

5. Cumulative Conditions

This chapter presents a summary of long-range traffic conditions that could occur under the City of San Carlos General Plan and the 2003 draft East San Carlos Specific Plan (ESCSP). A list of cumulative developments within the City of San Carlos was provided by city staff (see Table 17). Cumulative conditions include all foreseeable projects and projects included in the 2003 draft ESCSP as part of the cumulative development. The foreseeable projects are specific developments that have been discussed or filed with City staff. The 2003 draft ESCSP is a land development/redevelopment plan at various sites in East San Carlos. The sites include the northeast and southeast corner of the Industrial Road and Holly Street intersection, the area east of Industrial Road between Holly Street and Brittan Avenue, the area north of Brittan Avenue between Old County Road and Industrial Road, and some areas along East San Carlos Avenue and along Industrial Road, south of Brittan Avenue. This plan has not yet been adopted. The cumulative development is composed of both the foreseeable projects and the 2003 draft ESCSP. Traffic associated with the cumulative projects was generated and assigned to the roadway network, as was described for future and project conditions.

It is calculated that the cumulative projects (both the foreseeable and ESCSP projects) would have a total net growth of approximately 1,700,000 s.f. of non-residential land use and approximately 315 residential units (and hotel rooms). The cumulative development would generate a net increase of approximately 2,766 trips during the AM peak hour (approximately 55 and 2,711 trips generated by the foreseeable projects and the ESCSP, respectively) and 3,033 trips during the PM peak hour (approximately 189 and 2,844 trips generated by the foreseeable projects and the ESCSP, respectively). The net growth due to the cumulative projects is summarized in Table 18. Trip generation estimates for the foreseeable and the ESCSP projects are included in Table 19 and Table 20, respectively.

**Table 17
Cumulative Projects List**

Project Site	Existing Size and Use	Proposed Size and Use
<i>Foreseeable Projects List/a/</i>		
761/769/777 Walnut Street	3 single-family homes	18 multi-family units 48,840 s.f. commercial
<i>East San Carlos Specific Plan Proposal/b/</i>		
Industrial & Reasearch Park (Industrial Rd South)	391,351 s.f. office 178,122 s.f. manufacturing 178,121 s.f. warehouse	1,342,285 s.f. office 722,769 s.f. lab
Landmark Site (Northeast corner of Holly & Industrial)	2,500 s.f. office 2,500 s.f. manufacturing 2,500 s.f. warehouse	20,000 s.f. office
Old County Road Mixed Use (Old County Road)	35,151 s.f. office 35,683 s.f. manufacturing 35,683 s.f. warehouse	60,738 s.f. office 42 Multi-family units
Multi-family Housing (East San Carlos Avenue)	16,070 s.f. office 32,140 s.f. manufacturing 32,140 s.f. warehouse	118 Multi-family units
Creek Development (Litton, Kelly Moore)	104,150 s.f. office 152,475 s.f. manufacturing 152,475 s.f. warehouse	850,718 s.f. lab
1991 Landmark Site (Southeast corner of Holly & Industrial)	21,008 s.f. office 42,016 s.f. manufacturing 42,016 s.f. warehouse	140 hotel rooms 7,500 s.f. restaurant 5,000 s.f. retail 70,000 s.f. office
Regional Retail (Industrial Road South)	65,767 s.f. office 12,581 s.f. manufacturing 12,580 s.f. warehouse 9,800 s.f. lab	138,390 s.f. retail

/a/ Source: Adjustments to approved and potential projects list were made based on comments from Stephanie Bertollo-Davis, City of San Carlos, and per information contained in the Highlands Park IS, Appendix G, in March 2009.
/b/ Source: East San Carlos Specific Plan (ESCSP) Proposal, dated July 2003.

Table 18
Cumulative Projects Total Net Growth By Land Use

Land Use	Existing Size		Proposed Size		Net Growth	
Office	635,997	s.f.	1,493,023	s.f.	857,026	s.f.
Lab	9,800	s.f.	1,573,487	s.f.	1,563,687	s.f.
Manufacturing	455,517	s.f.	0	s.f.	-455,517	s.f.
Warehouse	455,515	s.f.	0	s.f.	-455,515	s.f.
Single-family	3	units	0	units	-3	units
Multi-family	0	units	178	units	178	units
Hotel	0	rooms	140	rooms	140	rooms
Restaurant	0	s.f.	7,500	s.f.	7,500	s.f.
Retail	0	s.f.	192,230	s.f.	192,230	s.f.
Total Non-residential Net Growth:					1,709,411	s.f.
Total Residential Net Growth:					315	units/rooms

**Table 19
Foreseeable Projects Trip Generation Estimates**

Project Name	Existing									Proposed									Net Project Trips											
	Land Use	Size (s.f./units)	AM Peak Hour			PM Peak Hour			Land Use	Size (s.f./units)	AM Peak Hour			PM Peak Hour			Residential						Non-Residential							
			In	Out	Total	In	Out	Total			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total					
761/769/777 Walnut Street	Single-family (210)/a/	3	1	2	2	2	1	3	Shopping Center (820)/a/ Multi-family (230)/a/	48,840 18	30 1	19 7	49 8	89 6	93 3	182 9	1	5	6	4	2	6	30	19	49	89	93	182		
Total Net Project Trips:																1	5	6	4	2	6	30	19	49	89	93	182			

Source: The ITE Trip Generation Manual, 8th edition
 (XX) = ITE land use code
 /a/ Average rates were used

**Table 20
2003 Draft East San Carlos Specific Plan Trip Generation Estimates**

Zone #	Area	Land Area			Development Area			Size (s.f./units)	AM Peak Hour			PM Peak Hour			Net Project Trips									
		Sq.Ft.	Acres	FAR	% Dist.	Sq.Ft.	Units		Land Use	In	Out	Total	In	Out	Total	AM Peak Hour			PM Peak Hour					
Staff Proposal -- 65% Office & 35% Lab along Industrial Road South Only, Max. FAR Along Industrial Rd. (S)																								
Max. FAR = 0.80																								
41,17	Industrial Road Mixed Use (Industrial Rd South)	1,649,107	38	0.80	0.65	1,071,920	857,536	Office (710)/a/ Laboratory (760)/b/	1,342,285 722,769	1,831 656	250 134	2,081 791	340 102	1,660 579	2,000 681	Net Non-re:	1,788	267	2,055	275	1,608	1,883		
					0.35	577,187	461,750																	
						1,649,107	1,319,286																	
16	Landmark Site (Northeast corner of Holly & Industrial)	153,840	4		1			Office (710)/a/	20,000	27	4	31	5	25	30	Net Non-re:	22	3	24	3	20	23		
22	Old County Road Mixed U (Old County Road)	181,307	4	0.67	0.50	90,654	60,738	Office (710)/a/ Multi-family (220)/b/	60,738 42	83 5	11 19	94 24	15 26	75 14	90 41	Net Non-re: Net Resid	2 5	-4 19	-2 24	-7 26	2 14	-5 41		
						181,307				88	31	118	42	89	131									
45	Multi-family Housing (East San Carlos Avenue)	170,719	4		1			Multi-family (220)/b/	118	12	49	62	54	29	83	Net Non-re: Net Resid	-52 12	-11 49	-63 62	-16 54	-46 29	-63 83		
18	Creek Development (Litton, Kelly Moore)	1,283,543	29	0.75	1.00	1,283,543	962,657	Laboratory (760)/b/ Multi-family (220)/b/	850,718 0	758 0	155 0	913 0	117 0	663 0	780 0	Net Non-re: Net Resid	474 0	98 0	571 0	32 0	408 0	440 0		
					0.00	0	0																	
						1,283,543	962,657		850,718	758	155	913	117	663	780									
41	1991 Landmark Site (Southeast corner of Holly & Industrial)	291,780	7					Hotel (310)/b/ Restaurant (932)/a/ Retail (814)/a/ Office (710)/a/ Multi-family (220)/b/	140 7,500 5,000 70,000 0	38 45 0 95 0	24 41 0 13 0	62 86 0 109 0	44 50 6 18 0	39 32 8 87 0	83 82 14 104 0	Net Non-re: Net Resid	73 38	40 24	113 62	52 44	65 39	118 83		
23	Regional Retail (Industrial Road South)	276,780	6	0.50	1	276,780	138,390	Retail (814)/a/	138,390	0	0	0	165	210	375	Net Non-re:	-116	-18	-135	141	102	243		
Total																								
		3,853,236	88					Prop-Exist Existing																
								-455,515	455,515	Warehouse (150)/a/														
								857,026	635,997	Office (710)/a/	1,493,023	2,036	278	2,314	378	1,846	2,225							
								-455,517	455,517	Manufacturing (140)/a/	0	0	0	0	0	0	0							
								1,563,687	9,800	Laboratory (760)/b/	1,573,487	1,414	290	1,704	219	1,242	1,461	Non-res	2,189	374	2,563	479	2,159	2,638
								160	0	Multi-family (220)/b/	160	17	69	86	80	43	123	Resid	55	93	148	124	82	206
								140	0	Hotel (310)/b/	140	38	24	62	44	39	83							
								7,500	0	Restaurant (932)/a/	7,500	45	41	86	50	32	82							
								143,390	0	Retail (814)/a/	143,390	0	0	171	218	389	Total	2,244	467	2,711	603	2,241	2,844	
								Net Non-residential	1,660,571		Gross Non-resid	3,217,400	3,550	702	4,252	942	3,420	4,362	2,244	467	2,711	603	2,241	2,844
								Net residential	300		Gross Residential	300												

Source: The ITE Trip Generation Manual, 7th edition
 (XX) = ITE land use code
 /a/ Average rates were used
 /b/ Regression equation was used
 Note: R&D trip generation rates were used for Laboratory space.

Roadway Network Under Cumulative Conditions

The intersection lane configurations under cumulative conditions were assumed to be the same as described under project conditions, with the addition of the planned San Carlos Avenue improvements.

San Carlos Avenue Improvements

In conjunction with the construction of the project, the City of San Carlos would like to construct a series of roadway changes that would make pedestrian circulation easier and safer in the vicinity of the project site, in particular at the intersections of El Camino Real/Holly Street and El Camino Real/San Carlos Avenue. These roadway changes are referred to as the San Carlos Avenue improvements. The San Carlos Avenue improvements would be a response to the expected increase in demand for pedestrian crossings of El Camino Real as a result of the proposed project. The roadway changes include:

- Narrowing San Carlos Avenue from Walnut Street to El Camino Real from four to two lanes (one lane in each direction) and widening the sidewalks on both sides of San Carlos Avenue
- Directing traffic accessing El Camino Real from San Carlos Avenue to use Holly Street by providing a separate eastbound left-turn lane on San Carlos Avenue to northbound Walnut Street and partially closing (or prohibiting certain movements at) the intersection of Walnut Street and Holly Street to emphasize the new access route and provide adequate capacity for the projected traffic demand
- Removing one of the northbound right-turn lanes on El Camino Real at Holly Street and widening the east sidewalk on El Camino Real, and
- Removing the northbound left-turn movement on El Camino Real to westbound Holly Street and widening the center median on El Camino Real at Holly Street to provide a pedestrian refuge.

The emphasis of the San Carlos Avenue improvements would be to direct vehicular traffic accessing El Camino Real via San Carlos Avenue to use Holly Street in order to reduce traffic volumes along San Carlos Avenue in the Downtown area, reduce conflicting traffic movements at the El Camino/San Carlos intersection, and promote safer pedestrian circulation. The elimination of one lane in each direction of travel along San Carlos Avenue in conjunction with the detour of traffic from San Carlos Avenue to Holly Street would reduce traffic volumes along San Carlos Avenue between Walnut Street and El Camino Real (the gateway to the Downtown area). The addition of one separate eastbound left-turn lane on San Carlos Avenue to northbound Walnut Street and the partial closure of the Walnut Street/Holly Street intersection would emphasize the new access route and provide adequate capacity for the additional traffic demand created with the shift of traffic. The partial closure of the Walnut Street/Holly Street intersection would limit the number of conflicting movements at the intersection. With the proposed partial closure, access to the north leg of the intersection would be prohibited, eliminating the eastbound left-turn, northbound through and westbound right-turn movements. The installation of a stop sign on the west leg of the intersection (Holly Street) and the removal of the existing stop sign on the south leg of the intersection (Walnut Street) in addition to prohibiting left-turns from the northbound direction, would provide an unimpeded flow of traffic from northbound Walnut Street to eastbound Holly Street and for westbound traffic on Holly Street. In addition, with the elimination of a travel lane in each direction along San Carlos Avenue, the existing bike lanes could potentially be extended from their current terminus point west of Elm Street to El Camino Real. Pedestrian circulation safety also would be enhanced at the intersection of El Camino Real/Holly Street by widen the center median on El Camino Real to provide a pedestrian refuge and the sidewalk on the east side of El Camino Real as a result of the removal of the northbound left-turn lane and one of the two northbound right-turn lanes.

The removal of one lane in each direction of travel along San Carlos Avenue would allow for the widening of the sidewalks along both side of San Carlos Avenue and potentially the extension of the existing bike lanes on San Carlos Avenue, from their current terminus point west of Elm Street to El Camino Real. Three different alternatives for the San Carlos Avenue improvements are being considered:

1. Changing the existing (point-in) angle parking along both sides of San Carlos Avenue (between Walnut Street and El Camino Real) to back-in angle parking and providing bike lanes and 2 feet of additional sidewalk width on each side of the street.
2. Changing the existing (point-in) angle parking along both sides of San Carlos Avenue (between Walnut Street and El Camino Real) to parallel parking and providing bike lanes and 9 feet of additional sidewalk width on each side of the street.
3. Leaving the existing (point-in) angle parking along both sides of San Carlos Avenue (between Walnut Street and El Camino Real) and providing 8 feet of additional sidewalk width on each side of the street.

The above different alternatives of the San Carlos Avenue improvements are discussed in more detail later within this chapter and are shown on Figures 13 through 17.

In addition to the roadway changes that would occur with the implementation of the San Carlos Avenue improvements, changes to lane geometrics and intersection control type at most intersections within the affected area also would occur. For example, the intersection of Walnut Street and San Carlos Avenue currently has two travel lanes on both the eastbound and westbound approaches. With the San Carlos Avenue improvements in place, the eastbound shared left-and-through lane would be converted to an exclusive left-turn lane. A left-turn lane also would be provided on the westbound approach and the existing permitted signal phasing (green ball) currently provided for the eastbound/westbound approaches would be changed to a protected phase (green arrow). At the intersection of Walnut Street and Holly Street, the stop sign on the south leg of the intersection would be removed (to provide free flow to traffic coming from San Carlos Avenue to Holly Street) and a stop sign would be placed on the west leg of the intersection. Left-turns would be prohibited from the northbound direction in order to avoid conflicts between the projected heaviest traffic movements, the westbound and northbound movements. The intersection of Laurel Street and Holly Street, which currently operates as an all-way stop control (AWSC) intersection, could potentially operate as a two-way stop control (TWSC) intersection with stop signs on the north and south approaches. Uncontrolled eastbound/westbound approaches would serve the intersection's heaviest movements and emphasize the new route for traffic between San Carlos Avenue and the El Camino Real/Holly Street intersection. A traffic signal at the Laurel/Holly intersection also would serve the purpose of adequately serving the increased eastbound/westbound traffic, however, for the purpose of this analysis, this intersection was assumed to be a TWSC intersection under cumulative conditions. Other intersections in the San Carlos Avenue improvement area would experience changes to lane configurations, but the intersection control would remain unchanged.

The changes to the intersections affected by the San Carlos Avenue improvements are illustrated on Figure 18.

Cumulative Conditions Traffic Volumes

Traffic associated with cumulative developments without and with the proposed Caltrain Transit Village project was generated and assigned to the roadway system. Traffic volumes under cumulative conditions were estimated by adding the estimated traffic from the foreseeable developments and the 2003 draft ESCSP development to the project scenario volumes. It should be noted that no transportation demand management (TDM) trip reductions were assumed for the cumulative development. In addition, due to the