	8	204	203	106	7	78	215
v/c Ratio	0.17	0.21	0.21	0.02	0.43	0.49	0.12	0.03	0.20	0.44
Control Delay	17.8	17.3	5.7	16.0	19.9	22.3	9.3	24.5	20.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	17.3	5.7	16.0	19.9	22.3	9.3	24.5	20.4	6.9
Queue Length 50th (ft)	11	22	0	2	49	52	13	2	19	0
Queue Length 95th (ft)	37	62	29	11	116	120	55	13	58	47
Internal Link Dist (ft)		435			214		337		398	
Turn Bay Length (ft)	265		265	155		120		160		160
Base Capacity (vph)	667	1114	985	773	1108	1024	1352	1024	1366	1213
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.10	0.01	0.18	0.20	0.08	0.01	0.06	0.18
Intersection Summary										

8: Ardilla Ave/Traffic Way & US 101 SB Ramp Performance by approach

Approach	EB	NB	SB	SE	All
Denied Del/Veh (s)	0.1	0.6	0.5	16.6	3.0
Total Del/Veh (s)	82.2	3.6	8.2	79.5	20.2

Atascadero General Plan Update
7: El Camino Real & Santa Barbara Rd

Existing AM
HCM Signalized Intersection Capacity Analysis



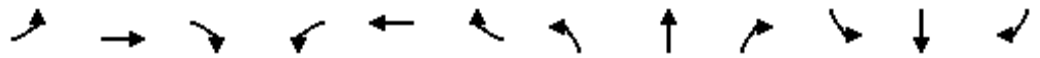
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	87	88	7	174	7	181	88	6	6	69	191
Future Volume (vph)	43	87	88	7	174	7	181	88	6	6	69	191
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	1810	1538	1719	1799		1719	1792		1719	1810	1538
Flt Permitted	0.60	1.00	1.00	0.69	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1084	1810	1538	1255	1799		1719	1792		1719	1810	1538
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	48	98	99	8	196	8	203	99	7	7	78	215
RTOR Reduction (vph)	0	0	74	0	2	0	0	2	0	0	0	159
Lane Group Flow (vph)	48	98	25	8	202	0	203	104	0	7	78	56
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	13.6	13.6	13.6	13.6	13.6		12.5	25.8		1.1	14.4	14.4
Effective Green, g (s)	13.6	13.6	13.6	13.6	13.6		12.5	25.8		1.1	14.4	14.4
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.23	0.47		0.02	0.26	0.26
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.5	5.8		3.5	5.8	5.8
Lane Grp Cap (vph)	269	449	381	311	446		392	843		34	475	404
v/s Ratio Prot		0.05			c0.11		c0.12	0.06		0.00	c0.04	
v/s Ratio Perm	0.04		0.02	0.01								0.04
v/c Ratio	0.18	0.22	0.06	0.03	0.45		0.52	0.12		0.21	0.16	0.14
Uniform Delay, d1	16.2	16.4	15.7	15.6	17.5		18.5	8.1		26.4	15.6	15.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.5	0.1	0.1	1.5		1.3	0.2		3.5	0.4	0.4
Delay (s)	16.9	16.9	15.9	15.7	19.0		19.9	8.3		30.0	16.0	15.9
Level of Service	B	B	B	B	B		B	A		C	B	B
Approach Delay (s)		16.5			18.9			15.9			16.2	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	14.3
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Atascadero General Plan Update
7: El Camino Real & Santa Barbara Rd

Existing AM
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	87	88	7	174	7	181	88	6	6	69	191
Future Volume (veh/h)	43	87	88	7	174	7	181	88	6	6	69	191
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	48	98	99	8	196	8	203	99	7	7	78	215
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	336	426	361	399	406	17	278	676	48	16	458	389
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.16	0.40	0.40	0.01	0.25	0.25
Sat Flow, veh/h	1150	1826	1547	1157	1742	71	1739	1685	119	1739	1826	1547
Grp Volume(v), veh/h	48	98	99	8	0	204	203	0	106	7	78	215
Grp Sat Flow(s),veh/h/ln	1150	1826	1547	1157	0	1813	1739	0	1804	1739	1826	1547
Q Serve(g_s), s	1.5	1.7	2.1	0.2	0.0	3.9	4.5	0.0	1.5	0.2	1.3	4.9
Cycle Q Clear(g_c), s	5.4	1.7	2.1	2.0	0.0	3.9	4.5	0.0	1.5	0.2	1.3	4.9
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	336	426	361	399	0	423	278	0	724	16	458	389
V/C Ratio(X)	0.14	0.23	0.27	0.02	0.00	0.48	0.73	0.00	0.15	0.43	0.17	0.55
Avail Cap(c_a), veh/h	955	1409	1194	1022	0	1399	1299	0	1707	1299	1727	1464
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	12.5	12.6	13.3	0.0	13.3	16.1	0.0	7.6	19.8	11.8	13.1
Incr Delay (d2), s/veh	0.4	0.6	0.9	0.0	0.0	1.8	4.4	0.0	0.3	20.2	0.6	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.6	0.1	0.0	1.4	1.7	0.0	0.4	0.1	0.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	13.1	13.5	13.3	0.0	15.1	20.5	0.0	7.9	40.0	12.3	17.0
LnGrp LOS	B	B	B	B	A	B	C	A	A	D	B	B
Approach Vol, veh/h		245			212			309			300	
Approach Delay, s/veh		13.8			15.1			16.2			16.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	21.8		14.0	10.4	15.8		14.0				
Change Period (Y+Rc), s	4.0	5.7		4.6	4.0	5.7		4.6				
Max Green Setting (Gmax), s	30.0	38.0		31.0	30.0	38.0		31.0				
Max Q Clear Time (g_c+I1), s	2.2	3.5		7.4	6.5	6.9		5.9				
Green Ext Time (p_c), s	0.0	1.3		2.0	0.7	3.2		2.1				
Intersection Summary												
HCM 6th Ctrl Delay				15.5								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	77	136	22	66	180
Future Vol, veh/h	26	77	136	22	66	180
Conflicting Peds, #/hr	0	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	104	184	30	89	243

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	621	201	0	0	215
Stage 1	200	-	-	-	-
Stage 2	421	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	451	840	-	-	1355
Stage 1	834	-	-	-	-
Stage 2	662	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	416	838	-	-	1354
Mov Cap-2 Maneuver	416	-	-	-	-
Stage 1	833	-	-	-	-
Stage 2	612	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.1
HCM LOS	B		



















Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	667	1354
HCM Lane V/C Ratio	-	-	0.209	0.066
HCM Control Delay (s)	-	-	11.8	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.2



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	149	6	391	112	33	463
v/c Ratio	0.27	0.39	0.03	0.53	0.17	0.13	0.56
Control Delay	14.9	16.5	25.2	15.4	6.4	23.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	16.5	25.2	15.4	6.4	23.9	13.7
Queue Length 50th (ft)	14	18	1	42	3	5	52
Queue Length 95th (ft)	64	80	13	214	38	37	250
Internal Link Dist (ft)	369	467		389			478
Turn Bay Length (ft)			200		105	200	
Base Capacity (vph)	1337	1170	949	1812	1505	949	1796
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.13	0.01	0.22	0.07	0.03	0.26
Intersection Summary							





















Atascadero General Plan Update
10: SR 41 & Curbaril Ave

Existing AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	56	15	69	27	33	5	336	96	28	378	20
Future Volume (vph)	28	56	15	69	27	33	5	336	96	28	378	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00			0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.97		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1799			1742		1770	1863	1550	1770	1849	
Flt Permitted		0.88			0.79		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1607			1405		1770	1863	1550	1770	1849	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	33	65	17	80	31	38	6	391	112	33	440	23
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	48	0	2	0
Lane Group Flow (vph)	0	110	0	0	139	0	6	391	64	33	461	0
Confl. Peds. (#/hr)	1					1			1	1		
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		11.1			11.1		0.6	17.9	17.9	1.9	18.7	
Effective Green, g (s)		11.1			11.1		0.6	17.9	17.9	1.9	18.7	
Actuated g/C Ratio		0.25			0.25		0.01	0.40	0.40	0.04	0.42	
Clearance Time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Vehicle Extension (s)		1.0			1.0		1.5	1.0	1.0	1.5	1.0	
Lane Grp Cap (vph)		397			347		23	742	617	74	770	
v/s Ratio Prot							0.00	0.21		c0.02	c0.25	
v/s Ratio Perm		0.07			c0.10				0.04			
v/c Ratio		0.28			0.40		0.26	0.53	0.10	0.45	0.60	
Uniform Delay, d1		13.7			14.1		21.9	10.3	8.5	21.0	10.2	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			0.3		2.2	0.3	0.0	1.6	0.8	
Delay (s)		13.8			14.4		24.1	10.6	8.5	22.5	11.0	
Level of Service		B			B		C	B	A	C	B	
Approach Delay (s)		13.8			14.4		10.3				11.8	
Approach LOS		B			B		B				B	
Intersection Summary												
HCM 2000 Control Delay			11.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			44.9				Sum of lost time (s)			14.5		
Intersection Capacity Utilization			45.0%				ICU Level of Service			A		
Analysis Period (min)			15									
c	Critical Lane Group											

Atascadero General Plan Update
10: SR 41 & Curbaril Ave

Existing AM
HCM 6th Signalized Intersection Summary























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	56	15	69	27	33	5	336	96	28	378	20
Future Volume (veh/h)	28	56	15	69	27	33	5	336	96	28	378	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	65	17	80	31	38	6	391	112	33	440	23
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	239	52	310	106	82	14	573	485	71	568	30
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.01	0.31	0.31	0.04	0.32	0.32
Sat Flow, veh/h	297	1155	252	645	511	396	1781	1870	1582	1781	1762	92
Grp Volume(v), veh/h	115	0	0	149	0	0	6	391	112	33	0	463
Grp Sat Flow(s),veh/h/ln	1704	0	0	1552	0	0	1781	1870	1582	1781	0	1854
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	5.7	1.7	0.6	0.0	7.1
Cycle Q Clear(g_c), s	1.7	0.0	0.0	2.4	0.0	0.0	0.1	5.7	1.7	0.6	0.0	7.1
Prop In Lane	0.29		0.15	0.54		0.26	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	501	0	0	498	0	0	14	573	485	71	0	597
V/C Ratio(X)	0.23	0.00	0.00	0.30	0.00	0.00	0.41	0.68	0.23	0.47	0.00	0.78
Avail Cap(c_a), veh/h	1883	0	0	1692	0	0	1136	3698	3129	1136	0	3665
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	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	0.0	10.8	0.0	0.0	15.5	9.5	8.1	14.7	0.0	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	6.9	0.5	0.1	1.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	0.1	1.5	0.4	0.2	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	0.0	10.9	0.0	0.0	22.4	10.1	8.2	16.5	0.0	10.4
LnGrp LOS	B	A	A	B	A	A	C	B	A	B	A	B
Approach Vol, veh/h		115			149			509				496
Approach Delay, s/veh		10.6			10.9			9.8				10.8
Approach LOS		B			B			A				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	14.9		11.1	4.9	15.4		11.1				
Change Period (Y+Rc), s	4.1	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	20.0	62.0		33.0	20.0	62.0		32.0				
Max Q Clear Time (g_c+I1), s	2.6	7.7		3.7	2.1	9.1		4.4				
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	0.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				10.4								
HCM 6th LOS				B								



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	300	51	193	97	50	447	4	105	624	225
v/c Ratio	0.73	0.13	0.69	0.33	0.42	0.69	0.01	0.58	0.81	0.33
Control Delay	61.3	8.8	70.2	28.4	79.2	42.5	0.0	76.1	45.3	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	8.8	70.2	28.4	79.2	42.5	0.0	76.1	45.3	17.7
Queue Length 50th (ft)	230	0	153	26	41	308	0	84	460	71
Queue Length 95th (ft)	366	16	255	70	91	432	0	159	606	123
Internal Link Dist (ft)	408		339			523			385	
Turn Bay Length (ft)		35		50	150		300	200		200
Base Capacity (vph)	627	573	647	592	385	1227	1030	385	1227	1041
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	0.48	0.09	0.30	0.16	0.13	0.36	0.00	0.27	0.51	0.22
Intersection Summary										

Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	67	39	11	136	74	38	340	3	80	474	171
Future Volume (vph)	161	67	39	11	136	74	38	340	3	80	474	171
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes		1.00	0.97		1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1799	1531		1856	1583	1770	1863	1540	1770	1863	1539
Flt Permitted		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1799	1531		1856	1583	1770	1863	1540	1770	1863	1539
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	212	88	51	14	179	97	50	447	4	105	624	225
RTOR Reduction (vph)	0	0	39	0	0	53	0	0	3	0	0	55
Lane Group Flow (vph)	0	300	12	0	193	44	50	447	1	105	624	170
Confl. Peds. (#/hr)			6	6					4			3
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8			2			6
Actuated Green, G (s)		29.1	29.1		19.2	19.2	6.8	46.2	46.2	13.1	52.5	52.5
Effective Green, g (s)		29.1	29.1		19.2	19.2	6.8	46.2	46.2	13.1	52.5	52.5
Actuated g/C Ratio		0.23	0.23		0.15	0.15	0.05	0.36	0.36	0.10	0.41	0.41
Clearance Time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3
Vehicle Extension (s)		1.5	1.5		1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0
Lane Grp Cap (vph)		413	351		281	239	94	679	561	183	771	637
v/s Ratio Prot		c0.17		c0.10			0.03	0.24		c0.06	c0.33	
v/s Ratio Perm			0.01			0.03			0.00			0.11
v/c Ratio		0.73	0.03		0.69	0.19	0.53	0.66	0.00	0.57	0.81	0.27
Uniform Delay, d1		45.1	37.9		50.9	46.9	58.4	33.7	25.6	54.1	32.7	24.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		5.3	0.0		5.5	0.1	2.9	1.8	0.0	2.7	5.9	0.1
Delay (s)		50.4	37.9		56.4	47.1	61.3	35.4	25.6	56.8	38.6	24.5
Level of Service		D	D		E	D	E	D	C	E	D	C
Approach Delay (s)		48.6			53.3			37.9			37.3	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			41.6		HCM 2000 Level of Service						D	
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			126.7		Sum of lost time (s)					19.1		
Intersection Capacity Utilization			65.2%		ICU Level of Service					C		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	30	0	67	0	0	0	43	143	3	2	322	47
Future Vol, veh/h	30	0	67	0	0	0	43	143	3	2	322	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	285	-	-	165	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	32	0	71	0	0	0	45	151	3	2	339	49

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	611	612	364	646	635	153	388	0	0	154	0	0
Stage 1	368	368	-	243	243	-	-	-	-	-	-	-
Stage 2	243	244	-	403	392	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	404	407	679	383	395	890	1165	-	-	1420	-	-
Stage 1	650	620	-	758	703	-	-	-	-	-	-	-
Stage 2	758	702	-	622	605	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	391	391	679	333	379	890	1165	-	-	1420	-	-
Mov Cap-2 Maneuver	391	391	-	333	379	-	-	-	-	-	-	-
Stage 1	625	619	-	728	676	-	-	-	-	-	-	-
Stage 2	729	675	-	557	604	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	0	1.9	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1165	-	-	553	-	1420	-
HCM Lane V/C Ratio	0.039	-	-	0.185	-	0.001	-
HCM Control Delay (s)	8.2	-	-	13	0	7.5	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	-	0	-

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	111	6	48	50	46	8	72	75	206	53	7
Future Vol, veh/h	7	111	6	48	50	46	8	72	75	206	53	7
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	141	8	61	63	58	10	91	95	261	67	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	10.7	10.2	13.6
HCM LOS	B	B	B	B






















Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	6%	33%	77%
Vol Thru, %	46%	90%	35%	20%
Vol Right, %	48%	5%	32%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	124	144	266
LT Vol	8	7	48	206
Through Vol	72	111	50	53
RT Vol	75	6	46	7
Lane Flow Rate	196	157	182	337
Geometry Grp	1	1	1	1
Degree of Util (X)	0.281	0.247	0.279	0.499
Departure Headway (Hd)	5.155	5.668	5.517	5.339
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	633	651	673
Service Time	3.197	3.713	3.562	3.376
HCM Lane V/C Ratio	0.281	0.248	0.28	0.501
HCM Control Delay	10.2	10.6	10.7	13.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.2	1	1.1	2.8



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	173	164	77	246	192	33	212	379
v/c Ratio	0.49	0.37	0.32	0.48	0.14	0.07	0.25	0.57
Control Delay	28.5	7.3	21.1	14.5	15.3	10.5	20.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	7.3	21.1	14.5	15.3	10.5	20.2	6.5
Queue Length 50th (ft)	58	0	14	52	19	6	33	0
Queue Length 95th (ft)	115	38	51	101	53	20	60	47
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	874	860	244	526	1443	492	1296	819
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.32	0.47	0.13	0.07	0.16	0.46
Intersection Summary								






















Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing AM Mitigated
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	15	139	7	28	31	209	146	17	28	180	322
Future Volume (vph)	132	15	139	7	28	31	209	146	17	28	180	322
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1		4.6		5.4	5.4		5.4	5.4	5.4
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1783	1583		1736		1770	3476		1767	3539	1583
Flt Permitted		0.96	1.00		0.99		0.47	1.00		0.63	1.00	1.00
Satd. Flow (perm)		1783	1583		1736		880	3476		1174	3539	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	155	18	164	8	33	36	246	172	20	33	212	379
RTOR Reduction (vph)	0	0	134	0	33	0	0	0	0	0	0	274
Lane Group Flow (vph)	0	173	30	0	44	0	246	192	0	33	212	105
Confl. Peds. (#/hr)									1	1		
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8				6			2		2
Actuated Green, G (s)		11.6	11.6		5.3		31.0	23.2		19.8	17.4	17.4
Effective Green, g (s)		11.6	11.6		5.3		31.0	23.2		19.8	17.4	17.4
Actuated g/C Ratio		0.18	0.18		0.08		0.49	0.37		0.31	0.28	0.28
Clearance Time (s)		5.1	5.1		4.6		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)		2.0	2.0		1.0		1.0	5.5		1.0	5.5	5.5
Lane Grp Cap (vph)		328	291		146		548	1280		391	977	437
v/s Ratio Prot		c0.10			c0.03		c0.06	0.06		0.00	0.06	
v/s Ratio Perm			0.02				c0.16			0.02		0.07
v/c Ratio		0.53	0.10		0.30		0.45	0.15		0.08	0.22	0.24
Uniform Delay, d1		23.2	21.4		27.1		9.7	13.3		15.1	17.6	17.7
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.7	0.1		0.4		0.2	0.1		0.0	0.3	0.7
Delay (s)		23.9	21.4		27.5		9.9	13.4		15.1	17.8	18.4
Level of Service		C	C		C		A	B		B	B	B
Approach Delay (s)		22.7			27.5			11.5			18.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			63.0				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			50.2%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing AM Mitigated
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	15	139	7	28	31	209	146	17	28	180	322
Future Volume (veh/h)	132	15	139	7	28	31	209	146	17	28	180	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	18	164	8	33	36	246	172	20	33	212	379
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	30	258	15	61	67	545	977	112	636	1047	466
Arrive On Green	0.16	0.16	0.16	0.08	0.08	0.08	0.12	0.30	0.30	0.11	0.29	0.29
Sat Flow, veh/h	1604	186	1585	178	736	803	1781	3211	369	1781	3554	1582
Grp Volume(v), veh/h	173	0	164	77	0	0	246	94	98	33	212	379
Grp Sat Flow(s),veh/h/ln	1790	0	1585	1717	0	0	1781	1777	1803	1781	1777	1582
Q Serve(g_s), s	5.5	0.0	5.9	2.6	0.0	0.0	5.7	2.4	2.4	0.7	2.7	13.6
Cycle Q Clear(g_c), s	5.5	0.0	5.9	2.6	0.0	0.0	5.7	2.4	2.4	0.7	2.7	13.6
Prop In Lane	0.90		1.00	0.10		0.47	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	292	0	258	143	0	0	545	541	549	636	1047	466
V/C Ratio(X)	0.59	0.00	0.64	0.54	0.00	0.00	0.45	0.17	0.18	0.05	0.20	0.81
Avail Cap(c_a), veh/h	819	0	725	196	0	0	574	653	663	636	1214	540
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	23.9	26.9	0.0	0.0	12.1	15.6	15.7	10.9	16.2	20.0
Incr Delay (d2), s/veh	0.7	0.0	1.0	1.2	0.0	0.0	0.2	0.4	0.4	0.0	0.3	11.3
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	2.2	0.0	2.1	1.1	0.0	0.0	1.9	0.9	0.9	0.2	1.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	0.0	24.9	28.1	0.0	0.0	12.3	16.1	16.1	10.9	16.5	31.3
LnGrp LOS	C	A	C	C	A	A	B	B	B	B	B	C
Approach Vol, veh/h		337			77			438			624	
Approach Delay, s/veh		24.7			28.1			14.0			25.2	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	23.4		9.7	12.4	24.0		15.1				
Change Period (Y+Rc), s	5.4	5.4		4.6	5.4	5.4		5.1				
Max Green Setting (Gmax), s	8.6	20.9		7.0	7.0	22.5		28.0				
Max Q Clear Time (g_c+I1), s	7.7	15.6		4.6	2.7	4.4		7.9				
Green Ext Time (p_c), s	0.0	2.4		0.0	0.0	1.8		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	376	75	264	199	269	39	13	231	50
v/c Ratio	0.42	0.81	0.91	0.65	0.68	0.12	0.04	0.09	0.15	0.07
Control Delay	36.5	34.1	112.3	37.0	46.5	8.6	0.4	40.3	18.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	34.1	112.3	37.0	46.5	8.6	0.4	40.3	18.2	0.2
Queue Length 50th (ft)	32	133	42	132	108	25	0	7	40	0
Queue Length 95th (ft)	64	210	#107	185	166	73	3	25	83	0
Internal Link Dist (ft)		306		234		460			694	
Turn Bay Length (ft)					125		125	125		125
Base Capacity (vph)	227	628	122	599	483	2266	1021	169	1564	766
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	0.29	0.60	0.61	0.44	0.41	0.12	0.04	0.08	0.15	0.07

Intersection Summary

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

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave

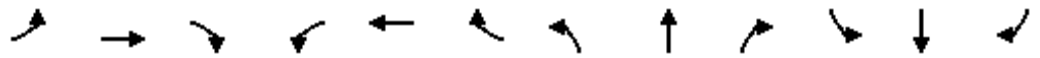
Existing AM Mitigated
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	111	250	72	214	39	191	258	37	12	222	48
Future Volume (vph)	62	111	250	72	214	39	191	258	37	12	222	48
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		4.7	4.7		5.4	5.4	5.4	5.4	5.4	5.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.90		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1654		1769	1819		1770	3539	1546	1770	3539	1544
Flt Permitted	0.37	1.00		0.20	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	698	1654		376	1819		1770	3539	1546	1770	3539	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	65	116	260	75	223	41	199	269	39	12	231	50
RTOR Reduction (vph)	0	104	0	0	9	0	0	0	16	0	0	28
Lane Group Flow (vph)	65	272	0	75	255	0	199	269	23	13	231	22
Confl. Peds. (#/hr)			1	1					1	1		1
Confl. Bikes (#/hr)									1			2
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8					6			2
Actuated Green, G (s)	19.8	19.8		19.8	19.8		14.9	53.3	53.3	1.4	39.8	39.8
Effective Green, g (s)	19.8	19.8		19.8	19.8		14.9	53.3	53.3	1.4	39.8	39.8
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.17	0.59	0.59	0.02	0.44	0.44
Clearance Time (s)	4.7	4.7		4.7	4.7		5.4	5.4	5.4	5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.5	4.0	4.0	2.5	4.0	4.0
Lane Grp Cap (vph)	153	363		82	400		293	2095	915	27	1565	682
v/s Ratio Prot		0.16			0.14		c0.11	0.08		0.01	c0.07	
v/s Ratio Perm	0.09			c0.20					0.01			0.01
v/c Ratio	0.42	0.75		0.91	0.64		0.68	0.13	0.03	0.48	0.15	0.03
Uniform Delay, d1	30.2	32.8		34.3	31.9		35.3	8.1	7.6	43.9	15.0	14.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	8.4		70.8	3.3		5.6	0.1	0.1	9.5	0.2	0.1
Delay (s)	32.1	41.2		105.1	35.2		40.9	8.2	7.6	53.5	15.2	14.3
Level of Service	C	D		F	D		D	A	A	D	B	B
Approach Delay (s)		39.9			50.7			21.0			16.7	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			31.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			15.5			
Intersection Capacity Utilization			69.5%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave

Existing AM Mitigated
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	111	250	72	214	39	191	258	37	12	222	48
Future Volume (veh/h)	62	111	250	72	214	39	191	258	37	12	222	48
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	116	260	75	223	41	199	269	39	12	231	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	156	349	180	466	86	238	1792	782	36	1389	605
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.13	0.50	0.50	0.02	0.39	0.39
Sat Flow, veh/h	1115	513	1149	1006	1537	283	1781	3554	1551	1781	3554	1548
Grp Volume(v), veh/h	65	0	376	75	0	264	199	269	39	12	231	50
Grp Sat Flow(s),veh/h/ln	1115	0	1662	1006	0	1819	1781	1777	1551	1781	1777	1548
Q Serve(g_s), s	4.5	0.0	18.3	6.5	0.0	10.6	9.8	3.7	1.2	0.6	3.8	1.8
Cycle Q Clear(g_c), s	15.2	0.0	18.3	24.9	0.0	10.6	9.8	3.7	1.2	0.6	3.8	1.8
Prop In Lane	1.00		0.69	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	0	504	180	0	552	238	1792	782	36	1389	605
V/C Ratio(X)	0.23	0.00	0.75	0.42	0.00	0.48	0.84	0.15	0.05	0.33	0.17	0.08
Avail Cap(c_a), veh/h	311	0	541	203	0	592	487	1792	782	170	1389	605
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	28.2	39.4	0.0	25.5	38.0	12.0	11.3	43.5	17.9	17.3
Incr Delay (d2), s/veh	0.4	0.0	5.2	1.5	0.0	0.6	5.7	0.2	0.1	4.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	7.8	1.7	0.0	4.6	4.5	1.4	0.4	0.3	1.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	0.0	33.4	40.9	0.0	26.2	43.8	12.1	11.5	47.5	18.1	17.5
LnGrp LOS	C	A	C	D	A	C	D	B	B	D	B	B
Approach Vol, veh/h		441			339			507			293	
Approach Delay, s/veh		33.2			29.5			24.5			19.2	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.4	40.6		32.0	7.2	50.8		32.0				
Change Period (Y+Rc), s	5.4	5.4		* 4.7	5.4	5.4		* 4.7				
Max Green Setting (Gmax), s	24.6	20.6		* 29	8.6	36.6		* 29				
Max Q Clear Time (g_c+I1), s	11.8	5.8		20.3	2.6	5.7		26.9				
Green Ext Time (p_c), s	0.3	1.7		1.8	0.0	2.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes






















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



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	127	422	8	392	324	1	302	131
v/c Ratio	0.38	0.44	0.03	0.56	0.15	0.00	0.33	0.24
Control Delay	25.2	2.9	20.6	11.3	8.9	28.0	19.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	2.9	20.6	11.3	8.9	28.0	19.3	1.2
Queue Length 50th (ft)	30	0	1	51	18	0	37	0
Queue Length 95th (ft)	107	42	14	177	86	5	95	0
Internal Link Dist (ft)	486		78		253		275	
Turn Bay Length (ft)		195		105		100		100
Base Capacity (vph)	734	1083	259	798	2372	275	1829	900
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.39	0.03	0.49	0.14	0.00	0.17	0.15
Intersection Summary								

Atascadero General Plan Update
5: El Camino Real & Santa Rosa Rd

Existing AM Mitigated
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	98	12	367	0	2	5	341	280	2	1	263	114	
Future Volume (vph)	98	12	367	0	2	5	341	280	2	1	263	114	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.1	5.5		5.1		5.5	5.0		5.5	5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00	
Frbp, ped/bikes		1.00	1.00		0.92		1.00	1.00		1.00	1.00	0.97	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00	
Frt		1.00	0.85		0.90		1.00	1.00		1.00	1.00	0.85	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)		1777	1583		1547		1767	3535		1770	3539	1540	
Flt Permitted		0.74	1.00		1.00		0.44	1.00		0.95	1.00	1.00	
Satd. Flow (perm)		1381	1583		1547		820	3535		1770	3539	1540	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Adj. Flow (vph)	113	14	422	0	2	6	392	322	2	1	302	131	
RTOR Reduction (vph)	0	0	283	0	6	0	0	1	0	0	0	91	
Lane Group Flow (vph)	0	127	139	0	2	0	392	323	0	1	302	40	
Confl. Peds. (#/hr)	5					5	4		5			4	
Confl. Bikes (#/hr)									2			2	
Turn Type	Perm	NA	pm+ov		NA		pm+pt	NA		Prot	NA	Perm	
Protected Phases		4	1		3		1	6		5	2		
Permitted Phases	4		4	3			6					2	
Actuated Green, G (s)		8.7	20.0		0.9		35.9	29.5		0.9	18.6	18.6	
Effective Green, g (s)		8.7	20.0		0.9		35.9	29.5		0.9	18.6	18.6	
Actuated g/C Ratio		0.14	0.33		0.01		0.59	0.49		0.01	0.31	0.31	
Clearance Time (s)		5.1	5.5		5.1		5.5	5.0		5.5	5.5	5.5	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0		2.0	3.0	3.0	
Lane Grp Cap (vph)		197	521		22		661	1717		26	1084	471	
v/s Ratio Prot			0.05		c0.00		c0.11	0.09		0.00	0.09		
v/s Ratio Perm		c0.09	0.04				c0.24					0.03	
v/c Ratio		0.64	0.27		0.09		0.59	0.19		0.04	0.28	0.09	
Uniform Delay, d1		24.5	15.0		29.5		6.9	8.8		29.5	16.0	15.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2		5.3	0.1		0.7		1.0	0.1		0.2	0.1	0.1	
Delay (s)		29.9	15.1		30.2		7.9	8.9		29.7	16.1	15.1	
Level of Service		C	B		C		A	A		C	B	B	
Approach Delay (s)		18.5			30.2			8.3			15.8		
Approach LOS		B			C			A			B		
Intersection Summary													
HCM 2000 Control Delay			13.6									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			60.7									Sum of lost time (s)	21.2
Intersection Capacity Utilization			54.3%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

Intersection					
Intersection Delay, s/veh 14.5					
Intersection LOS B					
Approach	EB	WB	NB	SB	SE
Entry Lanes	1	0	1	1	1
Conflicting Circle Lanes	1	1	1	1	1
Adj Approach Flow, veh/h	48	0	676	723	363
Demand Flow Rate, veh/h	49	0	689	737	370
Vehicles Circulating, veh/h	1076	603	421	22	759
Vehicles Exiting, veh/h	53	507	703	581	0
Ped Vol Crossing Leg, #/h	0	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.5	0.0	20.0	8.7	16.4
Approach LOS	A	-	C	A	C
Lane	Left	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LR	LR
Assumed Moves	LTR	LTR	LTR	LR	LR
RT Channelized					
Lane Util	1.000	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976	4.976
Entry Flow, veh/h	49	689	737	370	
Cap Entry Lane, veh/h	461	898	1349	636	
Entry HV Adj Factor	0.975	0.981	0.981	0.981	
Flow Entry, veh/h	48	676	723	363	
Cap Entry, veh/h	449	881	1324	624	
V/C Ratio	0.106	0.767	0.546	0.581	
Control Delay, s/veh	9.5	20.0	8.7	16.4	
LOS	A	C	A	C	
95th %tile Queue, veh	0	8	3	4	

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	212	139	14	276	50	447	4	105	624	225
v/c Ratio	0.58	0.20	0.06	0.78	0.39	0.70	0.01	0.61	0.85	0.30
Control Delay	26.0	14.8	29.7	45.0	49.3	28.7	0.0	55.0	33.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	14.8	29.7	45.0	49.3	28.7	0.0	55.0	33.9	3.8
Queue Length 50th (ft)	75	34	6	121	25	190	0	53	288	1
Queue Length 95th (ft)	116	63	19	177	55	237	0	#105	340	23
Internal Link Dist (ft)		408		339		523			385	
Turn Bay Length (ft)					150		300	200		200
Base Capacity (vph)	379	852	322	480	128	947	849	189	1012	940
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	0.56	0.16	0.04	0.57	0.39	0.47	0.00	0.56	0.62	0.24

Intersection Summary

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























Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing AM Mitigated
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	161	67	39	11	136	74	38	340	3	80	474	171	
Future Volume (vph)	161	67	39	11	136	74	38	340	3	80	474	171	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.6		4.6	4.6		4.6	5.3	5.3	4.6	5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1743		1760	1765		1770	1863	1545	1770	1863	1544	
Flt Permitted	0.24	1.00		0.67	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	450	1743		1238	1765		1770	1863	1545	1770	1863	1544	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	
Adj. Flow (vph)	212	88	51	14	179	97	50	447	4	105	624	225	
RTOR Reduction (vph)	0	23	0	0	22	0	0	0	3	0	0	137	
Lane Group Flow (vph)	212	116	0	14	254	0	50	447	1	105	624	88	
Confl. Peds. (#/hr)			6	6					4			3	
Turn Type	pm+pt	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4			8		5	2		1	6		
Permitted Phases	4			8					2			6	
Actuated Green, G (s)	29.3	29.3		14.2	14.2		2.6	26.4	26.4	5.5	29.3	29.3	
Effective Green, g (s)	29.3	29.3		14.2	14.2		2.6	26.4	26.4	5.5	29.3	29.3	
Actuated g/C Ratio	0.39	0.39		0.19	0.19		0.03	0.35	0.35	0.07	0.39	0.39	
Clearance Time (s)	4.5	4.6		4.6	4.6		4.6	5.3	5.3	4.6	5.3	5.3	
Vehicle Extension (s)	3.0	1.5		1.0	1.0		1.5	1.0	1.0	1.5	1.0	1.0	
Lane Grp Cap (vph)	359	674		232	331		60	649	538	128	721	597	
v/s Ratio Prot	c0.08	0.07			c0.14		0.03	0.24		c0.06	c0.33		
v/s Ratio Perm	0.15			0.01					0.00			0.06	
v/c Ratio	0.59	0.17		0.06	0.77		0.83	0.69	0.00	0.82	0.87	0.15	
Uniform Delay, d1	17.2	15.2		25.3	29.2		36.3	21.1	16.1	34.6	21.4	15.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.0		0.0	9.2		58.5	2.4	0.0	31.3	10.3	0.0	
Delay (s)	19.7	15.3		25.3	38.4		94.8	23.6	16.1	65.9	31.7	15.1	
Level of Service	B	B		C	D		F	C	B	E	C	B	
Approach Delay (s)		18.0			37.8			30.6			31.5		
Approach LOS		B			D			C			C		
Intersection Summary													
HCM 2000 Control Delay			29.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			75.7									Sum of lost time (s)	19.0
Intersection Capacity Utilization			65.5%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing AM Mitigated
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	67	39	11	136	74	38	340	3	80	474	171
Future Volume (veh/h)	161	67	39	11	136	74	38	340	3	80	474	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	88	51	14	179	97	50	447	4	105	624	225
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	413	239	337	211	115	80	629	530	134	686	579
Arrive On Green	0.12	0.37	0.37	0.19	0.19	0.19	0.05	0.34	0.34	0.08	0.37	0.37
Sat Flow, veh/h	1781	1107	642	1233	1134	614	1781	1870	1576	1781	1870	1579
Grp Volume(v), veh/h	212	0	139	14	0	276	50	447	4	105	624	225
Grp Sat Flow(s),veh/h/ln	1781	0	1749	1233	0	1748	1781	1870	1576	1781	1870	1579
Q Serve(g_s), s	6.0	0.0	3.6	0.6	0.0	10.3	1.9	14.0	0.1	3.9	21.3	7.1
Cycle Q Clear(g_c), s	6.0	0.0	3.6	0.6	0.0	10.3	1.9	14.0	0.1	3.9	21.3	7.1
Prop In Lane	1.00		0.37	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	357	0	652	337	0	326	80	629	530	134	686	579
V/C Ratio(X)	0.59	0.00	0.21	0.04	0.00	0.85	0.62	0.71	0.01	0.78	0.91	0.39
Avail Cap(c_a), veh/h	422	0	858	437	0	468	132	976	822	196	1043	880
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	14.4	22.5	0.0	26.4	31.6	19.5	14.9	30.6	20.3	15.7
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.0	0.0	6.8	2.9	0.6	0.0	6.5	6.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.4	0.2	0.0	4.5	0.8	5.6	0.0	1.8	9.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	14.4	22.5	0.0	33.3	34.5	20.0	14.9	37.1	26.3	15.9
LnGrp LOS	B	A	B	C	A	C	C	C	B	D	C	B
Approach Vol, veh/h		351			290			501			954	
Approach Delay, s/veh		17.7			32.7			21.4			25.0	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	27.9		29.7	7.6	30.0	12.5	17.1				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3	4.5	4.6				
Max Green Setting (Gmax), s	7.4	35.1		33.0	5.0	37.5	10.5	18.0				
Max Q Clear Time (g_c+I1), s	5.9	16.0		5.6	3.9	23.3	8.0	12.3				
Green Ext Time (p_c), s	0.0	0.9		0.4	0.0	1.3	0.1	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				24.0								
HCM 6th LOS				C								

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	0	7	9	0	17	8	260	18	20	232	3
Future Vol, veh/h	4	0	7	9	0	17	8	260	18	20	232	3
Conflicting Peds, #/hr	1	0	0	0	0	1	9	0	0	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	8	10	0	19	9	289	20	22	258	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	641	640	269	625	631	300	270	0	0	309	0	0
Stage 1	313	313	-	317	317	-	-	-	-	-	-	-
Stage 2	328	327	-	308	314	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	388	393	770	397	398	740	1293	-	-	1252	-	-
Stage 1	698	657	-	694	654	-	-	-	-	-	-	-
Stage 2	685	648	-	702	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	367	380	763	385	384	739	1282	-	-	1252	-	-
Mov Cap-2 Maneuver	367	380	-	385	384	-	-	-	-	-	-	-
Stage 1	687	639	-	689	649	-	-	-	-	-	-	-
Stage 2	662	643	-	683	638	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		11.8		0.2		0.6	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1282	-	-	548	561	1252	-
HCM Lane V/C Ratio	0.007	-	-	0.022	0.051	0.018	-
HCM Control Delay (s)	7.8	-	-	11.7	11.8	7.9	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕	↕	↕	↕
Traffic Vol, veh/h	6	3	7	103	9	14	11	308	155	33	254	8
Future Vol, veh/h	6	3	7	103	9	14	11	308	155	33	254	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	2	2	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	3	7	108	9	15	12	324	163	35	267	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	537	858	142	555	699	165	279	0	0	489	0	0
Stage 1	345	345	-	350	350	-	-	-	-	-	-	-
Stage 2	192	513	-	205	349	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	427	293	880	414	362	850	1281	-	-	1070	-	-
Stage 1	644	635	-	639	631	-	-	-	-	-	-	-
Stage 2	791	534	-	778	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	397	278	877	392	344	848	1276	-	-	1068	-	-
Mov Cap-2 Maneuver	397	278	-	485	435	-	-	-	-	-	-	-
Stage 1	633	612	-	629	622	-	-	-	-	-	-	-
Stage 2	755	526	-	742	609	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.9		14.6		0.2		0.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1276	-	-	472	505	1068	-
HCM Lane V/C Ratio	0.009	-	-	0.036	0.263	0.033	-
HCM Control Delay (s)	7.8	0	-	12.9	14.6	8.5	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1	0.1	-



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	263	163	75	247	238	20	205	240
v/c Ratio	0.58	0.31	0.40	0.59	0.15	0.16	0.27	0.47
Control Delay	30.1	6.4	33.9	32.2	14.2	39.8	27.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	6.4	33.9	32.2	14.2	39.8	27.0	7.9
Queue Length 50th (ft)	95	0	23	92	26	8	37	0
Queue Length 95th (ft)	211	47	76	204	73	34	86	61
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	1611	1445	680	912	2581	912	2645	1204
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.11	0.11	0.27	0.09	0.02	0.08	0.20
Intersection Summary								

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing PM
HCM Signalized Intersection Capacity Analysis
























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕		↗	↕	↗
Traffic Volume (vph)	223	30	156	19	22	31	237	202	27	19	197	230
Future Volume (vph)	223	30	156	19	22	31	237	202	27	19	197	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1784	1583		1732		1770	3463		1770	3539	1539
Flt Permitted		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1784	1583		1732		1770	3463		1770	3539	1539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	31	162	20	23	32	247	210	28	20	205	240
RTOR Reduction (vph)	0	0	123	0	16	0	0	0	0	0	0	182
Lane Group Flow (vph)	0	263	40	0	59	0	247	238	0	20	205	58
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)									1			3
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8									2
Actuated Green, G (s)		17.2	17.2		5.4		15.8	30.9		1.8	16.9	16.9
Effective Green, g (s)		17.2	17.2		5.4		15.8	30.9		1.8	16.9	16.9
Actuated g/C Ratio		0.25	0.25		0.08		0.23	0.44		0.03	0.24	0.24
Clearance Time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Vehicle Extension (s)		2.0	2.0		1.0		1.0	5.5		1.0	5.5	5.5
Lane Grp Cap (vph)		439	390		133		400	1533		45	856	372
v/s Ratio Prot		c0.15			c0.03		c0.14	0.07		0.01	c0.06	
v/s Ratio Perm			0.03									0.04
v/c Ratio		0.60	0.10		0.45		0.62	0.16		0.44	0.24	0.16
Uniform Delay, d1		23.3	20.3		30.8		24.3	11.6		33.5	21.3	20.8
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.5	0.0		0.9		2.0	0.1		2.5	0.4	0.5
Delay (s)		24.7	20.4		31.6		26.3	11.8		36.0	21.6	21.3
Level of Service		C	C		C		C	B		D	C	C
Approach Delay (s)		23.1			31.6			19.2			22.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.9									C
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			69.8							14.5		
Intersection Capacity Utilization			49.8%									A
Analysis Period (min)			15									

c Critical Lane Group

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing PM
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	30	156	19	22	31	237	202	27	19	197	230
Future Volume (veh/h)	223	30	156	19	22	31	237	202	27	19	197	230
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	232	31	162	20	23	32	247	210	28	20	205	240
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	43	320	25	29	40	302	1274	167	90	1016	441
Arrive On Green	0.20	0.20	0.20	0.06	0.06	0.06	0.17	0.40	0.40	0.05	0.29	0.29
Sat Flow, veh/h	1580	211	1585	458	526	732	1781	3147	413	1781	3554	1542
Grp Volume(v), veh/h	263	0	162	75	0	0	247	117	121	20	205	240
Grp Sat Flow(s),veh/h/ln	1791	0	1585	1716	0	0	1781	1777	1783	1781	1777	1542
Q Serve(g_s), s	6.9	0.0	4.6	2.2	0.0	0.0	6.7	2.1	2.2	0.5	2.2	6.6
Cycle Q Clear(g_c), s	6.9	0.0	4.6	2.2	0.0	0.0	6.7	2.1	2.2	0.5	2.2	6.6
Prop In Lane	0.88		1.00	0.27		0.43	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	361	0	320	95	0	0	302	719	722	90	1016	441
V/C Ratio(X)	0.73	0.00	0.51	0.79	0.00	0.00	0.82	0.16	0.17	0.22	0.20	0.54
Avail Cap(c_a), veh/h	2275	0	2013	817	0	0	1131	1727	1734	1131	3455	1499
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	17.9	23.5	0.0	0.0	20.2	9.6	9.6	23.0	13.6	15.2
Incr Delay (d2), s/veh	1.1	0.0	0.5	5.4	0.0	0.0	2.1	0.3	0.3	0.5	0.3	2.9
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	2.6	0.0	1.5	0.9	0.0	0.0	2.6	0.7	0.7	0.2	0.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	18.4	29.0	0.0	0.0	22.3	9.8	9.9	23.4	13.9	18.1
LnGrp LOS	B	A	B	C	A	A	C	A	A	C	B	B
Approach Vol, veh/h		425			75			485			465	
Approach Delay, s/veh		19.3			29.0			16.2			16.5	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	18.4		6.3	6.0	24.4		13.7				
Change Period (Y+Rc), s	3.5	4.0		3.5	3.5	4.0		3.5				
Max Green Setting (Gmax), s	32.0	49.0		24.0	32.0	49.0		64.0				
Max Q Clear Time (g_c+I1), s	8.7	8.6		4.2	2.5	4.2		8.9				
Green Ext Time (p_c), s	0.1	5.6		0.1	0.0	3.2		1.3				
Intersection Summary												
HCM 6th Ctrl Delay				17.9								
HCM 6th LOS				B								

























Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	314	291	242	43	271	467	90	34	401	99
v/c Ratio	0.85	0.53	0.77	0.11	0.78	0.29	0.12	0.35	0.42	0.19
Control Delay	60.6	8.1	55.4	0.6	52.9	19.2	4.4	56.2	33.8	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	8.1	55.4	0.6	52.9	19.2	4.4	56.2	33.8	3.9
Queue Length 50th (ft)	185	0	147	0	164	111	0	21	118	0
Queue Length 95th (ft)	#342	69	227	0	238	146	29	#58	174	25
Internal Link Dist (ft)	306		234			460			694	
Turn Bay Length (ft)		150		160	125		125	125		125
Base Capacity (vph)	382	555	366	422	451	1634	763	98	964	512
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	0.82	0.52	0.66	0.10	0.60	0.29	0.12	0.35	0.42	0.19

Intersection Summary

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

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave

Existing PM
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	96	205	279	105	128	41	260	448	86	33	385	95	
Future Volume (vph)	96	205	279	105	128	41	260	448	86	33	385	95	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes		1.00	0.98		1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.98	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1834	1558		1822	1583	1770	3539	1545	1770	3539	1532	
Flt Permitted		0.98	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1834	1558		1822	1583	1770	3539	1545	1770	3539	1532	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	100	214	291	109	133	43	271	467	90	34	401	99	
RTOR Reduction (vph)	0	0	232	0	0	36	0	0	50	0	0	72	
Lane Group Flow (vph)	0	314	59	0	242	7	271	467	40	34	401	27	
Confl. Peds. (#/hr)			3	3					1			3	
Confl. Bikes (#/hr)									1			2	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	4	4		3	3		1	6		5	2		
Permitted Phases			4			3			6			2	
Actuated Green, G (s)		20.2	20.2		17.3	17.3	19.7	44.2	44.2	2.8	27.3	27.3	
Effective Green, g (s)		20.2	20.2		17.3	17.3	19.7	44.2	44.2	2.8	27.3	27.3	
Actuated g/C Ratio		0.20	0.20		0.17	0.17	0.20	0.44	0.44	0.03	0.27	0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.5	4.0	4.0	2.5	4.0	4.0	
Lane Grp Cap (vph)		370	314		315	273	348	1564	682	49	966	418	
v/s Ratio Prot		c0.17			c0.13		c0.15	0.13		0.02	c0.11		
v/s Ratio Perm			0.04			0.00			0.03			0.02	
v/c Ratio		0.85	0.19		0.77	0.03	0.78	0.30	0.06	0.69	0.42	0.06	
Uniform Delay, d1		38.4	33.1		39.4	34.4	38.1	17.9	16.0	48.2	29.8	26.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		16.4	0.3		10.7	0.0	10.1	0.5	0.2	32.5	1.3	0.3	
Delay (s)		54.8	33.4		50.2	34.4	48.2	18.4	16.1	80.7	31.1	27.2	
Level of Service		D	C		D	C	D	B	B	F	C	C	
Approach Delay (s)		44.5			47.8			27.9			33.5		
Approach LOS		D			D			C			C		
Intersection Summary													
HCM 2000 Control Delay			36.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.68										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	15.5
Intersection Capacity Utilization			69.1%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	161	273	4	387	502	496	245
v/c Ratio	0.65	0.25	0.03	0.57	0.21	0.63	0.55
Control Delay	44.7	1.9	39.8	27.2	6.4	32.9	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	1.9	39.8	27.2	6.4	32.9	17.2
Queue Length 50th (ft)	72	0	1	140	38	112	38
Queue Length 95th (ft)	166	36	13	#380	110	208	131
Internal Link Dist (ft)	486		78		253	275	
Turn Bay Length (ft)		195		105			100
Base Capacity (vph)	591	1098	687	678	2405	1808	835
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.25	0.01	0.57	0.21	0.27	0.29

Intersection Summary

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

Atascadero General Plan Update
5: El Camino Real & Santa Rosa Rd

Existing PM
HCM Signalized Intersection Capacity Analysis

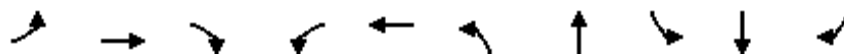
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	7	248	0	3	1	352	457	0	0	451	223
Future Volume (vph)	139	7	248	0	3	1	352	457	0	0	451	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	5.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.98		1.00	1.00			1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1775	1583		1772		1770	3539			3539	1515
Flt Permitted		0.73	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1365	1583		1772		1770	3539			3539	1515
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	153	8	273	0	3	1	387	502	0	0	496	245
RTOR Reduction (vph)	0	0	126	0	1	0	0	0	0	0	0	116
Lane Group Flow (vph)	0	161	147	0	3	0	387	502	0	0	496	129
Confl. Peds. (#/hr)	2					2			3			10
Confl. Bikes (#/hr)									3			3
Turn Type	Perm	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	1		3		1	6		5	2	
Permitted Phases	4		4	3								2
Actuated Green, G (s)		14.7	45.5		0.8		30.8	53.8			18.0	18.0
Effective Green, g (s)		14.7	45.5		0.8		30.8	53.8			18.0	18.0
Actuated g/C Ratio		0.17	0.54		0.01		0.37	0.64			0.21	0.21
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0			3.0	3.0
Lane Grp Cap (vph)		238	948		16		646	2258			755	323
v/s Ratio Prot			0.06		c0.00		c0.22	0.14			c0.14	
v/s Ratio Perm		c0.12	0.04									0.08
v/c Ratio		0.68	0.16		0.19		0.60	0.22			0.66	0.40
Uniform Delay, d1		32.6	9.7		41.4		21.7	6.4			30.3	28.5
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		5.9	0.0		2.1		1.0	0.1			2.1	0.8
Delay (s)		38.4	9.8		43.5		22.7	6.5			32.4	29.3
Level of Service		D	A		D		C	A			C	C
Approach Delay (s)		20.4			43.5			13.6			31.4	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.4		HCM 2000 Level of Service						C	
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			84.3		Sum of lost time (s)					20.0		
Intersection Capacity Utilization			61.1%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	40	2	64	1	2	10	58	643	0	4	553	28
Future Vol, veh/h	40	2	64	1	2	10	58	643	0	4	553	28
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	13	13	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	2	78	1	2	12	71	784	0	5	674	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1225	1624	338	1287	1658	410	709	0	0	797	0	0
Stage 1	685	685	-	939	939	-	-	-	-	-	-	-
Stage 2	540	939	-	348	719	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	135	102	658	121	97	591	886	-	-	821	-	-
Stage 1	404	447	-	284	341	-	-	-	-	-	-	-
Stage 2	494	341	-	641	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	122	92	657	98	88	581	885	-	-	811	-	-
Mov Cap-2 Maneuver	238	205	-	193	191	-	-	-	-	-	-	-
Stage 1	371	444	-	258	310	-	-	-	-	-	-	-
Stage 2	439	310	-	558	428	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19		14.5		0.8		0.1	
HCM LOS	C		B					























Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	885	-	-	385	396	811	-
HCM Lane V/C Ratio	0.08	-	-	0.336	0.04	0.006	-
HCM Control Delay (s)	9.4	-	-	19	14.5	9.5	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.5	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	101	148	142	7	97	92	138	11	122	146
v/c Ratio	0.28	0.28	0.26	0.02	0.19	0.27	0.17	0.04	0.25	0.28
Control Delay	16.4	15.8	4.5	13.3	14.1	21.8	11.0	23.3	18.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	15.8	4.5	13.3	14.1	21.8	11.0	23.3	18.7	6.1
Queue Length 50th (ft)	21	31	0	1	19	21	15	3	25	0
Queue Length 95th (ft)	58	76	31	9	52	72	82	18	84	40
Internal Link Dist (ft)		435			214		337		398	
Turn Bay Length (ft)	265		265	155		120		160		160
Base Capacity (vph)	911	1313	1158	871	1286	1219	1504	1219	1526	1323
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	0.11	0.11	0.12	0.01	0.08	0.08	0.09	0.01	0.08	0.11
Intersection Summary										

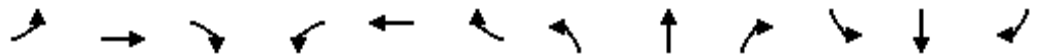
Atascadero General Plan Update
7: El Camino Real & Santa Barbara Rd

Existing PM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	135	129	6	77	11	84	113	13	10	111	133
Future Volume (vph)	92	135	129	6	77	11	84	113	13	10	111	133
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1823		1770	1834		1770	1863	1583
Flt Permitted	0.69	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1293	1863	1583	1235	1823		1770	1834		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	101	148	142	7	85	12	92	124	14	11	122	146
RTOR Reduction (vph)	0	0	104	0	4	0	0	3	0	0	0	103
Lane Group Flow (vph)	101	148	38	7	93	0	92	135	0	11	122	43
Confl. Peds. (#/hr)	3											
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	13.1	13.1	13.1	13.1	13.1		6.8	20.2		1.0	14.4	14.4
Effective Green, g (s)	13.1	13.1	13.1	13.1	13.1		6.8	20.2		1.0	14.4	14.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.14	0.42		0.02	0.30	0.30
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.5	5.8		3.5	5.8	5.8
Lane Grp Cap (vph)	348	502	426	332	491		247	762		36	552	469
v/s Ratio Prot		c0.08			0.05		c0.05	0.07		0.01	c0.07	
v/s Ratio Perm	0.08		0.02	0.01								0.03
v/c Ratio	0.29	0.29	0.09	0.02	0.19		0.37	0.18		0.31	0.22	0.09
Uniform Delay, d1	14.1	14.1	13.3	13.0	13.7		19.0	9.0		23.5	12.9	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.7	0.2	0.1	0.4		1.1	0.3		5.6	0.5	0.2
Delay (s)	15.0	14.8	13.5	13.1	14.1		20.1	9.3		29.1	13.4	12.6
Level of Service	B	B	B	B	B		C	A		C	B	B
Approach Delay (s)		14.4			14.0			13.6			13.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.9					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			48.6					Sum of lost time (s)		14.3		
Intersection Capacity Utilization			32.1%					ICU Level of Service		A		
Analysis Period (min)			15									
c Critical Lane Group												

Atascadero General Plan Update
7: El Camino Real & Santa Barbara Rd

Existing PM
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↗		↖	↑	↗
Traffic Volume (veh/h)	92	135	129	6	77	11	84	113	13	10	111	133
Future Volume (veh/h)	92	135	129	6	77	11	84	113	13	10	111	133
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		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	148	142	7	85	12	92	124	14	11	122	146
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	501	500	423	432	428	60	151	500	56	26	435	368
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.30	0.30	0.01	0.23	0.23
Sat Flow, veh/h	1293	1870	1585	1089	1602	226	1781	1650	186	1781	1870	1585
Grp Volume(v), veh/h	101	148	142	7	0	97	92	0	138	11	122	146
Grp Sat Flow(s),veh/h/ln	1293	1870	1585	1089	0	1828	1781	0	1837	1781	1870	1585
Q Serve(g_s), s	2.3	2.2	2.5	0.2	0.0	1.4	1.7	0.0	1.9	0.2	1.8	2.7
Cycle Q Clear(g_c), s	3.7	2.2	2.5	2.3	0.0	1.4	1.7	0.0	1.9	0.2	1.8	2.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	501	500	423	432	0	488	151	0	556	26	435	368
V/C Ratio(X)	0.20	0.30	0.34	0.02	0.00	0.20	0.61	0.00	0.25	0.43	0.28	0.40
Avail Cap(c_a), veh/h	1320	1685	1428	1122	0	1647	1553	0	2028	1553	2065	1750
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	10.0	10.2	11.0	0.0	9.8	15.2	0.0	9.0	16.8	10.8	11.2
Incr Delay (d2), s/veh	0.4	0.7	1.0	0.0	0.0	0.4	4.7	0.0	0.7	12.8	1.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.7	0.7	0.0	0.0	0.4	0.7	0.0	0.6	0.2	0.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	10.7	11.1	11.0	0.0	10.2	19.9	0.0	9.8	29.7	12.0	13.4
LnGrp LOS	B	B	B	B	A	B	B	A	A	C	B	B
Approach Vol, veh/h		391			104			230			279	
Approach Delay, s/veh		11.1			10.2			13.8			13.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	16.1		13.8	6.9	13.7		13.8				
Change Period (Y+Rc), s	4.0	5.7		4.6	4.0	5.7		4.6				
Max Green Setting (Gmax), s	30.0	38.0		31.0	30.0	38.0		31.0				
Max Q Clear Time (g_c+I1), s	2.2	3.9		5.7	3.7	4.7		4.3				
Green Ext Time (p_c), s	0.0	1.7		3.4	0.3	3.1		0.9				

Intersection Summary

HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

8: Ardilla Ave/Traffic Way & US 101 SB Ramp Performance by approach

Approach	EB	NB	SB	SE	All
Denied Del/Veh (s)	0.1	0.5	0.3	0.4	0.4
Total Del/Veh (s)	3.8	1.8	4.8	15.1	5.6

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	70	150	39	47	118
Future Vol, veh/h	41	70	150	39	47	118
Conflicting Peds, #/hr	0	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	76	163	42	51	128

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	415	186	0	0	206
Stage 1	185	-	-	-	-
Stage 2	230	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	594	856	-	-	1365
Stage 1	847	-	-	-	-
Stage 2	808	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	570	854	-	-	1364
Mov Cap-2 Maneuver	570	-	-	-	-
Stage 1	846	-	-	-	-
Stage 2	776	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	721	1364
HCM Lane V/C Ratio	-	-	0.167	0.037
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	81	130	7	444	93	41	439
v/c Ratio	0.19	0.35	0.03	0.46	0.11	0.16	0.41
Control Delay	14.7	16.7	27.0	14.2	6.9	25.1	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	16.7	27.0	14.2	6.9	25.1	11.4
Queue Length 50th (ft)	10	16	1	47	3	6	46
Queue Length 95th (ft)	53	79	16	283	41	49	265
Internal Link Dist (ft)	369	467		389			478
Turn Bay Length (ft)			200		105	200	
Base Capacity (vph)	1361	1184	958	1782	1464	958	1769
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.11	0.01	0.25	0.06	0.04	0.25
Intersection Summary							

Atascadero General Plan Update
10: SR 41 & Curbaril Ave

Existing PM
HCM Signalized Intersection Capacity Analysis























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖	↗	↖	↗	↖
Traffic Volume (vph)	16	47	14	60	31	34	7	426	89	39	408	13
Future Volume (vph)	16	47	14	60	31	34	7	426	89	39	408	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00			0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.97			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1790			1742		1770	1863	1543	1770	1852	
Flt Permitted		0.91			0.81		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1653			1436		1770	1863	1543	1770	1852	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	17	49	15	62	32	35	7	444	93	41	425	14
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	31	0	1	0
Lane Group Flow (vph)	0	75	0	0	119	0	7	444	62	41	438	0
Confl. Peds. (#/hr)			1	1					4			4
Confl. Bikes (#/hr)						1						
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		9.0			9.0		0.6	22.1	22.1	2.0	23.0	
Effective Green, g (s)		9.0			9.0		0.6	22.1	22.1	2.0	23.0	
Actuated g/C Ratio		0.19			0.19		0.01	0.47	0.47	0.04	0.49	
Clearance Time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Vehicle Extension (s)		1.0			1.0		1.5	1.0	1.0	1.5	1.0	
Lane Grp Cap (vph)		315			274		22	874	723	75	904	
v/s Ratio Prot							0.00	c0.24		c0.02	0.24	
v/s Ratio Perm		0.05			c0.08				0.04			
v/c Ratio		0.24			0.43		0.32	0.51	0.09	0.55	0.48	
Uniform Delay, d1		16.1			16.8		23.0	8.7	6.9	22.1	8.1	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			0.4		3.0	0.2	0.0	4.3	0.1	
Delay (s)		16.3			17.2		26.1	8.9	6.9	26.4	8.2	
Level of Service		B			B		C	A	A	C	A	
Approach Delay (s)		16.3			17.2			8.8			9.8	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			47.1				Sum of lost time (s)				14.5	
Intersection Capacity Utilization			52.2%				ICU Level of Service				A	
Analysis Period (min)			15									

c Critical Lane Group

Atascadero General Plan Update
10: SR 41 & Curbaril Ave

Existing PM
HCM 6th Signalized Intersection Summary























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	47	14	60	31	34	7	426	89	39	408	13
Future Volume (veh/h)	16	47	14	60	31	34	7	426	89	39	408	13
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	49	15	62	32	35	7	444	93	41	425	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	235	62	277	112	82	17	588	495	85	606	20
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.01	0.31	0.31	0.05	0.34	0.34
Sat Flow, veh/h	195	1216	321	555	581	423	1781	1870	1575	1781	1800	59
Grp Volume(v), veh/h	81	0	0	129	0	0	7	444	93	41	0	439
Grp Sat Flow(s),veh/h/ln	1733	0	0	1559	0	0	1781	1870	1575	1781	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	6.7	1.4	0.7	0.0	6.5
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.1	0.0	0.0	0.1	6.7	1.4	0.7	0.0	6.5
Prop In Lane	0.21		0.19	0.48		0.27	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	473	0	0	471	0	0	17	588	495	85	0	626
V/C Ratio(X)	0.17	0.00	0.00	0.27	0.00	0.00	0.42	0.76	0.19	0.48	0.00	0.70
Avail Cap(c_a), veh/h	1902	0	0	1702	0	0	1131	3682	3101	1131	0	3661
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	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	11.1	0.0	0.0	15.5	9.7	7.9	14.6	0.0	9.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	6.0	0.8	0.1	1.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	0.1	1.8	0.3	0.3	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.0	0.0	11.2	0.0	0.0	21.5	10.5	7.9	16.2	0.0	9.6
LnGrp LOS	B	A	A	B	A	A	C	B	A	B	A	A
Approach Vol, veh/h		81			129			544				480
Approach Delay, s/veh		10.8			11.2			10.2				10.2
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	15.2		10.7	4.9	15.9		10.7				
Change Period (Y+Rc), s	4.1	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	20.0	62.0		33.0	20.0	62.0		32.0				
Max Q Clear Time (g_c+I1), s	2.7	8.7		3.2	2.1	8.5		4.1				
Green Ext Time (p_c), s	0.0	0.9		0.1	0.0	0.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				10.3								
HCM 6th LOS				B								



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	203	55	82	53	43	499	8	53	492	146
v/c Ratio	0.55	0.15	0.40	0.23	0.27	0.73	0.01	0.31	0.71	0.24
Control Delay	38.7	9.0	45.8	12.1	46.2	31.1	0.0	45.9	29.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	9.0	45.8	12.1	46.2	31.1	0.0	45.9	29.5	11.5
Queue Length 50th (ft)	90	0	38	0	20	210	0	25	203	22
Queue Length 95th (ft)	211	30	109	32	68	428	0	79	413	76
Internal Link Dist (ft)	408		339			523			385	
Turn Bay Length (ft)		35		50	150		300	200		200
Base Capacity (vph)	1005	868	1032	908	615	1681	1374	615	1681	1365
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	0.20	0.06	0.08	0.06	0.07	0.30	0.01	0.09	0.29	0.11
Intersection Summary										

Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing PM
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	115	70	50	6	68	48	39	454	7	48	448	133	
Future Volume (vph)	115	70	50	6	68	48	39	454	7	48	448	133	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00	0.96		1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1807	1514		1855	1583	1770	1863	1538	1770	1863	1533	
Flt Permitted		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1807	1514		1855	1583	1770	1863	1538	1770	1863	1533	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	126	77	55	7	75	53	43	499	8	53	492	146	
RTOR Reduction (vph)	0	0	44	0	0	47	0	0	5	0	0	48	
Lane Group Flow (vph)	0	203	11	0	82	6	43	499	3	53	492	98	
Confl. Peds. (#/hr)			10	10					8			7	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7	7		8	8		5	2		1	6		
Permitted Phases			7			8			2			6	
Actuated Green, G (s)		16.3	16.3		8.8	8.8	5.5	29.1	29.1	6.0	29.6	29.6	
Effective Green, g (s)		16.3	16.3		8.8	8.8	5.5	29.1	29.1	6.0	29.6	29.6	
Actuated g/C Ratio		0.21	0.21		0.11	0.11	0.07	0.37	0.37	0.08	0.37	0.37	
Clearance Time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Vehicle Extension (s)		1.5	1.5		1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	
Lane Grp Cap (vph)		371	311		205	175	122	683	564	133	695	572	
v/s Ratio Prot		c0.11		c0.04		0.02	c0.27		c0.03	0.26			
v/s Ratio Perm			0.01		0.00			0.00			0.06		
v/c Ratio		0.55	0.04		0.40	0.03	0.35	0.73	0.01	0.40	0.71	0.17	
Uniform Delay, d1		28.2	25.2		32.8	31.5	35.2	21.7	15.9	34.9	21.2	16.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9	0.0		0.5	0.0	0.6	3.5	0.0	0.7	2.7	0.1	
Delay (s)		29.1	25.2		33.3	31.5	35.8	25.2	15.9	35.6	23.9	16.7	
Level of Service		C	C		C	C	D	C	B	D	C	B	
Approach Delay (s)		28.3			32.6			25.9			23.3		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			25.7		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.60										
Actuated Cycle Length (s)			79.3		Sum of lost time (s)					19.1			
Intersection Capacity Utilization			58.1%		ICU Level of Service					B			
Analysis Period (min)			15										
c Critical Lane Group													

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	33	0	38	1	2	0	80	321	1	0	170	32
Future Vol, veh/h	33	0	38	1	2	0	80	321	1	0	170	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	285	-	-	165	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	0	43	1	2	0	90	361	1	0	191	36

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	752	751	209	773	769	362	227	0	0	362	0	0
Stage 1	209	209	-	542	542	-	-	-	-	-	-	-
Stage 2	543	542	-	231	227	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	327	340	831	316	332	683	1341	-	-	1197	-	-
Stage 1	793	729	-	525	520	-	-	-	-	-	-	-
Stage 2	524	520	-	772	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	309	317	831	284	310	683	1341	-	-	1197	-	-
Mov Cap-2 Maneuver	309	317	-	284	310	-	-	-	-	-	-	-
Stage 1	740	729	-	490	485	-	-	-	-	-	-	-
Stage 2	487	485	-	732	716	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.3		17.1		1.6		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	466	301	1197	-
HCM Lane V/C Ratio	0.067	-	-	0.171	0.011	-	-
HCM Control Delay (s)	7.9	-	-	14.3	17.1	0	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0	0	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	100	10	36	110	50	5	31	40	78	36	8
Future Vol, veh/h	6	100	10	36	110	50	5	31	40	78	36	8
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	109	11	39	120	54	5	34	43	85	39	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.1	8.2	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	5%	18%	64%
Vol Thru, %	41%	86%	56%	30%
Vol Right, %	53%	9%	26%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	116	196	122
LT Vol	5	6	36	78
Through Vol	31	100	110	36
RT Vol	40	10	50	8
Lane Flow Rate	83	126	213	133
Geometry Grp	1	1	1	1
Degree of Util (X)	0.105	0.163	0.265	0.181
Departure Headway (Hd)	4.584	4.658	4.486	4.902
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	768	799	731
Service Time	2.63	2.699	2.524	2.944
HCM Lane V/C Ratio	0.107	0.164	0.267	0.182
HCM Control Delay	8.2	8.6	9.1	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	1.1	0.7



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	263	163	75	247	238	20	205	240
v/c Ratio	0.61	0.32	0.30	0.47	0.16	0.04	0.25	0.45
Control Delay	27.7	6.1	22.4	16.0	13.8	11.8	21.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	6.1	22.4	16.0	13.8	11.8	21.1	6.6
Queue Length 50th (ft)	89	0	15	58	27	4	33	0
Queue Length 95th (ft)	174	41	58	125	72	17	66	51
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	909	885	248	522	1574	467	1409	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.18	0.30	0.47	0.15	0.04	0.15	0.32
Intersection Summary								

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing PM Mitigated
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	↗
Traffic Volume (vph)	223	30	156	19	22	31	237	202	27	19	197	230
Future Volume (vph)	223	30	156	19	22	31	237	202	27	19	197	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1		4.6		5.4	5.4		4.5	5.4	5.4
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1784	1583		1732		1770	3464		1770	3539	1540
Flt Permitted		0.96	1.00		0.99		0.47	1.00		0.60	1.00	1.00
Satd. Flow (perm)		1784	1583		1732		882	3464		1125	3539	1540
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	31	162	20	23	32	247	210	28	20	205	240
RTOR Reduction (vph)	0	0	127	0	30	0	0	0	0	0	0	175
Lane Group Flow (vph)	0	263	36	0	45	0	247	238	0	20	205	65
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)									1			3
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8				6			2		2
Actuated Green, G (s)		14.0	14.0		3.6		30.3	24.9		18.0	17.1	17.1
Effective Green, g (s)		14.0	14.0		3.6		30.3	24.9		18.0	17.1	17.1
Actuated g/C Ratio		0.22	0.22		0.06		0.48	0.40		0.29	0.27	0.27
Clearance Time (s)		5.1	5.1		4.6		5.4	5.4		4.5	5.4	5.4
Vehicle Extension (s)		2.0	2.0		1.0		3.0	5.5		3.0	5.5	5.5
Lane Grp Cap (vph)		396	351		98		534	1369		330	960	418
v/s Ratio Prot		c0.15			c0.03		c0.06	0.07		0.00	0.06	
v/s Ratio Perm			0.02				c0.17			0.02		0.04
v/c Ratio		0.66	0.10		0.46		0.46	0.17		0.06	0.21	0.16
Uniform Delay, d1		22.4	19.5		28.8		10.2	12.4		16.3	17.7	17.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.2	0.0		1.2		0.6	0.1		0.1	0.3	0.4
Delay (s)		25.6	19.6		30.0		10.8	12.5		16.3	18.0	17.9
Level of Service		C	B		C		B	B		B	B	B
Approach Delay (s)		23.3			30.0			11.6			17.9	
Approach LOS		C			C			B			B	






















Intersection Summary

HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

Existing PM Mitigated
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	30	156	19	22	31	237	202	27	19	197	230
Future Volume (veh/h)	223	30	156	19	22	31	237	202	27	19	197	230
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		0.97	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	232	31	162	20	23	32	247	210	28	20	205	240
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	41	306	39	45	62	534	1113	146	446	846	366
Arrive On Green	0.19	0.19	0.19	0.08	0.08	0.08	0.13	0.35	0.35	0.03	0.24	0.24
Sat Flow, veh/h	1580	211	1585	458	526	732	1781	3146	413	1781	3554	1539
Grp Volume(v), veh/h	263	0	162	75	0	0	247	117	121	20	205	240
Grp Sat Flow(s),veh/h/ln	1791	0	1585	1716	0	0	1781	1777	1783	1781	1777	1539
Q Serve(g_s), s	8.0	0.0	5.3	2.4	0.0	0.0	5.6	2.6	2.7	0.5	2.7	8.1
Cycle Q Clear(g_c), s	8.0	0.0	5.3	2.4	0.0	0.0	5.6	2.6	2.7	0.5	2.7	8.1
Prop In Lane	0.88		1.00	0.27		0.43	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	346	0	306	146	0	0	534	628	630	446	846	366
V/C Ratio(X)	0.76	0.00	0.53	0.52	0.00	0.00	0.46	0.19	0.19	0.04	0.24	0.66
Avail Cap(c_a), veh/h	869	0	769	208	0	0	540	751	754	580	1349	584
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	20.9	25.3	0.0	0.0	12.3	12.9	12.9	15.7	17.8	19.8
Incr Delay (d2), s/veh	1.3	0.0	0.5	1.0	0.0	0.0	0.6	0.4	0.4	0.0	0.4	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	1.8	0.9	0.0	0.0	1.9	0.9	1.0	0.2	1.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	21.4	26.3	0.0	0.0	12.9	13.3	13.3	15.7	18.2	25.2
LnGrp LOS	C	A	C	C	A	A	B	B	B	B	B	C
Approach Vol, veh/h		425			75			485			465	
Approach Delay, s/veh		22.6			26.3			13.1			21.7	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	19.1		9.5	6.1	25.8		16.2				
Change Period (Y+Rc), s	5.4	5.4		4.6	4.5	5.4		5.1				
Max Green Setting (Gmax), s	7.6	21.9		7.0	6.0	24.4		28.0				
Max Q Clear Time (g_c+I1), s	7.6	10.1		4.4	2.5	4.7		10.0				
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	2.4		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				19.3								
HCM 6th LOS				B								



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	505	109	176	271	467	90	34	401	99
v/c Ratio	0.29	0.86	1.28	0.30	0.79	0.31	0.13	0.13	0.34	0.17
Control Delay	26.0	41.0	221.1	22.8	55.2	24.2	6.9	35.2	28.7	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	41.0	221.1	22.8	55.2	24.2	6.9	35.2	28.7	7.6
Queue Length 50th (ft)	47	254	~87	74	164	122	0	18	102	0
Queue Length 95th (ft)	80	343	#182	112	244	186	38	45	170	42
Internal Link Dist (ft)		306		234		460			694	
Turn Bay Length (ft)					125		125	125		125
Base Capacity (vph)	443	728	109	734	417	1713	794	262	1190	580
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	0.23	0.69	1.00	0.24	0.65	0.27	0.11	0.13	0.34	0.17























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.

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave























Existing PM Mitigated
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	205	279	105	128	41	260	448	86	33	385	95
Future Volume (vph)	96	205	279	105	128	41	260	448	86	33	385	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		4.7	4.7		5.4	5.4	5.4	5.4	5.4	5.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.91		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1686		1768	1794		1770	3539	1545	1770	3539	1533
Flt Permitted	0.59	1.00		0.15	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1100	1686		271	1794		1770	3539	1545	1770	3539	1533
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	214	291	109	133	43	271	467	90	34	401	99
RTOR Reduction (vph)	0	56	0	0	13	0	0	0	53	0	0	66
Lane Group Flow (vph)	100	449	0	109	163	0	271	467	37	34	401	33
Confl. Peds. (#/hr)			3	3					1			3
Confl. Bikes (#/hr)									1			2
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8					6			2
Actuated Green, G (s)	31.6	31.6		31.6	31.6		19.3	40.9	40.9	12.0	33.6	33.6
Effective Green, g (s)	31.6	31.6		31.6	31.6		19.3	40.9	40.9	12.0	33.6	33.6
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.19	0.41	0.41	0.12	0.34	0.34
Clearance Time (s)	4.7	4.7		4.7	4.7		5.4	5.4	5.4	5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.5	4.0	4.0	2.5	4.0	4.0
Lane Grp Cap (vph)	347	532		85	566		341	1447	631	212	1189	515
v/s Ratio Prot		0.27			0.09		c0.15	0.13		0.02	c0.11	
v/s Ratio Perm	0.09			c0.40					0.02			0.02
v/c Ratio	0.29	0.84		1.28	0.29		0.79	0.32	0.06	0.16	0.34	0.06
Uniform Delay, d1	25.7	31.9		34.2	25.7		38.5	20.1	17.9	39.5	24.9	22.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	11.7		191.0	0.3		11.7	0.6	0.2	0.3	0.8	0.2
Delay (s)	26.2	43.6		225.2	26.0		50.1	20.7	18.1	39.7	25.6	22.8
Level of Service	C	D		F	C		D	C	B	D	C	C
Approach Delay (s)		40.7			102.2			30.1			26.0	
Approach LOS		D			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			41.1				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			15.5			
Intersection Capacity Utilization			80.1%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Atascadero General Plan Update
4: El Camino Real & Curbaril Ave

Existing PM Mitigated
HCM 6th Signalized Intersection Summary






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	205	279	105	128	41	260	448	86	33	385	95
Future Volume (veh/h)	96	205	279	105	128	41	260	448	86	33	385	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	214	291	109	133	43	271	467	90	34	401	99
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	285	387	198	537	174	306	670	291	462	982	426
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.17	0.19	0.19	0.26	0.28	0.28
Sat Flow, veh/h	1207	717	975	894	1353	437	1781	3554	1546	1781	3554	1541
Grp Volume(v), veh/h	100	0	505	109	0	176	271	467	90	34	401	99
Grp Sat Flow(s),veh/h/ln	1207	0	1692	894	0	1790	1781	1777	1546	1781	1777	1541
Q Serve(g_s), s	6.0	0.0	25.6	11.9	0.0	6.6	14.9	12.3	5.0	1.4	9.2	5.0
Cycle Q Clear(g_c), s	12.6	0.0	25.6	37.6	0.0	6.6	14.9	12.3	5.0	1.4	9.2	5.0
Prop In Lane	1.00		0.58	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	0	672	198	0	711	306	670	291	462	982	426
V/C Ratio(X)	0.21	0.00	0.75	0.55	0.00	0.25	0.89	0.70	0.31	0.07	0.41	0.23
Avail Cap(c_a), veh/h	479	0	682	203	0	722	420	1318	574	462	982	426
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	25.9	42.1	0.0	20.2	40.5	37.9	35.0	27.9	29.5	28.0
Incr Delay (d2), s/veh	0.2	0.0	4.6	3.0	0.0	0.2	14.4	5.9	2.7	0.0	1.3	1.3
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	0.0	10.8	2.8	0.0	2.7	7.5	5.7	2.1	0.6	4.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	30.5	45.1	0.0	20.3	54.8	43.8	37.7	28.0	30.8	29.3
LnGrp LOS	C	A	C	D	A	C	D	D	D	C	C	C
Approach Vol, veh/h		605			285			828			534	
Approach Delay, s/veh		29.6			29.8			46.8			30.3	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.6	33.0		44.4	31.4	24.2		44.4				
Change Period (Y+Rc), s	5.4	5.4		* 4.7	5.4	5.4		* 4.7				
Max Green Setting (Gmax), s	23.6	20.6		* 40	7.1	37.1		* 40				
Max Q Clear Time (g_c+I1), s	16.9	11.2		27.6	3.4	14.3		39.6				
Green Ext Time (p_c), s	0.3	2.6		3.1	0.0	4.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				36.1								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	161	273	4	387	502	496	245
v/c Ratio	0.52	0.28	0.02	0.69	0.25	0.55	0.44
Control Delay	30.4	2.4	30.5	15.9	8.0	23.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	2.4	30.5	15.9	8.0	23.6	7.0
Queue Length 50th (ft)	46	0	1	56	34	70	2
Queue Length 95th (ft)	146	38	12	202	113	185	62
Internal Link Dist (ft)	486		78		253	275	
Turn Bay Length (ft)		195		105			100
Base Capacity (vph)	585	1149	224	734	2380	1474	767
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.24	0.02	0.53	0.21	0.34	0.32
Intersection Summary							

Atascadero General Plan Update
5: El Camino Real & Santa Rosa Rd

Existing PM Mitigated
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	139	7	248	0	3	1	352	457	0	0	451	223	
Future Volume (vph)	139	7	248	0	3	1	352	457	0	0	451	223	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.1	5.4		5.1		5.4	5.4			5.4	5.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	1.00	
Frbp, ped/bikes		1.00	1.00		0.99		1.00	1.00			1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00			1.00	0.85	
Flt Protected		0.95	1.00		1.00		0.95	1.00			1.00	1.00	
Satd. Flow (prot)		1776	1583		1778		1770	3539			3539	1523	
Flt Permitted		0.73	1.00		1.00		0.29	1.00			1.00	1.00	
Satd. Flow (perm)		1366	1583		1778		536	3539			3539	1523	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	153	8	273	0	3	1	387	502	0	0	496	245	
RTOR Reduction (vph)	0	0	161	0	1	0	0	0	0	0	0	178	
Lane Group Flow (vph)	0	161	112	0	3	0	387	502	0	0	496	67	
Confl. Peds. (#/hr)	2					2			3			10	
Confl. Bikes (#/hr)									3			3	
Turn Type	Perm	NA	pm+ov		NA		pm+pt	NA		Prot	NA	Perm	
Protected Phases		4	1		3		1	6		5	2		
Permitted Phases	4		4	3			6					2	
Actuated Green, G (s)		13.6	26.2		0.9		33.6	33.6			15.6	15.6	
Effective Green, g (s)		13.6	26.2		0.9		33.6	33.6			15.6	15.6	
Actuated g/C Ratio		0.21	0.41		0.01		0.53	0.53			0.24	0.24	
Clearance Time (s)		5.1	5.4		5.1		5.4	5.4			5.4	5.4	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0			3.0	3.0	
Lane Grp Cap (vph)		291	651		25		526	1866			866	372	
v/s Ratio Prot			0.03		c0.00		c0.15	0.14			0.14		
v/s Ratio Perm		c0.12	0.04				c0.24					0.04	
v/c Ratio		0.55	0.17		0.12		0.74	0.27			0.57	0.18	
Uniform Delay, d1		22.3	11.9		31.0		10.0	8.3			21.1	19.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00	
Incremental Delay, d2		1.3	0.0		0.8		4.6	0.1			0.9	0.2	
Delay (s)		23.6	11.9		31.8		14.6	8.4			22.0	19.2	
Level of Service		C	B		C		B	A			C	B	
Approach Delay (s)		16.3			31.8			11.1			21.1		
Approach LOS		B			C			B			C		
Intersection Summary													
HCM 2000 Control Delay			15.8									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			63.7									Sum of lost time (s)	21.0
Intersection Capacity Utilization			61.9%									ICU Level of Service	B
Analysis Period (min)			15										

c Critical Lane Group

Intersection					
Intersection Delay, s/veh	8.5				
Intersection LOS	A				
Approach	EB	WB	NB	SB	SE
Entry Lanes	1	0	1	1	1
Conflicting Circle Lanes	1	1	1	1	1
Adj Approach Flow, veh/h	17	0	517	464	341
Demand Flow Rate, veh/h	17	0	527	473	347
Vehicles Circulating, veh/h	805	524	310	13	486
Vehicles Exiting, veh/h	28	313	512	511	0
Ped Vol Crossing Leg, #/h	0	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	0.0	10.2	5.9	9.5
Approach LOS	A	-	B	A	A
Lane	Left	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LR	LR
Assumed Moves	LTR	LTR	LTR	LR	LR
RT Channelized					
Lane Util	1.000	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976	4.976
Entry Flow, veh/h	17	527	473	347	
Cap Entry Lane, veh/h	607	1006	1362	841	
Entry HV Adj Factor	0.993	0.981	0.982	0.982	
Flow Entry, veh/h	17	517	464	341	
Cap Entry, veh/h	603	987	1337	825	
V/C Ratio	0.028	0.524	0.347	0.413	
Control Delay, s/veh	6.3	10.2	5.9	9.5	
LOS	A	B	A	A	
95th %tile Queue, veh	0	3	2	2	

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	126	132	7	128	43	499	8	53	492	146
v/c Ratio	0.38	0.25	0.04	0.44	0.21	0.53	0.01	0.27	0.52	0.17
Control Delay	20.5	13.3	25.3	23.4	31.0	16.3	0.0	31.8	16.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	13.3	25.3	23.4	31.0	16.3	0.0	31.8	16.2	3.2
Queue Length 50th (ft)	29	19	2	26	13	140	0	16	138	0
Queue Length 95th (ft)	88	72	14	87	50	253	0	#62	249	28
Internal Link Dist (ft)		408		339		523			385	
Turn Bay Length (ft)					150		300	200		200
Base Capacity (vph)	333	1384	887	1173	200	1348	1145	200	1348	1147
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	0.38	0.10	0.01	0.11	0.21	0.37	0.01	0.27	0.36	0.13

Intersection Summary

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























Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing PM Mitigated
HCM Signalized Intersection Capacity Analysis

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	115	70	50	6	68	48	39	454	7	48	448	133	
Future Volume (vph)	115	70	50	6	68	48	39	454	7	48	448	133	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.6		4.6	4.6		4.6	5.3	5.3	4.6	5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1718		1757	1747		1770	1863	1542	1770	1863	1539	
Flt Permitted	0.40	1.00		0.73	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	745	1718		1345	1747		1770	1863	1542	1770	1863	1539	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	126	77	55	7	75	53	43	499	8	53	492	146	
RTOR Reduction (vph)	0	35	0	0	36	0	0	0	5	0	0	83	
Lane Group Flow (vph)	126	97	0	7	92	0	43	499	3	53	492	63	
Confl. Peds. (#/hr)			10	10					8			7	
Turn Type	pm+pt	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4			8		5	2		1	6		
Permitted Phases	4			8					2			6	
Actuated Green, G (s)	13.8	13.8		5.5	5.5		2.5	23.4	23.4	2.5	23.4	23.4	
Effective Green, g (s)	13.8	13.8		5.5	5.5		2.5	23.4	23.4	2.5	23.4	23.4	
Actuated g/C Ratio	0.25	0.25		0.10	0.10		0.05	0.43	0.43	0.05	0.43	0.43	
Clearance Time (s)	4.5	4.6		4.6	4.6		4.6	5.3	5.3	4.6	5.3	5.3	
Vehicle Extension (s)	3.0	1.5		1.0	1.0		1.5	1.0	1.0	1.5	1.0	1.0	
Lane Grp Cap (vph)	261	437		136	177		81	804	665	81	804	664	
v/s Ratio Prot	c0.03	0.06			0.05		0.02	c0.27		c0.03	0.26		
v/s Ratio Perm	c0.09			0.01					0.00			0.04	
v/c Ratio	0.48	0.22		0.05	0.52		0.53	0.62	0.01	0.65	0.61	0.09	
Uniform Delay, d1	16.4	16.0		22.0	23.1		25.3	12.0	8.8	25.4	11.9	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1		0.1	1.3		3.3	1.1	0.0	13.5	1.0	0.0	
Delay (s)	17.8	16.1		22.1	24.4		28.6	13.0	8.8	39.0	12.9	9.1	
Level of Service	B	B		C	C		C	B	A	D	B	A	
Approach Delay (s)		16.9			24.2			14.2			14.1		
Approach LOS		B			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			15.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.63										
Actuated Cycle Length (s)			54.2									Sum of lost time (s)	19.0
Intersection Capacity Utilization			54.4%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

Atascadero General Plan Update
11: SR 41 & Atascadero Ave

Existing PM Mitigated
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	70	50	6	68	48	39	454	7	48	448	133
Future Volume (veh/h)	115	70	50	6	68	48	39	454	7	48	448	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	77	55	7	75	53	43	499	8	53	492	146
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	341	243	349	174	123	79	630	527	91	642	539
Arrive On Green	0.08	0.34	0.34	0.17	0.17	0.17	0.04	0.34	0.34	0.05	0.34	0.34
Sat Flow, veh/h	1781	1008	720	1228	1006	711	1781	1870	1566	1781	1870	1569
Grp Volume(v), veh/h	126	0	132	7	0	128	43	499	8	53	492	146
Grp Sat Flow(s),veh/h/ln	1781	0	1728	1228	0	1717	1781	1870	1566	1781	1870	1569
Q Serve(g_s), s	2.9	0.0	2.9	0.3	0.0	3.5	1.2	12.8	0.2	1.5	12.4	3.6
Cycle Q Clear(g_c), s	2.9	0.0	2.9	0.3	0.0	3.5	1.2	12.8	0.2	1.5	12.4	3.6
Prop In Lane	1.00		0.42	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	0	584	349	0	297	79	630	527	91	642	539
V/C Ratio(X)	0.31	0.00	0.23	0.02	0.00	0.43	0.55	0.79	0.02	0.58	0.77	0.27
Avail Cap(c_a), veh/h	437	0	1324	856	0	1007	168	1238	1037	168	1238	1039
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	12.5	18.2	0.0	19.5	24.7	15.9	11.7	24.5	15.5	12.6
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.4	2.2	0.9	0.0	2.2	0.7	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	1.1	0.0	1.0	0.1	0.0	1.2	0.5	4.7	0.1	0.6	4.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	12.6	18.2	0.0	19.9	26.9	16.7	11.7	26.7	16.2	12.7
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	B	B
Approach Vol, veh/h		258			135			550			691	
Approach Delay, s/veh		13.8			19.8			17.5			16.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	23.1		22.5	6.9	23.5	8.7	13.8				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3	4.5	4.6				
Max Green Setting (Gmax), s	5.0	35.0		40.5	5.0	35.0	5.0	31.0				
Max Q Clear Time (g_c+I1), s	3.5	14.8		4.9	3.2	14.4	4.9	5.5				
Green Ext Time (p_c), s	0.0	1.0		0.4	0.0	1.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				16.6								
HCM 6th LOS				B								

Cumulative Conditions

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	15	0	19	78	6	35	63	482	62	13	418	29
Future Vol, veh/h	15	0	19	78	6	35	63	482	62	13	418	29
Conflicting Peds, #/hr	1	0	1	1	0	1	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	21	85	7	38	68	524	67	14	454	32

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1217	1227	473	1204	1210	559	488	0	0	591	0	0
Stage 1	500	500	-	694	694	-	-	-	-	-	-	-
Stage 2	717	727	-	510	516	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	158	178	591	161	183	529	1075	-	-	985	-	-
Stage 1	553	543	-	433	444	-	-	-	-	-	-	-
Stage 2	421	429	-	546	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	134	164	589	146	169	528	1073	-	-	985	-	-
Mov Cap-2 Maneuver	134	164	-	146	169	-	-	-	-	-	-	-
Stage 1	517	534	-	406	416	-	-	-	-	-	-	-
Stage 2	360	402	-	519	525	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.1		58.8		0.9		0.2	
HCM LOS	C		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1073	-	-	236	187	985	-
HCM Lane V/C Ratio	0.064	-	-	0.157	0.692	0.014	-
HCM Control Delay (s)	8.6	-	-	23.1	58.8	8.7	-
HCM Lane LOS	A	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	4.2	0	-

Intersection												
Int Delay, s/veh	16.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕	↕	↕	↕↕	
Traffic Vol, veh/h	5	5	0	263	5	15	5	613	78	10	608	5
Future Vol, veh/h	5	5	0	263	5	15	5	613	78	10	608	5
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	0	286	5	16	5	666	85	11	661	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1034	1448	333	1032	1365	336	666	0	0	752	0	0
Stage 1	686	686	-	677	677	-	-	-	-	-	-	-
Stage 2	348	762	-	355	688	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	186	130	663	~ 187	146	660	919	-	-	853	-	-
Stage 1	404	446	-	409	450	-	-	-	-	-	-	-
Stage 2	641	412	-	635	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	127	663	~ 178	143	658	919	-	-	852	-	-
Mov Cap-2 Maneuver	175	127	-	299	266	-	-	-	-	-	-	-
Stage 1	400	440	-	405	446	-	-	-	-	-	-	-
Stage 2	611	408	-	619	439	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.4		89.9		0.1		0.1	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	919	-	-	147	307	852	-
HCM Lane V/C Ratio	0.006	-	-	0.074	1.002	0.013	-
HCM Control Delay (s)	8.9	0	-	31.4	89.9	9.3	-
HCM Lane LOS	A	A	-	D	F	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	10.8	0	-

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
























Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	291	241	82	463	481	33	341	515
v/c Ratio	0.75	0.46	0.55	0.81	0.25	0.33	0.41	0.77
Control Delay	51.4	8.7	54.4	47.3	15.6	61.8	35.2	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	8.7	54.4	47.3	15.6	61.8	35.2	18.7
Queue Length 50th (ft)	168	5	38	255	86	20	95	69
Queue Length 95th (ft)	328	75	109	#683	176	65	167	235
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	1155	1109	436	574	1899	574	1760	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.22	0.19	0.81	0.25	0.06	0.19	0.53

Intersection Summary






















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

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	15	222	10	30	35	426	422	20	30	314	474
Future Volume (vph)	253	15	222	10	30	35	426	422	20	30	314	474
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1779	1583		1735		1770	3511		1770	3539	1583
Flt Permitted		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1779	1583		1735		1770	3511		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	275	16	241	11	33	38	463	459	22	33	341	515
RTOR Reduction (vph)	0	0	181	0	18	0	0	0	0	0	0	289
Lane Group Flow (vph)	0	291	60	0	64	0	463	481	0	33	341	226
Confl. Peds. (#/hr)									1	1		
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8									2
Actuated Green, G (s)		22.2	22.2		7.7		33.1	55.0		3.8	25.7	25.7
Effective Green, g (s)		22.2	22.2		7.7		33.1	55.0		3.8	25.7	25.7
Actuated g/C Ratio		0.22	0.22		0.07		0.32	0.53		0.04	0.25	0.25
Clearance Time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Vehicle Extension (s)		2.0	2.0		1.0		1.0	5.5		1.0	5.5	5.5
Lane Grp Cap (vph)		382	340		129		567	1871		65	881	394
v/s Ratio Prot		c0.16			c0.04		c0.26	0.14		0.02	0.10	
v/s Ratio Perm			0.04									c0.14
v/c Ratio		0.76	0.18		0.50		0.82	0.26		0.51	0.39	0.57
Uniform Delay, d1		38.0	33.1		45.9		32.3	13.0		48.8	32.2	33.9
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		7.9	0.1		1.1		8.4	0.2		2.3	0.7	3.6
Delay (s)		45.9	33.1		47.0		40.7	13.2		51.0	32.9	37.5
Level of Service		D	C		D		D	B		D	C	D
Approach Delay (s)		40.1			47.0		26.7			36.3		
Approach LOS		D			D		C			D		
Intersection Summary												
HCM 2000 Control Delay			33.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			103.2				Sum of lost time (s)			14.5		
Intersection Capacity Utilization			67.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

CM AM
HCM 6th Signalized Intersection Summary























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	15	222	10	30	35	426	422	20	30	314	474
Future Volume (veh/h)	253	15	222	10	30	35	426	422	20	30	314	474
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	16	241	11	33	38	463	459	22	33	341	515
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	18	297	14	42	48	471	2063	99	62	1308	583
Arrive On Green	0.19	0.19	0.19	0.06	0.06	0.06	0.26	0.60	0.60	0.03	0.37	0.37
Sat Flow, veh/h	1688	98	1585	230	690	795	1781	3452	165	1781	3554	1583
Grp Volume(v), veh/h	291	0	241	82	0	0	463	236	245	33	341	515
Grp Sat Flow(s),veh/h/ln	1786	0	1585	1716	0	0	1781	1777	1840	1781	1777	1583
Q Serve(g_s), s	19.1	0.0	17.6	5.7	0.0	0.0	31.3	7.5	7.5	2.2	8.1	36.9
Cycle Q Clear(g_c), s	19.1	0.0	17.6	5.7	0.0	0.0	31.3	7.5	7.5	2.2	8.1	36.9
Prop In Lane	0.95		1.00	0.13		0.46	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	335	0	297	104	0	0	471	1062	1100	62	1308	583
V/C Ratio(X)	0.87	0.00	0.81	0.79	0.00	0.00	0.98	0.22	0.22	0.53	0.26	0.88
Avail Cap(c_a), veh/h	944	0	838	340	0	0	471	1062	1100	471	1439	641
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	47.1	56.1	0.0	0.0	44.3	11.3	11.3	57.4	26.7	35.8
Incr Delay (d2), s/veh	2.8	0.0	2.0	5.0	0.0	0.0	36.9	0.3	0.3	2.6	0.3	15.3
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	8.7	0.0	7.0	2.6	0.0	0.0	18.2	2.9	3.0	1.0	3.4	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	0.0	49.2	61.1	0.0	0.0	81.1	11.6	11.6	60.1	27.0	51.1
LnGrp LOS	D	A	D	E	A	A	F	B	B	E	C	D
Approach Vol, veh/h		532			82			944			889	
Approach Delay, s/veh		49.9			61.1			45.7			42.2	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	35.5	48.6		10.8	7.7	76.3		26.2				
Change Period (Y+Rc), s	3.5	4.0		3.5	3.5	4.0		3.5				
Max Green Setting (Gmax), s	32.0	49.0		24.0	32.0	49.0		64.0				
Max Q Clear Time (g_c+I1), s	33.3	38.9		7.7	4.2	9.5		21.1				
Green Ext Time (p_c), s	0.0	5.7		0.1	0.0	6.9		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			45.9									
HCM 6th LOS			D									



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	336	309	42	344	392	57	16	335	59
v/c Ratio	0.63	0.63	0.79	0.09	0.76	0.23	0.07	0.13	0.49	0.14
Control Delay	44.1	9.3	48.5	0.4	46.5	16.7	1.3	42.3	35.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	9.3	48.5	0.4	46.5	16.7	1.3	42.3	35.3	0.7
Queue Length 50th (ft)	101	0	164	0	176	66	0	9	93	0
Queue Length 95th (ft)	158	68	#276	0	#395	126	7	30	131	0
Internal Link Dist (ft)	306		234			460			694	
Turn Bay Length (ft)		150		160	125		125	125		125
Base Capacity (vph)	406	608	425	478	453	1677	786	127	766	446
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	0.46	0.55	0.73	0.09	0.76	0.23	0.07	0.13	0.44	0.13

Intersection Summary

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

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	115	323	82	215	40	330	376	55	15	322	57
Future Volume (vph)	65	115	323	82	215	40	330	376	55	15	322	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1830	1562		1837	1583	1770	3539	1546	1767	3539	1541
Flt Permitted		0.98	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1830	1562		1837	1583	1770	3539	1546	1767	3539	1541
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	120	336	85	224	42	344	392	57	16	335	59
RTOR Reduction (vph)	0	0	281	0	0	33	0	0	32	0	0	48
Lane Group Flow (vph)	0	188	55	0	309	9	344	392	25	16	335	11
Confl. Peds. (#/hr)			1	1					1	1		1
Confl. Bikes (#/hr)									1			2
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		14.7	14.7		19.2	19.2	23.1	39.7	39.7	0.9	17.5	17.5
Effective Green, g (s)		14.7	14.7		19.2	19.2	23.1	39.7	39.7	0.9	17.5	17.5
Actuated g/C Ratio		0.16	0.16		0.21	0.21	0.26	0.44	0.44	0.01	0.19	0.19
Clearance Time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.5	4.0	4.0	2.5	4.0	4.0
Lane Grp Cap (vph)		298	255		391	337	454	1561	681	17	688	299
v/s Ratio Prot		c0.10			c0.17		c0.19	0.11		0.01	c0.09	
v/s Ratio Perm			0.04			0.01			0.02			0.01
v/c Ratio		0.63	0.22		0.79	0.03	0.76	0.25	0.04	0.94	0.49	0.04
Uniform Delay, d1		35.1	32.6		33.5	28.0	30.9	15.8	14.3	44.5	32.3	29.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		4.3	0.4		10.4	0.0	6.8	0.4	0.1	188.5	2.5	0.2
Delay (s)		39.4	33.1		43.9	28.0	37.6	16.2	14.4	233.1	34.7	29.7
Level of Service		D	C		D	C	D	B	B	F	C	C
Approach Delay (s)		35.4			42.0			25.4			41.7	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			33.9									C
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			90.0								15.5	
Intersection Capacity Utilization			69.9%									C
Analysis Period (min)			15									

c Critical Lane Group



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	175	463	10	551	376	5	347	236
v/c Ratio	0.67	0.39	0.08	0.78	0.17	0.04	0.53	0.53
Control Delay	43.5	1.9	32.6	32.4	8.3	41.0	32.3	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	1.9	32.6	32.4	8.3	41.0	32.3	11.6
Queue Length 50th (ft)	73	0	2	201	27	2	74	12
Queue Length 95th (ft)	174	41	21	#609	107	15	147	84
Internal Link Dist (ft)	486		78		253		275	
Turn Bay Length (ft)		195		105		100		100
Base Capacity (vph)	620	1201	693	710	2363	473	1895	912
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.39	0.01	0.78	0.16	0.01	0.18	0.26

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↕	↗
Traffic Volume (vph)	146	15	426	0	5	5	507	341	5	5	319	217
Future Volume (vph)	146	15	426	0	5	5	507	341	5	5	319	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.93		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1773	1583		1618		1770	3531		1770	3539	1535
Flt Permitted		0.74	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1369	1583		1618		1770	3531		1770	3539	1535
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	16	463	0	5	5	551	371	5	5	347	236
RTOR Reduction (vph)	0	0	215	0	5	0	0	0	0	0	0	159
Lane Group Flow (vph)	0	175	248	0	5	0	551	376	0	5	347	77
Confl. Peds. (#/hr)	5					5	4		5			4
Confl. Bikes (#/hr)									2			2
Turn Type	Perm	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	1		3		1	6		5	2	
Permitted Phases	4		4	3								2
Actuated Green, G (s)		14.7	45.5		0.9		30.8	48.6		0.8	18.6	18.6
Effective Green, g (s)		14.7	45.5		0.9		30.8	48.6		0.8	18.6	18.6
Actuated g/C Ratio		0.17	0.54		0.01		0.36	0.57		0.01	0.22	0.22
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)		236	940		17		641	2018		16	774	335
v/s Ratio Prot			0.10		c0.00		c0.31	0.11		0.00	c0.10	
v/s Ratio Perm		c0.13	0.06									0.05
v/c Ratio		0.74	0.26		0.30		0.86	0.19		0.31	0.45	0.23
Uniform Delay, d1		33.3	10.7		41.7		25.1	8.7		41.8	28.8	27.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		10.4	0.1		3.5		10.7	0.0		4.0	0.4	0.4
Delay (s)		43.8	10.7		45.3		35.8	8.8		45.9	29.2	27.7
Level of Service		D	B		D		D	A		D	C	C
Approach Delay (s)		19.8			45.3		24.9			28.7		
Approach LOS		B			D		C			C		
Intersection Summary												
HCM 2000 Control Delay			24.5		HCM 2000 Level of Service						C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			85.0		Sum of lost time (s)					20.0		
Intersection Capacity Utilization			66.2%		ICU Level of Service					C		
Analysis Period (min)			15									

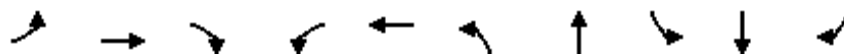
c Critical Lane Group

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	15	0	56	0	5	5	55	771	0	5	588	10
Future Vol, veh/h	15	0	56	0	5	5	55	771	0	5	588	10
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	61	0	5	5	60	838	0	5	639	11

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1197	1611	323	1289	1622	423	653	0	0	839	0	0
Stage 1	652	652	-	959	959	-	-	-	-	-	-	-
Stage 2	545	959	-	330	663	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	141	103	673	121	102	579	930	-	-	791	-	-
Stage 1	423	462	-	276	334	-	-	-	-	-	-	-
Stage 2	490	334	-	657	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	129	95	671	104	94	577	927	-	-	790	-	-
Mov Cap-2 Maneuver	249	209	-	198	201	-	-	-	-	-	-	-
Stage 1	395	458	-	258	312	-	-	-	-	-	-	-
Stage 2	445	312	-	594	453	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.6		17.5		0.6		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	494	298	790	-
HCM Lane V/C Ratio	0.064	-	-	0.156	0.036	0.007	-
HCM Control Delay (s)	9.2	-	-	13.6	17.5	9.6	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	49	97	111	9	224	355	136	11	87	237
v/c Ratio	0.21	0.21	0.24	0.03	0.49	0.65	0.14	0.06	0.25	0.49
Control Delay	23.1	21.6	6.5	20.6	25.4	25.1	8.8	31.1	26.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	21.6	6.5	20.6	25.4	25.1	8.8	31.1	26.6	8.2
Queue Length 50th (ft)	14	28	0	2	69	110	20	4	27	0
Queue Length 95th (ft)	47	76	36	14	159	224	70	20	78	58
Internal Link Dist (ft)		435			214		337		398	
Turn Bay Length (ft)	265		265	155		120		160		160
Base Capacity (vph)	493	942	853	654	936	866	1153	866	1155	1067
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	0.10	0.10	0.13	0.01	0.24	0.41	0.12	0.01	0.08	0.22
Intersection Summary										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	89	102	8	196	10	327	115	10	10	80	218
Future Volume (vph)	45	89	102	8	196	10	327	115	10	10	80	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	1810	1538	1719	1796		1719	1788		1719	1810	1538
Flt Permitted	0.52	1.00	1.00	0.69	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	948	1810	1538	1256	1796		1719	1788		1719	1810	1538
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	97	111	9	213	11	355	125	11	11	87	237
RTOR Reduction (vph)	0	0	84	0	2	0	0	2	0	0	0	181
Lane Group Flow (vph)	49	97	27	9	222	0	355	134	0	11	87	56
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	15.6	15.6	15.6	15.6	15.6		19.7	33.7		1.2	15.2	15.2
Effective Green, g (s)	15.6	15.6	15.6	15.6	15.6		19.7	33.7		1.2	15.2	15.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.30	0.52		0.02	0.23	0.23
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.5	5.8		3.5	5.8	5.8
Lane Grp Cap (vph)	228	435	370	302	432		522	929		31	424	360
v/s Ratio Prot		0.05			c0.12		c0.21	0.08		0.01	c0.05	
v/s Ratio Perm	0.05		0.02	0.01								0.04
v/c Ratio	0.21	0.22	0.07	0.03	0.52		0.68	0.14		0.35	0.21	0.15
Uniform Delay, d1	19.7	19.7	19.0	18.8	21.3		19.8	8.1		31.4	19.9	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.5	0.2	0.1	2.1		3.8	0.2		8.1	0.6	0.5
Delay (s)	20.7	20.3	19.2	18.9	23.4		23.6	8.3		39.5	20.6	20.2
Level of Service	C	C	B	B	C		C	A		D	C	C
Approach Delay (s)		19.9			23.2			19.3			21.0	
Approach LOS		B			C			B			C	

Intersection Summary

HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	14.3
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	89	102	8	196	10	327	115	10	10	80	218
Future Volume (veh/h)	45	89	102	8	196	10	327	115	10	10	80	218
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	97	111	9	213	11	355	125	11	11	87	237
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, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	272	414	351	349	391	20	440	799	70	25	445	377
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.25	0.48	0.48	0.01	0.24	0.24
Sat Flow, veh/h	1129	1826	1547	1146	1721	89	1739	1654	146	1739	1826	1547
Grp Volume(v), veh/h	49	97	111	9	0	224	355	0	136	11	87	237
Grp Sat Flow(s),veh/h/ln	1129	1826	1547	1146	0	1810	1739	0	1800	1739	1826	1547
Q Serve(g_s), s	2.1	2.2	3.1	0.3	0.0	5.7	9.9	0.0	2.2	0.3	2.0	7.1
Cycle Q Clear(g_c), s	7.7	2.2	3.1	2.6	0.0	5.7	9.9	0.0	2.2	0.3	2.0	7.1
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	272	414	351	349	0	411	440	0	869	25	445	377
V/C Ratio(X)	0.18	0.23	0.32	0.03	0.00	0.55	0.81	0.00	0.16	0.45	0.20	0.63
Avail Cap(c_a), veh/h	691	1093	926	775	0	1083	1007	0	1320	1007	1339	1135
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	16.3	16.7	17.4	0.0	17.7	18.2	0.0	7.5	25.3	15.5	17.5
Incr Delay (d2), s/veh	0.7	0.6	1.1	0.1	0.0	2.4	4.2	0.0	0.3	14.6	0.7	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	1.0	0.1	0.0	2.3	3.7	0.0	0.6	0.2	0.8	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	17.0	17.8	17.5	0.0	20.1	22.4	0.0	7.8	40.0	16.2	23.0
LnGrp LOS	C	B	B	B	A	C	C	A	A	D	B	C
Approach Vol, veh/h		257			233			491				335
Approach Delay, s/veh		18.2			20.0			18.3				21.8
Approach LOS		B			B			B				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	30.7		16.4	17.1	18.3		16.4				
Change Period (Y+Rc), s	4.0	5.7		4.6	4.0	5.7		4.6				
Max Green Setting (Gmax), s	30.0	38.0		31.0	30.0	38.0		31.0				
Max Q Clear Time (g_c+I1), s	2.3	4.2		9.7	11.9	9.1		7.7				
Green Ext Time (p_c), s	0.0	1.7		2.0	1.3	3.6		2.3				

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

8: Ardilla Ave/Traffic Way & US 101 SB Ramp Performance by approach

Approach	EB	NB	SB	SE	All
Denied Del/Veh (s)	46.3	0.6	25.3	216.2	55.2
Total Del/Veh (s)	247.7	2.9	30.9	250.4	49.0

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	80	142	32	74	214
Future Vol, veh/h	40	80	142	32	74	214
Conflicting Peds, #/hr	0	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	87	154	35	80	233





















Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	566	174	0	0	190
Stage 1	173	-	-	-	-
Stage 2	393	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	486	869	-	-	1384
Stage 1	857	-	-	-	-
Stage 2	682	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	453	867	-	-	1383
Mov Cap-2 Maneuver	453	-	-	-	-
Stage 1	856	-	-	-	-
Stage 2	637	-	-	-	-





















Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	665	1383
HCM Lane V/C Ratio	-	-	0.196	0.058
HCM Control Delay (s)	-	-	11.7	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2

























Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	131	240	5	487	128	58	560
v/c Ratio	0.29	0.58	0.03	0.66	0.19	0.25	0.63
Control Delay	19.9	24.1	33.6	20.5	8.1	31.4	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	24.1	33.6	20.5	8.1	31.4	15.2
Queue Length 50th (ft)	33	62	2	131	11	18	101
Queue Length 95th (ft)	94	166	14	314	53	65	342
Internal Link Dist (ft)	369	467		389			478
Turn Bay Length (ft)			200		105	200	
Base Capacity (vph)	1089	971	768	1741	1449	768	1726
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.25	0.01	0.28	0.09	0.08	0.32
Intersection Summary							

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	37	69	15	108	32	81	5	448	118	53	495	20	
Future Volume (vph)	37	69	15	108	32	81	5	448	118	53	495	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3		
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00		
Frbp, ped/bikes		1.00			0.99		1.00	1.00	0.98	1.00	1.00		
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00		
Frt		0.98			0.95		1.00	1.00	0.85	1.00	0.99		
Flt Protected		0.98			0.98		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1804			1715		1770	1863	1549	1770	1852		
Flt Permitted		0.88			0.81		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)		1608			1427		1770	1863	1549	1770	1852		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	40	75	16	117	35	88	5	487	128	58	538	22	
RTOR Reduction (vph)	0	4	0	0	16	0	0	0	43	0	1	0	
Lane Group Flow (vph)	0	127	0	0	224	0	5	487	85	58	559	0	
Confl. Peds. (#/hr)	1					1			1	1			
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8					2				
Actuated Green, G (s)		15.3			15.3		0.6	23.5	23.5	3.7	26.1		
Effective Green, g (s)		15.3			15.3		0.6	23.5	23.5	3.7	26.1		
Actuated g/C Ratio		0.27			0.27		0.01	0.42	0.42	0.07	0.46		
Clearance Time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3		
Vehicle Extension (s)		1.0			1.0		1.5	1.0	1.0	1.5	1.0		
Lane Grp Cap (vph)		435			386		18	774	644	115	855		
v/s Ratio Prot							0.00	0.26		c0.03	c0.30		
v/s Ratio Perm		0.08			c0.16				0.06				
v/c Ratio		0.29			0.58		0.28	0.63	0.13	0.50	0.65		
Uniform Delay, d1		16.3			17.8		27.7	13.1	10.2	25.5	11.7		
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.1			1.4		3.0	1.2	0.0	1.3	1.4		
Delay (s)		16.5			19.3		30.8	14.2	10.2	26.8	13.1		
Level of Service		B			B		C	B	B	C	B		
Approach Delay (s)		16.5			19.3			13.5			14.4		
Approach LOS		B			B			B			B		
Intersection Summary													
HCM 2000 Control Delay			14.9									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			56.5									Sum of lost time (s)	14.5
Intersection Capacity Utilization			62.9%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	69	15	108	32	81	5	448	118	53	495	20
Future Volume (veh/h)	37	69	15	108	32	81	5	448	118	53	495	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	75	16	117	35	88	5	487	128	58	538	22
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	253	45	292	70	121	12	610	516	110	654	27
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.01	0.33	0.33	0.06	0.37	0.37
Sat Flow, veh/h	340	1201	214	654	332	571	1781	1870	1583	1781	1784	73
Grp Volume(v), veh/h	131	0	0	240	0	0	5	487	128	58	0	560
Grp Sat Flow(s),veh/h/ln	1755	0	0	1558	0	0	1781	1870	1583	1781	0	1857
Q Serve(g_s), s	0.0	0.0	0.0	2.7	0.0	0.0	0.1	8.3	2.1	1.1	0.0	9.5
Cycle Q Clear(g_c), s	2.1	0.0	0.0	4.8	0.0	0.0	0.1	8.3	2.1	1.1	0.0	9.5
Prop In Lane	0.31		0.12	0.49		0.37	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	505	0	0	482	0	0	12	610	516	110	0	681
V/C Ratio(X)	0.26	0.00	0.00	0.50	0.00	0.00	0.41	0.80	0.25	0.53	0.00	0.82
Avail Cap(c_a), veh/h	1681	0	0	1514	0	0	1021	3323	2811	1021	0	3299
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	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	12.7	0.0	0.0	17.3	10.7	8.6	15.9	0.0	10.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	8.2	0.9	0.1	1.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.4	0.0	0.0	0.1	2.4	0.5	0.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	0.0	13.0	0.0	0.0	25.4	11.6	8.7	17.3	0.0	11.0
LnGrp LOS	B	A	A	B	A	A	C	B	A	B	A	B
Approach Vol, veh/h		131			240			620				618
Approach Delay, s/veh		11.8			13.0			11.1				11.6
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	16.7		12.0	4.8	18.1		12.0				
Change Period (Y+Rc), s	4.1	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	20.0	62.0		33.0	20.0	62.0		32.0				
Max Q Clear Time (g_c+I1), s	3.1	10.3		4.1	2.1	11.5		6.8				
Green Ext Time (p_c), s	0.0	1.0		0.3	0.0	1.2		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				11.6								
HCM 6th LOS				B								



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	264	43	183	126	42	532	5	129	709	187
v/c Ratio	0.75	0.12	0.71	0.46	0.41	0.71	0.01	0.65	0.80	0.24
Control Delay	69.4	5.7	76.2	38.1	83.3	42.4	0.0	79.0	40.5	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	5.7	76.2	38.1	83.3	42.4	0.0	79.0	40.5	16.1
Queue Length 50th (ft)	228	0	160	53	37	379	0	113	524	58
Queue Length 95th (ft)	395	19	295	140	95	702	0	223	947	146
Internal Link Dist (ft)	408		339			523			385	
Turn Bay Length (ft)		35		50	150		300	200		200
Base Capacity (vph)	568	525	585	542	349	1147	967	349	1149	970
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	0.46	0.08	0.31	0.23	0.12	0.46	0.01	0.37	0.62	0.19
Intersection Summary										

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	169	74	40	17	152	116	39	489	5	119	652	172	
Future Volume (vph)	169	74	40	17	152	116	39	489	5	119	652	172	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00	0.96		1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1800	1528		1854	1583	1770	1863	1540	1770	1863	1538	
Flt Permitted		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1800	1528		1854	1583	1770	1863	1540	1770	1863	1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	184	80	43	18	165	126	42	532	5	129	709	187	
RTOR Reduction (vph)	0	0	35	0	0	53	0	0	3	0	0	36	
Lane Group Flow (vph)	0	264	8	0	183	73	42	532	2	129	709	151	
Confl. Peds. (#/hr)			6	6					4			3	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7	7		8	8		5	2		1	6		
Permitted Phases			7			8			2			6	
Actuated Green, G (s)		26.5	26.5		18.9	18.9	6.3	56.0	56.0	15.3	65.0	65.0	
Effective Green, g (s)		26.5	26.5		18.9	18.9	6.3	56.0	56.0	15.3	65.0	65.0	
Actuated g/C Ratio		0.20	0.20		0.14	0.14	0.05	0.41	0.41	0.11	0.48	0.48	
Clearance Time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Vehicle Extension (s)		1.5	1.5		1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	
Lane Grp Cap (vph)		351	298		258	220	82	768	635	199	891	736	
v/s Ratio Prot		c0.15		c0.10			0.02	0.29		c0.07	c0.38		
v/s Ratio Perm			0.01			0.05			0.00			0.10	
v/c Ratio		0.75	0.03		0.71	0.33	0.51	0.69	0.00	0.65	0.80	0.21	
Uniform Delay, d1		51.6	44.2		55.8	52.7	63.2	32.8	23.5	57.7	29.8	20.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.9	0.0		7.1	0.3	2.2	2.2	0.0	5.4	4.6	0.1	
Delay (s)		59.4	44.2		62.9	53.1	65.5	35.0	23.5	63.0	34.5	20.5	
Level of Service		E	D		E	D	E	D	C	E	C	C	
Approach Delay (s)		57.3			58.9			37.1			35.5		
Approach LOS		E			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			42.2		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.77										
Actuated Cycle Length (s)			135.8		Sum of lost time (s)					19.1			
Intersection Capacity Utilization			76.6%		ICU Level of Service					D			
Analysis Period (min)			15										
c	Critical Lane Group												

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	72	0	95	0	0	0	45	273	5	5	428	58
Future Vol, veh/h	72	0	95	0	0	0	45	273	5	5	428	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	285	-	-	165	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	76	0	100	0	0	0	47	287	5	5	451	61

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	876	878	482	926	906	290	512	0	0	292	0	0
Stage 1	492	492	-	384	384	-	-	-	-	-	-	-
Stage 2	384	386	-	542	522	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	268	286	582	248	275	747	1048	-	-	1264	-	-
Stage 1	557	546	-	637	610	-	-	-	-	-	-	-
Stage 2	637	608	-	523	529	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	258	272	582	198	262	747	1048	-	-	1264	-	-
Mov Cap-2 Maneuver	258	272	-	198	262	-	-	-	-	-	-	-
Stage 1	532	544	-	608	583	-	-	-	-	-	-	-
Stage 2	608	581	-	431	527	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.5		0		1.2		0.1	
HCM LOS	C		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1048	-	-	378	-	1264	-
HCM Lane V/C Ratio	0.045	-	-	0.465	-	0.004	-
HCM Control Delay (s)	8.6	-	-	22.5	0	7.9	-
HCM Lane LOS	A	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	-	0	-

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	153	7	56	129	75	18	101	86	243	55	16
Future Vol, veh/h	12	153	7	56	129	75	18	101	86	243	55	16
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	166	8	61	140	82	20	110	93	264	60	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.2	13.8	12.1	16.2
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	7%	22%	77%
Vol Thru, %	49%	89%	50%	18%
Vol Right, %	42%	4%	29%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	205	172	260	314
LT Vol	18	12	56	243
Through Vol	101	153	129	55
RT Vol	86	7	75	16
Lane Flow Rate	223	187	283	341
Geometry Grp	1	1	1	1
Degree of Util (X)	0.362	0.323	0.456	0.556
Departure Headway (Hd)	5.851	6.223	5.923	5.962
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	580	613	608
Service Time	3.851	4.235	3.923	3.962
HCM Lane V/C Ratio	0.36	0.322	0.462	0.561
HCM Control Delay	12.1	12.2	13.8	16.2
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	1.6	1.4	2.4	3.4

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	38	0	51	14	0	35	40	635	27	38	555	19
Future Vol, veh/h	38	0	51	14	0	35	40	635	27	38	555	19
Conflicting Peds, #/hr	1	0	0	0	0	1	9	0	0	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	0	55	15	0	38	43	690	29	41	603	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1516	1510	623	1514	1506	706	633	0	0	719	0	0
Stage 1	705	705	-	791	791	-	-	-	-	-	-	-
Stage 2	811	805	-	723	715	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	98	120	486	98	121	436	950	-	-	882	-	-
Stage 1	427	439	-	383	401	-	-	-	-	-	-	-
Stage 2	373	395	-	417	434	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	83	108	482	81	109	436	942	-	-	882	-	-
Mov Cap-2 Maneuver	83	108	-	81	109	-	-	-	-	-	-	-
Stage 1	404	415	-	365	383	-	-	-	-	-	-	-
Stage 2	325	377	-	352	410	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	58.4		30.4		0.5		0.6	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	942	-	-	158	194	882	-
HCM Lane V/C Ratio	0.046	-	-	0.612	0.275	0.047	-
HCM Control Delay (s)	9	-	-	58.4	30.4	9.3	-
HCM Lane LOS	A	-	-	F	D	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.3	1.1	0.1	-

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕	↕	↕	↕↕	
Traffic Vol, veh/h	10	5	10	123	10	15	15	737	199	35	658	10
Future Vol, veh/h	10	5	10	123	10	15	15	737	199	35	658	10
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	2	2	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	11	129	11	16	16	776	209	37	693	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1204	1796	356	1233	1592	391	708	0	0	987	0	0
Stage 1	777	777	-	810	810	-	-	-	-	-	-	-
Stage 2	427	1019	-	423	782	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	140	79	640	133	106	608	887	-	-	696	-	-
Stage 1	356	405	-	340	391	-	-	-	-	-	-	-
Stage 2	576	313	-	579	403	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	121	71	638	~ 115	96	606	884	-	-	695	-	-
Mov Cap-2 Maneuver	121	71	-	231	212	-	-	-	-	-	-	-
Stage 1	340	382	-	325	374	-	-	-	-	-	-	-
Stage 2	522	299	-	532	380	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	34.5		42.2		0.3		0.5	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	884	-	-	148	245	695	-
HCM Lane V/C Ratio	0.018	-	-	0.178	0.636	0.053	-
HCM Control Delay (s)	9.1	0.2	-	34.5	42.2	10.5	-
HCM Lane LOS	A	A	-	D	E	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	3.9	0.2	-

Notes			
-: Volume exceeds capacity	\$. Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	341	238	83	705	551	21	391	482
v/c Ratio	0.79	0.45	0.58	1.32	0.29	0.26	0.45	0.79
Control Delay	54.9	12.0	61.1	191.0	16.3	67.5	37.5	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	12.0	61.1	191.0	16.3	67.5	37.5	23.9
Queue Length 50th (ft)	215	24	43	~613	93	14	119	109
Queue Length 95th (ft)	412	108	121	#1290	217	51	204	286
Internal Link Dist (ft)	345		64		217		210	
Turn Bay Length (ft)		205		125		60		100
Base Capacity (vph)	1074	1030	404	533	1926	533	1633	874
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.23	0.21	1.32	0.29	0.04	0.24	0.55

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.

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

CM PM
HCM Signalized Intersection Capacity Analysis
























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↕	↗
Traffic Volume (vph)	298	30	228	20	25	35	677	499	30	20	375	463
Future Volume (vph)	298	30	228	20	25	35	677	499	30	20	375	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1782	1583		1732		1770	3501		1770	3539	1536
Flt Permitted		0.96	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1782	1583		1732		1770	3501		1770	3539	1536
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	310	31	238	21	26	36	705	520	31	21	391	482
RTOR Reduction (vph)	0	0	147	0	16	0	0	0	0	0	0	230
Lane Group Flow (vph)	0	341	91	0	67	0	705	551	0	21	391	252
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)									1			3
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8									2
Actuated Green, G (s)		26.7	26.7		8.2		33.4	61.0		2.2	29.8	29.8
Effective Green, g (s)		26.7	26.7		8.2		33.4	61.0		2.2	29.8	29.8
Actuated g/C Ratio		0.24	0.24		0.07		0.30	0.54		0.02	0.26	0.26
Clearance Time (s)		3.5	3.5		3.5		3.5	4.0		3.5	4.0	4.0
Vehicle Extension (s)		2.0	2.0		1.0		1.0	5.5		1.0	5.5	5.5
Lane Grp Cap (vph)		422	375		126		525	1896		34	936	406
v/s Ratio Prot		c0.19			c0.04		c0.40	0.16		0.01	0.11	
v/s Ratio Perm			0.06									c0.16
v/c Ratio		0.81	0.24		0.53		1.34	0.29		0.62	0.42	0.62
Uniform Delay, d1		40.5	34.8		50.4		39.6	14.0		54.8	34.2	36.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		10.3	0.1		2.2		166.7	0.2		21.2	0.7	4.5
Delay (s)		50.8	34.9		52.5		206.3	14.2		76.0	35.0	41.0
Level of Service		D	C		D		F	B		E	C	D
Approach Delay (s)		44.3			52.5			122.1			39.2	
Approach LOS		D			D			F			D	
Intersection Summary												
HCM 2000 Control Delay			77.6				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			112.6			Sum of lost time (s)			14.5			
Intersection Capacity Utilization			83.0%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Atascadero General Plan Update
3: El Camino Real & San Anselmo West

CM PM
HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	30	228	20	25	35	677	499	30	20	375	463
Future Volume (veh/h)	298	30	228	20	25	35	677	499	30	20	375	463
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		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	310	31	238	21	26	36	705	520	31	21	391	482
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	35	340	26	33	45	453	1979	118	49	1261	548
Arrive On Green	0.21	0.21	0.21	0.06	0.06	0.06	0.25	0.58	0.58	0.03	0.35	0.35
Sat Flow, veh/h	1626	163	1585	434	537	744	1781	3403	202	1781	3554	1544
Grp Volume(v), veh/h	341	0	238	83	0	0	705	271	280	21	391	482
Grp Sat Flow(s),veh/h/ln	1789	0	1585	1715	0	0	1781	1777	1828	1781	1777	1544
Q Serve(g_s), s	23.3	0.0	17.5	6.0	0.0	0.0	32.0	9.5	9.5	1.5	10.0	36.8
Cycle Q Clear(g_c), s	23.3	0.0	17.5	6.0	0.0	0.0	32.0	9.5	9.5	1.5	10.0	36.8
Prop In Lane	0.91		1.00	0.25		0.43	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	384	0	340	105	0	0	453	1034	1063	49	1261	548
V/C Ratio(X)	0.89	0.00	0.70	0.79	0.00	0.00	1.56	0.26	0.26	0.43	0.31	0.88
Avail Cap(c_a), veh/h	910	0	806	327	0	0	453	1034	1063	453	1383	601
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	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	45.7	58.3	0.0	0.0	46.9	13.0	13.0	60.2	29.4	38.1
Incr Delay (d2), s/veh	2.8	0.0	1.0	5.0	0.0	0.0	261.2	0.4	0.4	2.2	0.4	15.6
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	10.6	0.0	6.9	2.7	0.0	0.0	46.7	3.7	3.8	0.7	4.3	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.0	46.7	63.3	0.0	0.0	308.1	13.4	13.4	62.4	29.8	53.7
LnGrp LOS	D	A	D	E	A	A	F	B	B	E	C	D
Approach Vol, veh/h		579			83			1256			894	
Approach Delay, s/veh		49.1			63.3			178.8			43.5	
Approach LOS		D			E			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	35.5	48.7		11.2	7.0	77.2		30.5				
Change Period (Y+Rc), s	3.5	4.0		3.5	3.5	4.0		3.5				
Max Green Setting (Gmax), s	32.0	49.0		24.0	32.0	49.0		64.0				
Max Q Clear Time (g_c+I1), s	34.0	38.8		8.0	3.5	11.5		25.3				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	8.0		1.7				
Intersection Summary												
HCM 6th Ctrl Delay	105.7											
HCM 6th LOS	F											



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	445	283	47	388	543	107	36	668	105
v/c Ratio	0.89	0.68	0.84	0.12	0.91	0.34	0.14	0.40	0.85	0.24
Control Delay	66.3	9.4	61.4	0.6	63.1	19.8	4.4	60.1	50.8	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	9.4	61.4	0.6	63.1	19.8	4.4	60.1	50.8	5.1
Queue Length 50th (ft)	198	2	172	0	236	126	0	23	225	0
Queue Length 95th (ft)	#349	92	#297	0	#398	171	32	#62	#347	29
Internal Link Dist (ft)	306		234			460			694	
Turn Bay Length (ft)		150		160	125		125	125		125
Base Capacity (vph)	370	666	363	421	451	1594	755	90	784	441
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	0.86	0.67	0.78	0.11	0.86	0.34	0.14	0.40	0.85	0.24

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 (vph)	100	205	427	142	130	45	372	521	103	35	641	101
Future Volume (vph)	100	205	427	142	130	45	372	521	103	35	641	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	0.98		1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1833	1558		1815	1583	1770	3539	1545	1770	3539	1531
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1833	1558		1815	1583	1770	3539	1545	1770	3539	1531
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	104	214	445	148	135	47	388	543	107	36	668	105
RTOR Reduction (vph)	0	0	355	0	0	38	0	0	60	0	0	82
Lane Group Flow (vph)	0	318	90	0	283	9	388	543	47	36	668	23
Confl. Peds. (#/hr)			3	3					1			3
Confl. Bikes (#/hr)									1			2
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		19.6	19.6		18.6	18.6	24.2	43.6	43.6	2.7	22.1	22.1
Effective Green, g (s)		19.6	19.6		18.6	18.6	24.2	43.6	43.6	2.7	22.1	22.1
Actuated g/C Ratio		0.20	0.20		0.19	0.19	0.24	0.44	0.44	0.03	0.22	0.22
Clearance Time (s)		4.0	4.0		4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.5	4.0	4.0	2.5	4.0	4.0
Lane Grp Cap (vph)		359	305		337	294	428	1543	673	47	782	338
v/s Ratio Prot		c0.17			c0.16		c0.22	0.15		0.02	c0.19	
v/s Ratio Perm			0.06			0.01			0.03			0.02
v/c Ratio		0.89	0.30		0.84	0.03	0.91	0.35	0.07	0.77	0.85	0.07
Uniform Delay, d1		39.1	34.3		39.3	33.3	36.8	18.8	16.4	48.3	37.4	30.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		22.0	0.5		16.6	0.0	22.4	0.6	0.2	50.5	11.5	0.4
Delay (s)		61.1	34.9		55.8	33.4	59.2	19.4	16.6	98.8	48.9	31.2
Level of Service		E	C		E	C	E	B	B	F	D	C
Approach Delay (s)		45.8			52.6			34.0			48.8	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			43.2									D
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			100.0							15.5		
Intersection Capacity Utilization			82.9%									E
Analysis Period (min)			15									

c Critical Lane Group
























Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	199	366	10	487	605	696	328
v/c Ratio	0.71	0.34	0.10	0.83	0.26	0.71	0.64
Control Delay	50.7	2.3	40.6	45.5	7.8	35.4	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	2.3	40.6	45.5	7.8	35.4	23.2
Queue Length 50th (ft)	104	0	3	248	61	183	88
Queue Length 95th (ft)	228	47	23	#678	157	324	229
Internal Link Dist (ft)	486		78		253	275	
Turn Bay Length (ft)		195		105			100
Base Capacity (vph)	511	1088	576	588	2353	1567	740
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.34	0.02	0.83	0.26	0.44	0.44

Intersection Summary

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

Atascadero General Plan Update
5: El Camino Real & Santa Rosa Rd

CM PM
HCM Signalized Intersection Capacity Analysis

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	173	10	337	0	5	5	448	557	0	0	640	302		
Future Volume (vph)	173	10	337	0	5	5	448	557	0	0	640	302		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	5.0		
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	1.00		
Frbp, ped/bikes		1.00	1.00		0.97		1.00	1.00			1.00	0.96		
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00		
Frt		1.00	0.85		0.93		1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00		1.00		0.95	1.00			1.00	1.00		
Satd. Flow (prot)		1775	1583		1677		1770	3539			3539	1512		
Flt Permitted		0.73	1.00		1.00		0.95	1.00			1.00	1.00		
Satd. Flow (perm)		1358	1583		1677		1770	3539			3539	1512		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	188	11	366	0	5	5	487	605	0	0	696	328		
RTOR Reduction (vph)	0	0	177	0	5	0	0	0	0	0	0	104		
Lane Group Flow (vph)	0	199	189	0	5	0	487	605	0	0	696	224		
Confl. Peds. (#/hr)	2					2			3			10		
Confl. Bikes (#/hr)									3			3		
Turn Type	Perm	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm		
Protected Phases		4	1		3		1	6		5	2			
Permitted Phases	4		4	3								2		
Actuated Green, G (s)		19.2	50.2		0.9		31.0	62.0			26.0	26.0		
Effective Green, g (s)		19.2	50.2		0.9		31.0	62.0			26.0	26.0		
Actuated g/C Ratio		0.20	0.52		0.01		0.32	0.64			0.27	0.27		
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	5.0		
Vehicle Extension (s)		2.0	2.0		2.0		2.0	3.0			3.0	3.0		
Lane Grp Cap (vph)		268	899		15		565	2259			947	404		
v/s Ratio Prot			0.07		c0.00		c0.28	0.17			c0.20			
v/s Ratio Perm		c0.15	0.05									0.15		
v/c Ratio		0.74	0.21		0.34		0.86	0.27			0.73	0.55		
Uniform Delay, d1		36.6	12.7		47.8		31.0	7.7			32.4	30.6		
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00		
Incremental Delay, d2		9.3	0.0		4.8		12.4	0.1			3.0	1.7		
Delay (s)		45.9	12.8		52.6		43.4	7.7			35.4	32.2		
Level of Service		D	B		D		D	A			D	C		
Approach Delay (s)		24.4			52.6			23.6			34.4			
Approach LOS		C			D			C			C			
Intersection Summary														
HCM 2000 Control Delay			28.0									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.78											
Actuated Cycle Length (s)			97.1								20.0			
Intersection Capacity Utilization			72.2%										ICU Level of Service	C
Analysis Period (min)			15											

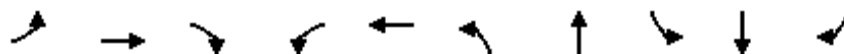
c Critical Lane Group

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Traffic Vol, veh/h	40	5	79	5	5	10	60	862	0	5	807	30
Future Vol, veh/h	40	5	79	5	5	10	60	862	0	5	807	30
Conflicting Peds, #/hr	5	0	0	0	0	5	1	0	13	13	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	86	5	5	11	65	937	0	5	877	33

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1494	1968	440	1531	2001	487	911	0	0	950	0	0
Stage 1	888	888	-	1080	1080	-	-	-	-	-	-	-
Stage 2	606	1080	-	451	921	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	85	62	565	80	59	526	743	-	-	719	-	-
Stage 1	305	360	-	233	293	-	-	-	-	-	-	-
Stage 2	451	293	-	557	347	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	75	55	564	61	53	517	742	-	-	710	-	-
Mov Cap-2 Maneuver	181	161	-	150	148	-	-	-	-	-	-	-
Stage 1	278	357	-	210	264	-	-	-	-	-	-	-
Stage 2	393	264	-	462	344	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	24.6		22.2		0.7		0.1			
HCM LOS	C		C							























Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	742	-	-	316	231	710	-
HCM Lane V/C Ratio	0.088	-	-	0.427	0.094	0.008	-
HCM Control Delay (s)	10.3	-	-	24.6	22.2	10.1	-
HCM Lane LOS	B	-	-	C	C	B	-
HCM 95th %tile Q(veh)	0.3	-	-	2	0.3	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	104	159	183	11	106	97	189	15	205	152
v/c Ratio	0.29	0.31	0.32	0.03	0.21	0.29	0.22	0.06	0.38	0.27
Control Delay	18.6	17.9	4.9	15.4	15.8	23.7	10.7	25.5	19.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	17.9	4.9	15.4	15.8	23.7	10.7	25.5	19.4	5.5
Queue Length 50th (ft)	24	37	0	2	22	24	23	4	46	0
Queue Length 95th (ft)	67	92	38	13	62	80	108	23	133	40
Internal Link Dist (ft)		435			214		337		398	
Turn Bay Length (ft)	265		265	155		120		160		160
Base Capacity (vph)	858	1246	1119	817	1215	1157	1420	1157	1443	1260
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.13	0.16	0.01	0.09	0.08	0.13	0.01	0.14	0.12























Intersection Summary

Atascadero General Plan Update
7: El Camino Real & Santa Barbara Rd

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	96	146	168	10	83	15	89	155	19	14	189	140	
Future Volume (vph)	96	146	168	10	83	15	89	155	19	14	189	140	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1814		1770	1832		1770	1863	1583	
Flt Permitted	0.69	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1283	1863	1583	1222	1814		1770	1832		1770	1863	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	104	159	183	11	90	16	97	168	21	15	205	152	
RTOR Reduction (vph)	0	0	135	0	6	0	0	3	0	0	0	103	
Lane Group Flow (vph)	104	159	48	11	100	0	97	186	0	15	205	49	
Confl. Peds. (#/hr)	3												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm	
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4		4	8								6	
Actuated Green, G (s)	13.6	13.6	13.6	13.6	13.6		7.2	22.9		1.1	16.8	16.8	
Effective Green, g (s)	13.6	13.6	13.6	13.6	13.6		7.2	22.9		1.1	16.8	16.8	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.14	0.44		0.02	0.32	0.32	
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.0	5.7		4.0	5.7	5.7	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.5	5.8		3.5	5.8	5.8	
Lane Grp Cap (vph)	336	488	414	320	475		245	808		37	603	512	
v/s Ratio Prot		c0.09			0.06		c0.05	0.10		0.01	c0.11		
v/s Ratio Perm	0.08		0.03	0.01								0.03	
v/c Ratio	0.31	0.33	0.12	0.03	0.21		0.40	0.23		0.41	0.34	0.10	
Uniform Delay, d1	15.4	15.5	14.6	14.3	15.0		20.4	9.0		25.1	13.3	12.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.8	0.3	0.1	0.5		1.2	0.4		8.4	0.9	0.2	
Delay (s)	16.5	16.3	14.8	14.4	15.4		21.6	9.4		33.4	14.2	12.5	
Level of Service	B	B	B	B	B		C	A		C	B	B	
Approach Delay (s)		15.7			15.3			13.5			14.3		
Approach LOS		B			B			B			B		
Intersection Summary													
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio			0.35										
Actuated Cycle Length (s)			51.9	Sum of lost time (s)					14.3				
Intersection Capacity Utilization			38.8%	ICU Level of Service			A						
Analysis Period (min)			15										
c Critical Lane Group													

Atascadero General Plan Update
 7: El Camino Real & Santa Barbara Rd

CM PM
 HCM 6th Signalized Intersection Summary

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	146	168	10	83	15	89	155	19	14	189	140
Future Volume (veh/h)	96	146	168	10	83	15	89	155	19	14	189	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	159	183	11	90	16	97	168	21	15	205	152
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	485	513	435	406	424	75	151	532	66	34	488	414
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.33	0.33	0.02	0.26	0.26
Sat Flow, veh/h	1282	1870	1585	1039	1545	275	1781	1630	204	1781	1870	1585
Grp Volume(v), veh/h	104	159	183	11	0	106	97	0	189	15	205	152
Grp Sat Flow(s),veh/h/ln	1282	1870	1585	1039	0	1819	1781	0	1834	1781	1870	1585
Q Serve(g_s), s	2.6	2.5	3.6	0.3	0.0	1.7	2.0	0.0	2.9	0.3	3.4	2.9
Cycle Q Clear(g_c), s	4.2	2.5	3.6	2.9	0.0	1.7	2.0	0.0	2.9	0.3	3.4	2.9
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	485	513	435	406	0	499	151	0	598	34	488	414
V/C Ratio(X)	0.21	0.31	0.42	0.03	0.00	0.21	0.64	0.00	0.32	0.44	0.42	0.37
Avail Cap(c_a), veh/h	1190	1541	1306	977	0	1499	1420	0	1852	1420	1889	1601
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	10.8	11.2	12.0	0.0	10.5	16.7	0.0	9.5	18.2	11.5	11.4
Incr Delay (d2), s/veh	0.5	0.7	1.4	0.1	0.0	0.4	5.4	0.0	1.0	10.2	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	1.0	0.1	0.0	0.5	0.8	0.0	0.9	0.2	1.2	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	11.6	12.6	12.0	0.0	11.0	22.1	0.0	10.5	28.4	13.4	13.1
LnGrp LOS	B	B	B	B	A	B	C	A	B	C	B	B
Approach Vol, veh/h		446			117			286			372	
Approach Delay, s/veh		12.2			11.1			14.4			13.9	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	18.0		14.9	7.2	15.5		14.9				
Change Period (Y+Rc), s	4.0	5.7		4.6	4.0	5.7		4.6				
Max Green Setting (Gmax), s	30.0	38.0		31.0	30.0	38.0		31.0				
Max Q Clear Time (g_c+I1), s	2.3	4.9		6.2	4.0	5.4		4.9				
Green Ext Time (p_c), s	0.0	2.5		3.9	0.3	4.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				13.1								
HCM 6th LOS				B								

8: Ardilla Ave/Traffic Way & US 101 SB Ramp Performance by approach

Approach	EB	NB	SB	SE	All
Denied Del/Veh (s)	0.1	0.4	0.5	2.5	0.9
Total Del/Veh (s)	12.7	1.8	3.8	46.3	14.0

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	45	74	187	52	53	128
Future Vol, veh/h	45	74	187	52	53	128
Conflicting Peds, #/hr	0	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	80	203	57	58	139

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	488	234	0	0	261
Stage 1	233	-	-	-	-
Stage 2	255	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	539	805	-	-	1303
Stage 1	806	-	-	-	-
Stage 2	788	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	513	803	-	-	1302
Mov Cap-2 Maneuver	513	-	-	-	-
Stage 1	805	-	-	-	-
Stage 2	750	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	662	1302
HCM Lane V/C Ratio	-	-	0.195	0.044
HCM Control Delay (s)	-	-	11.8	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1























Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	92	200	10	604	130	93	606
v/c Ratio	0.24	0.56	0.06	0.74	0.19	0.38	0.57
Control Delay	23.8	29.3	39.0	23.4	8.9	36.4	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	29.3	39.0	23.4	8.9	36.4	12.3
Queue Length 50th (ft)	25	57	3	176	14	31	101
Queue Length 95th (ft)	84	167	24	450	62	108	389
Internal Link Dist (ft)	369	467		389			478
Turn Bay Length (ft)			200		105	200	
Base Capacity (vph)	1021	920	648	1669	1375	648	1654
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.22	0.02	0.36	0.09	0.14	0.37
Intersection Summary							

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↗	↗	↖
Traffic Volume (vph)	18	55	15	76	47	69	10	580	125	89	561	21
Future Volume (vph)	18	55	15	76	47	69	10	580	125	89	561	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00			0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794			1724		1770	1863	1540	1770	1851	
Flt Permitted		0.93			0.86		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1687			1511		1770	1863	1540	1770	1851	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	57	16	79	49	72	10	604	130	93	584	22
RTOR Reduction (vph)	0	6	0	0	16	0	0	0	32	0	1	0
Lane Group Flow (vph)	0	86	0	0	184	0	10	604	98	93	605	0
Confl. Peds. (#/hr)			1	1					4			4
Confl. Bikes (#/hr)						1						
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		14.1			14.1		0.7	30.7	30.7	6.8	36.3	
Effective Green, g (s)		14.1			14.1		0.7	30.7	30.7	6.8	36.3	
Actuated g/C Ratio		0.21			0.21		0.01	0.47	0.47	0.10	0.55	
Clearance Time (s)		4.6			4.6		4.6	5.3	5.3	4.1	5.3	
Vehicle Extension (s)		1.0			1.0		1.5	1.0	1.0	1.5	1.0	
Lane Grp Cap (vph)		362			324		18	871	720	183	1024	
v/s Ratio Prot							0.01	c0.32		c0.05	0.33	
v/s Ratio Perm		0.05			c0.12				0.06			
v/c Ratio		0.24			0.57		0.56	0.69	0.14	0.51	0.59	
Uniform Delay, d1		21.3			23.0		32.3	13.7	9.9	27.8	9.7	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			1.4		19.4	1.9	0.0	0.8	0.6	
Delay (s)		21.4			24.4		51.7	15.7	9.9	28.6	10.3	
Level of Service		C			C		D	B	A	C	B	
Approach Delay (s)		21.4			24.4			15.2			12.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.6				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			65.6				Sum of lost time (s)				14.5	
Intersection Capacity Utilization			64.7%				ICU Level of Service				C	
Analysis Period (min)			15									

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	55	15	76	47	69	10	580	125	89	561	21
Future Volume (veh/h)	18	55	15	76	47	69	10	580	125	89	561	21
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		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	57	16	79	49	72	10	604	130	93	584	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	224	55	218	89	101	23	715	603	145	783	30
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.01	0.38	0.38	0.08	0.44	0.44
Sat Flow, veh/h	200	1259	307	505	503	567	1781	1870	1577	1781	1790	67
Grp Volume(v), veh/h	92	0	0	200	0	0	10	604	130	93	0	606
Grp Sat Flow(s),veh/h/ln	1767	0	0	1574	0	0	1781	1870	1577	1781	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	2.8	0.0	0.0	0.2	11.5	2.2	2.0	0.0	10.6
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.6	0.0	0.0	0.2	11.5	2.2	2.0	0.0	10.6
Prop In Lane	0.21		0.17	0.39		0.36	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	426	0	0	409	0	0	23	715	603	145	0	813
V/C Ratio(X)	0.22	0.00	0.00	0.49	0.00	0.00	0.43	0.84	0.22	0.64	0.00	0.75
Avail Cap(c_a), veh/h	1530	0	0	1377	0	0	912	2969	2503	912	0	2949
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	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	15.0	0.0	0.0	19.1	11.0	8.1	17.4	0.0	9.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	4.5	1.1	0.1	1.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.4	0.0	0.0	0.1	3.4	0.5	0.7	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	0.0	15.3	0.0	0.0	23.6	12.1	8.2	19.1	0.0	9.7
LnGrp LOS	B	A	A	B	A	A	C	B	A	B	A	A
Approach Vol, veh/h		92			200			744				699
Approach Delay, s/veh		14.0			15.3			11.6				10.9
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	20.2		11.6	5.1	22.4		11.6				
Change Period (Y+Rc), s	4.1	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	20.0	62.0		33.0	20.0	62.0		32.0				
Max Q Clear Time (g_c+I1), s	4.0	13.5		3.7	2.2	12.6		6.6				
Green Ext Time (p_c), s	0.1	1.3		0.2	0.0	1.3		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				11.9								
HCM 6th LOS				B								



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	222	64	102	100	43	716	14	78	682	147
v/c Ratio	0.72	0.21	0.60	0.49	0.40	0.77	0.02	0.54	0.68	0.18
Control Delay	65.6	14.6	74.3	33.7	74.7	34.5	0.1	74.3	27.8	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.6	14.6	74.3	33.7	74.7	34.5	0.1	74.3	27.8	11.4
Queue Length 50th (ft)	169	1	79	26	34	453	0	61	399	35
Queue Length 95th (ft)	314	45	170	98	89	812	0	138	709	92
Internal Link Dist (ft)	408		339			523			385	
Turn Bay Length (ft)		35		50	150		300	200		200
Base Capacity (vph)	598	540	610	566	365	1199	997	365	1207	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.12	0.17	0.18	0.12	0.60	0.01	0.21	0.57	0.15
Intersection Summary										

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	115	89	59	14	80	92	40	659	13	72	627	135	
Future Volume (vph)	115	89	59	14	80	92	40	659	13	72	627	135	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00	0.95		1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1812	1506		1849	1583	1770	1863	1529	1770	1863	1522	
Flt Permitted		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1812	1506		1849	1583	1770	1863	1529	1770	1863	1522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	125	97	64	15	87	100	43	716	14	78	682	147	
RTOR Reduction (vph)	0	0	51	0	0	59	0	0	7	0	0	27	
Lane Group Flow (vph)	0	222	13	0	102	41	43	716	7	78	682	120	
Confl. Peds. (#/hr)			10	10					8			7	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7	7		8	8		5	2		1	6		
Permitted Phases			7			8			2			6	
Actuated Green, G (s)		21.4	21.4		11.5	11.5	6.3	63.6	63.6	10.3	67.6	67.6	
Effective Green, g (s)		21.4	21.4		11.5	11.5	6.3	63.6	63.6	10.3	67.6	67.6	
Actuated g/C Ratio		0.17	0.17		0.09	0.09	0.05	0.51	0.51	0.08	0.54	0.54	
Clearance Time (s)		4.6	4.6		4.6	4.6	4.6	5.3	5.3	4.6	5.3	5.3	
Vehicle Extension (s)		1.5	1.5		1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	
Lane Grp Cap (vph)		307	255		168	144	88	941	772	144	1000	817	
v/s Ratio Prot		c0.12		c0.06			0.02	c0.38		c0.04	c0.37		
v/s Ratio Perm			0.01			0.03			0.00			0.08	
v/c Ratio		0.72	0.05		0.61	0.28	0.49	0.76	0.01	0.54	0.68	0.15	
Uniform Delay, d1		49.4	43.7		55.0	53.4	58.2	25.0	15.5	55.5	21.3	14.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.0	0.0		4.2	0.4	1.6	3.3	0.0	2.2	1.5	0.0	
Delay (s)		56.4	43.8		59.2	53.8	59.8	28.3	15.5	57.8	22.8	14.7	
Level of Service		E	D		E	D	E	C	B	E	C	B	
Approach Delay (s)		53.6		56.5			29.9			24.5			
Approach LOS		D		E			C			C			
Intersection Summary													
HCM 2000 Control Delay			33.2		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.71										
Actuated Cycle Length (s)			125.9		Sum of lost time (s)					19.1			
Intersection Capacity Utilization			68.6%		ICU Level of Service					C			
Analysis Period (min)			15										
c Critical Lane Group													

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	43	0	45	5	5	0	90	461	5	0	299	49
Future Vol, veh/h	43	0	45	5	5	0	90	461	5	0	299	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	285	-	-	165	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	0	49	5	5	0	98	501	5	0	325	53

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1054	1054	352	1076	1078	504	378	0	0	506	0	0
Stage 1	352	352	-	700	700	-	-	-	-	-	-	-
Stage 2	702	702	-	376	378	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	204	226	692	197	219	568	1180	-	-	1059	-	-
Stage 1	665	632	-	430	441	-	-	-	-	-	-	-
Stage 2	429	440	-	645	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	187	207	692	171	201	568	1180	-	-	1059	-	-
Mov Cap-2 Maneuver	187	207	-	171	201	-	-	-	-	-	-	-
Stage 1	610	632	-	394	404	-	-	-	-	-	-	-
Stage 2	388	403	-	599	615	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.7		25.7		1.3		0	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1180	-	-	298	185	1059	-
HCM Lane V/C Ratio	0.083	-	-	0.321	0.059	-	-
HCM Control Delay (s)	8.3	-	-	22.7	25.7	0	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	0.2	0	-

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	185	18	44	169	86	6	41	40	108	49	14
Future Vol, veh/h	15	185	18	44	169	86	6	41	40	108	49	14
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	201	20	48	184	93	7	45	43	117	53	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	11.9	9.4	10.9
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	7%	15%	63%
Vol Thru, %	47%	85%	57%	29%
Vol Right, %	46%	8%	29%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	218	299	171
LT Vol	6	15	44	108
Through Vol	41	185	169	49
RT Vol	40	18	86	14
Lane Flow Rate	95	237	325	186
Geometry Grp	1	1	1	1
Degree of Util (X)	0.143	0.34	0.446	0.289
Departure Headway (Hd)	5.445	5.159	4.94	5.602
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	657	697	728	641
Service Time	3.486	3.19	2.968	3.638
HCM Lane V/C Ratio	0.145	0.34	0.446	0.29
HCM Control Delay	9.4	10.8	11.9	10.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.5	1.5	2.3	1.2