

## **APPENDIX B**

### **TRANSPORTATION IMPACT ANALYSIS**

**(Technical Appendices containing traffic count data are on file at the City of San José Department of Planning, Building and Code Enforcement, 200 East Santa Clara Street, San José CA, 3<sup>rd</sup> Floor. This information is also included in Volume II of this EIR.)**

# **Westfield Valley Fair Expansion**

## **Transportation Impact Analysis**

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## **Executive Summary**

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This report presents the results of the traffic impact analysis conducted for the proposed expansion of Westfield Valley Fair in San Jose, California. Valley Fair is located along the north side of Stevens Creek Boulevard between Monroe Street and Winchester Boulevard. The project as proposed will consist of the expansion of the mall to accommodate two new anchor stores and additional retail space and expansion and/or relocation of out parcel buildings. The existing Bank of America and Washington Mutual buildings will be relocated to the northeast quadrant of the intersection of Winchester Boulevard and Stevens Creek Boulevard. The existing Safeway and Longs Drug Stores will be expanded just north of their existing locations. In total the project will result in the addition of 552,615 square feet (s.f.) of gross leasable retail space. Two new parking structures also will be constructed as part of the project. Access will be provided via the existing entrances along Forest Avenue and Winchester Boulevard. The number of entrances along Stevens Creek Boulevard will remain unchanged, but their configurations and locations will be adjusted slightly.

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included an analysis of weekday AM and PM and Saturday peak-hour traffic conditions for 18 signalized intersections (5 of them CMP intersections) and 18 directional freeway segments.

### **Project Trip Generation**

The magnitude of traffic generated by the proposed project was estimated by applying to the size of the development the applicable trip generation rates published in the Institute of Transportation Engineers (ITE) Manual entitled *Trip Generation*, seventh edition, 2003.

On the basis of the trip generation rates recommended by the ITE, and a reduction for pass-by-trips. It is estimated that the proposed project would generate an additional 20,631 weekday daily trips and 27,126 Saturday daily trips with a total of 437 trips during the AM peak hour, 1,451 trips during the PM peak hour and 1,972 trips during the Saturday peak-hour.

## **Project Impacts**

### ***Weekday City of San Jose Intersection Impacts***

The results of the intersection levels of service analysis show that none of the signalized study intersections would be impacted by the project according to City of San Jose level of service standards during the AM and PM weekday peak hours.

### ***Weekday CMP Intersection Impacts***

The results of the intersection level of service analysis for CMP intersections show that none of the CMP study intersections would be impacted by the project according to county CMP level of service standards for signalized intersections.

### ***Saturday Intersection Impacts***

During the Saturday peak hour, the levels of service results indicate that one intersection, Stevens Creek Boulevard and Winchester Boulevard, will operate at an unacceptable LOS E. There are no established significance criteria to identify what constitutes an impact during the Saturday peak hour. Based on the weekday impact criteria, the intersection would be impacted by the project since it causes the level of service at the intersection to degrade from an acceptable LOS D under background conditions to an unacceptable LOS E under project conditions during the Saturday peak hour.

### ***Freeway Segment Impacts***

The results of the freeway level of service analysis show that the proposed project will have a significant impact on the following four directional freeway segments during the PM peak hour:

- I-280 eastbound from I-880 to Meridian Avenue
- I-280 eastbound from Meridian Avenue to Bird Avenue
- I-280 westbound from Bird Avenue to Meridian Avenue
- I-880 southbound from The Alameda to Bascom Avenue

## **Saturday Peak Hour Intersection Mitigation**

### **Stevens Creek Boulevard and Winchester Boulevard**

If evaluated against the weekday level of service impact criteria, the intersection of Winchester Boulevard and Stevens Creek Boulevard would be impacted by the project during the Saturday peak hour. But, the City of San Jose level of service policy is only applicable to the weekday peak hour. Therefore, the impact would not require mitigation and may be overridden by City Council.

Despite the lack of weekend impact criteria, it is desirable to make improvements to the intersection. Possible improvements include the addition of a second southbound left-turn lane. Intersection levels of service calculations indicate the improvement would improve intersection level of service to LOS D. The intersection has historically been shown to operate at unacceptable levels with analysis for other projects. The southbound left-turn was identified as a required improvement for the previous Valley Fair expansion and Santana Row projects in 1998-1999. The improvement would require that southbound Winchester

Boulevard be widened by approximately two feet. The necessary roadway widening would require the acquisition of right-of-way from the property in the northwest quadrant of the intersection or the narrowing of the existing sidewalk by the necessary two feet. Jurisdiction for the intersection is shared by both the Cities of San Jose and Santa Clara, therefore any improvements must be coordinated between the two cities.

## **Mitigation Measures**

**Freeway Segments** - The mitigation necessary to reduce significant impacts upon the freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project. These impacts are therefore considered significant and unavoidable.

## **Other Transportation Issues**

### ***Roadway and Intersection Operations***

Though intersection level of service results identified no major problems at isolated intersections, except at Stevens Creek Boulevard and Winchester Boulevard, facilities in the area of Valley Fair mall experience operational problems such as lengthy vehicle queues and lane blockage by stacked vehicles. The operational deficiencies are not identified by level of service calculations because the method used for the level of service analysis is based on operations of isolated intersections. Operational deficiencies in the area are due to the functioning and coordination of intersections along roadways as a whole. Described below are several facilities that experience operational deficiencies, and in some cases there are planned improvements. A subsequent more detailed traffic operations analysis will be completed for the area surrounding the mall. The analysis will identify possible improvements that may include signal timing adjustments and coordination.

### **Stevens Creek Boulevard and I-880 Interchange**

The Stevens Creek Boulevard/I-880 interchange area serves as a primary gateway to Stevens Creek Boulevard. As such, the interchange serves a large volume of traffic, not only bound for Valley Fair mall, but also the area in general. Congestion at the intersection of Stevens Creek Boulevard and Monroe Street inhibits traffic flow along Stevens Creek Boulevard. In turn, this creates vehicle queues that extend from westbound Stevens Creek Boulevard back onto the I-880 off ramps and even further back on to I-280. The back-up of vehicles restricts the flow of vehicles along the I-880 auxiliary lanes and restricts the flow of through traffic from I-280 to northbound I-880.

There are plans for a \$20 million improvement to the east side, of the I-280 to I-880 northbound interchange. The improvements will provide separate ramps for traffic traveling from I-280 northbound to I-880 northbound and for traffic accessing Stevens Creek Boulevard. In addition, the loop ramp to westbound Stevens Creek Boulevard will be replaced with a diagonal ramp and signal, which will have much greater capacity. The separation of freeway-to-freeway traffic from traffic bound for Stevens Creek Boulevard will improve the operations of freeway facilities.

Improvements to the southbound side of the interchange also are being studied, although no specific design has been selected and no funding has been secured. It is expected that this project will contribute a fair share towards the identified improvements. Possible improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. The additional right-

turn lane would be provided on the southbound I-880 off-ramp and would only provide access to Valley Fair/Monroe Street. The existing right-turn lane would allow for travel westbound along Stevens Creek Boulevard or the right-turn to Monroe Street.

### **Winchester Boulevard and I-280 Interchange**

The area near the I-280 interchange sees heavy congestion during the PM and Saturday peak hours. Lengthy vehicle queues are prevalent at both the eastbound off-ramp and westbound on-ramp of I-280. Vehicle queues on the eastbound off-ramp extend back on the ramp and do not always clear in the allotted green time. Queues at the westbound on-ramp are created by the ramp meter and extend back onto Winchester Boulevard.

Improvements to be identified by the operations analysis may include the adjustment and coordination of signal timing at the Winchester Boulevard/Moorpark Avenue and Moorpark Avenue/I-280 off-ramp intersections to better serve traffic demands. Vehicle back-ups onto Winchester Boulevard from the I-280 on-ramp may be alleviated through changes to the ramp metering scheme.

### **Stevens Creek Boulevard**

In general, Stevens Creek Boulevard experiences heavy congestion in both directions of travel between Winchester Boulevard and I-880. The congestion is exacerbated by the close spacing of several signalized intersections along the roadway. Left-turn queues occasionally spill out of the provided turn-pockets at intersection.

Again, the operations analysis will determine possible signal timing adjustments and coordination that may improve traffic operations along Stevens Creek Boulevard. Nevertheless, there are several improvements already planned along Stevens Creek Boulevard and its intersections between I-880 and Winchester Boulevard. Improvements include a dedicated westbound right-turn lane along Stevens Creek Boulevard to serve traffic bound for Valley Fair and lengthening of the left-turn pockets serving Valley Fair and Santana Row. The planned improvements are discussed in further detail below and will be analyzed further as part of the operations analysis to follow.

### **Site Access**

Some of the existing driveways serving the site will be reconstructed or relocated, but the project is not proposing any additional access points. The site will continue to be served by driveways and signalized entrances along Stevens Creek Boulevard, Winchester Boulevard, Monroe Street, and Forest Avenue. The proposed increase in retail space will require an increase in the number of parking spaces, which in turn will determine the access points that will see increased traffic. The parking structure fronting Stevens Creek Boulevard will be removed and replaced with a slightly larger parking structure located slightly more to the east. The new structure will provide an additional 555 spaces. A portion of the existing two-story Macy's parking deck along Monroe Street will be replaced with a five-story parking structure providing an additional 1,779 spaces. The effects of these changes on site access are discussed below.

### **Stevens Creek Boulevard**

Two full access signalized intersections and one restricted right-in right-out driveway currently serve and will continue to serve the project site from Stevens Creek Boulevard. There are planned improvements along Stevens Creek Boulevard that are discussed in detail below. It is expected that this project will contribute a fair share towards the identified improvements along Stevens Creek Boulevard.



### **Baywood Avenue Entrance**

Since most of the new parking along Stevens Creek Boulevard will be concentrated near Baywood Avenue, the project is proposing to relocate the signalized entrance intersection between Redwood and Baywood Avenues to directly opposite Baywood Avenue. To prevent an increase in traffic volumes and a disruption of the residences along Baywood Avenue, the southbound leg of the intersection, from Valley Fair, will be restricted to right and left turns only with no access to Baywood Avenue. Baywood Avenue will remain right-in right-out only. This relocation will allow for longer left-turn lanes on Stevens Creek Boulevard into Valley Fair and Santana Row that are needed. Two inbound lanes and two outbound lanes at the mall entrance will be provided to allow for efficient ingress and egress from the parking garage and maintain acceptable levels of service at the Baywood intersection. The project will also add a dedicated right-turn lane into the new parking structure from westbound Stevens Creek Boulevard. The right-turn lane will provide additional storage for vehicles bound for the new garage and prevent blockage of through traffic along Stevens Creek. The addition of the right-turn lane along westbound Stevens Creek Boulevard will require the dedication of approximately 16 feet of right-of way along the project's frontage to accommodate the lane. Level of service calculations indicate that the relocated intersection will improve slightly to LOS B or better during all studied peak periods.

### **Macy's Mens Entrance/Santana Row**

Based on field observations and pedestrian counts (described below), changes to the intersection of Macy's Mens/Santana Row with Stevens Creek Boulevard are being recommended. With the relocation of the parking garage further east to Baywood Avenue, it is expected that less of a demand will be placed on the Macy's Mens entrance to Valley Fair. So as to accommodate pedestrian improvements described below and provide a more pedestrian friendly crossing, the entrance from Valley Fair across from Santana Row should be narrowed to one lane in and two lanes out. The narrowing of the entrance will require that one eastbound left-turn lane into the Valley Fair entrance be eliminated. Additionally, the right-turn lanes on Stevens Creek Boulevard will be converted from exclusive right-turn lanes to shared through-right-turn lanes to improve pedestrian safety. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

### **Winchester Boulevard**

One signalized intersection and one right-turn only driveway currently serve the project. The right-turn only driveway will remain unchanged. The current signalized access intersection at Dorcich Street will be relocated north to allow for the expansion of the Safeway and Longs Drug Stores. The new signalized entrance to Valley Fair located north of Dorcich Street will be a T-intersection providing a more direct route to the existing Parking Structure B. Level of service calculations indicate that the new intersection will operate at LOS B or better during all studied peak periods. The relocation will require that the existing traffic signal at Dorcich Street be removed and outbound left-turns be disallowed. The City of Santa Clara requested that a neighborhood study be completed to evaluate the effects of the proposed relocation of the signal on traffic circulation throughout the neighborhood surrounding Dorcich Street. The neighborhood study is included in Appendix E.

The neighborhood analysis concluded that the signal removal along with the elimination of the eastbound left-turn movement would result in a significant decrease in traffic volume along Dorcich Street and Cecil Avenue. In turn, Henry Avenue would serve any displaced traffic in the neighborhood due to the turn-restrictions at Dorcich Street. The volumes along Henry Avenue, even with the increase, would continue to be within an acceptable range for a typical residential street. Approval by the City of Santa Clara will be necessary prior to implementation of the signal relocation since intersection is located within City of

Santa Clara limits.

## Forest Avenue

The project is proposing no changes to the locations of the access points along Forest Avenue. As such, the surrounding residential areas along Forest Avenue will be unaffected by access modifications to the existing mall. The project will be adding a throat to the driveway nearest Winchester Boulevard. It is also recommended that left-turns be allowed from the driveway and that exclusive right and left-turn lanes be provided. Left-turns are currently prohibited from the driveway. This will improve the function of the driveway, which serves the existing Parking Structure B.

## Monroe Street

A new parking garage will be constructed along Monroe Street along the northeast corner of Macys, replacing a portion of the existing two-story deck. It is expected that the majority of additional traffic generated by the proposed expansion will utilize Monroe Street and the new parking garage that adds 1,779 parking spaces to this end of the mall. With the construction of this parking structure, the three existing drive aisles that provide access to Monroe Street from the existing parking structure will be condensed to one to serve the new structure. This will improve traffic flow along Monroe Street by reducing the number of vehicle conflicts that occur by vehicles circulating in and out of the parking areas.

No access changes are proposed at the intersections of Monroe Street with Forest Street but improvements have been recommended at its intersection with Stevens Creek Boulevard. The improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. To accommodate the additional right-turn lane, one eastbound left-turn lane from Stevens Creek Boulevard to northbound Monroe Street will need to be removed. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

## **Parking**

The proposed expansion will include the construction of two new parking structures. The parking structure currently located along Stevens Creek Boulevard at Redwood Avenue will be demolished and reconstructed further east near Monroe Street. The structure will increase the number of parking spaces from 1,410 to 1,965 spaces. A new 2,379 space parking structure will be constructed along Monroe Street near the northeast corner of Macys. The new structure will replace 600 spaces in the two level structure near Macys. The two new structures combined will provide 2,334 additional spaces for the expansion.

One problem that the mall has experienced since the last expansion is that the parking structure on Stevens Creek Boulevard gets congested, and the structures on the back side are underutilized. To address this problem, the project will provide more direct and clearer on-site circulation aisles so that patrons more easily can find the parking structures to the rear. Also, the project will add better signage, possibly to include active parking occupancy signs, to direct patrons quickly to the available spaces.

## **Transit Facilities**

There is an existing on-site bus transfer center along Forest Avenue that will be maintained with the expansion. It can be assumed that some of the project trips could be made by transit. Assuming up to 3% transit mode share, which is probably the highest that could be expected, yields an estimate of 43 additional transit trips during the weekday PM peak hour and 59 additional trips during the Saturday peak

hour. Given that there is a major transit station located adjacent to the mall with several bus routes, these riders easily could be accommodated by the existing service.

### ***Pedestrian and Bicycle Facilities***

Currently there is busy pedestrian activity at the Stevens Creek Boulevard and Valley Fair/Santana Row intersection. The intersection serves as a major crossing point for patrons moving between Valley Fair Mall and Santana Row. Pedestrian crossing counts were completed during the Saturday peak hour. The counts indicate a total of 114 pedestrian crossings of Stevens Creek Boulevard. By comparison, the intersection of Stevens Creek Boulevard and Winchester Boulevard had 20-30 crossings of Stevens Creek Boulevard.

Despite the relatively high number of pedestrians using this intersection, the facilities are limited. Only one side of the intersection has a crosswalk over Stevens Creek Boulevard, and the sidewalk area at the corners are limited. Planned improvements include the addition of a sidewalk and crosswalk on the east side of the intersection and conversion of the exclusive right-turn lanes on Stevens Creek Boulevard to shared through-right turn lanes. The conversion of right-turn lanes will include the removal of the “pork-chop” island located at the southwest corner of the intersection. The narrowing of the Valley Fair mall entrance described above will allow for sidewalk areas at the corners to be expanded. These improvements will enhance safety.

Similarly, along Forest Avenue, the intersections of Monroe Street and Baywood Avenue serve as major pedestrian connections between the neighborhoods north of Forest Avenue and the shopping mall. Both intersections currently provide crosswalks, but do not provide protected pedestrian crossing phases. Pedestrians crossing Forest Avenue are in conflict with left-turning vehicles from Monroe Street and Baywood Avenue. Pedestrian safety would be improved with the conversion of the signals at each of the intersections to 8-phase operation. Intersection delay at the Monroe Street intersection would deteriorate slightly from LOS B to LOS C, but no change would be seen at the Baywood Avenue intersection with the conversion.

In all other respects, the existing and proposed pedestrian access and circulation at the mall is satisfactory.

The project will not affect any existing or planned bicycle facilities. There would be a small increase in bicycle travel, which could be accommodated on the existing facilities.

**Table ES 1  
Intersection Levels of Service Summary**

Study Number	Peak Hour	Count Date	Existing		Background		Project Conditions				Cumulative Conditions	
			Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Delay	Crit. V/C	Incr. In Delay	Crit. V/C
1	AM	10/14/04	35	C	35	D	36	D	1.3	0.025	36	D
	PM	10/14/04	42	D	43	D	46	D	7.0	0.128	47	D
2	SAT	04/01/06	48	D	48	D	62	E	30.3	0.174	62	E
	AM	04/26/05	13	B	20	B	20	B	0.4	0.018	22	C
3	PM	04/26/05	26	C	29	C	32	C	2.4	0.073	32	C
	SAT	04/01/06	29	C	29	C	32	C	3.8	0.117	32	C
4	AM	05/10/05	8	A	7	A	9	A	2.4	0.028	9	A
	PM	05/10/05	19	B	19	B	24	C	9.0	0.124	24	C
5	SAT	04/01/06	20	C	20	C	27	C	6.7	0.105	27	C
	AM	04/26/05	19	B	26	C	26	C	1.1	0.032	27	C
6	PM	04/26/05	27	C	36	D	44	D	9.3	0.111	45	D
	SAT	04/01/06	29	C	29	C	41	D	13.9	0.221	41	D
7	AM	10/05/04	23	C	24	C	24	C	0.5	0.025	23	C
	PM	10/05/04	20	C	26	C	28	C	1.6	0.064	28	C
8	SAT	04/01/06	25	C	25	C	27	C	2.1	0.094	27	C
	AM	03/31/05	37	D	38	D	38	D	0.2	0.004	38	D
9	PM	03/31/05	44	D	45	D	45	D	0.3	0.013	45	D
	SAT	04/08/06	45	D	45	D	45	D	0.4	0.018	45	D
10	AM	11/03/05	31	C	31	C	31	C	0.7	0.023	31	C
	PM	11/03/05	38	D	39	D	40	D	2.5	0.073	40	D
11	SAT	04/01/06	35	D	35	D	36	D	0.4	0.055	36	D
	AM	11/03/05	18	B	18	B	19	B	1.7	0.025	27	C
12	PM	11/03/05	20	C	21	C	23	C	3.7	0.108	32	C
	SAT	04/01/06	21	C	21	C	24	C	5.6	0.150	24	C
13	AM	11/03/05	10	A	10	A	10	A	0.4	0.012	11	B
	PM	11/03/05	19	B	19	B	21	C	2.9	0.091	20	C
14	SAT	04/01/06	25	C	25	C	26	C	5.4	0.139	26	C
	AM	04/26/05	11	B	13	B	13	B	-0.1	0.007	13	B
15	PM	04/26/05	13	B	16	B	16	B	9.6	0.096	16	B
	SAT	04/01/06	15	B	15	B	14	B	-0.7	0.027	14	B
16	AM	04/26/05	10	B	17	B	17	B	-0.2	0.007	19	B
	PM	04/26/05	13	B	17	B	17	B	-0.5	0.018	17	B
17	SAT	04/01/06	20	C	19	B	18	B	-0.7	0.026	18	B
	AM	05/03/05	20	B	20	C	20	C	0.4	0.010	21	C
18	PM	04/26/05	28	C	33	C	34	C	1.4	0.041	35	C
	SAT	04/08/06	20	C	20	C	22	C	2.0	0.055	22	C

**Table ES 1  
Intersection Levels of Service Summary**

Study Number	Peak Hour	Count	Date	Existing		Background		Project Conditions			Cumulative Conditions	
				Ave. Delay	LOS	Ave. Delay	LOS	LOS	Incr. In Delay	Crit. V/C	Ave. Delay	LOS
13	AM	05/05/05	37	D	37	D	38	D	0.4	0.015	38	D
	PM	05/05/05	43	D	45	D	47	D	2.8	0.040	48	D
14	SAT	04/08/06	41	D	41	D	41	D	1.1	0.060	41	D
	AM	09/29/04	11	B	11	B	11	B	0.1	0.008	11	B
	PM	09/29/04	24	C	24	C	25	C	0.3	0.019	25	C
	SAT	04/08/06	21	C	21	C	21	C	0.3	0.028	21	C
15	AM	11/03/05	32	C	33	C	33	C	0.4	0.004	33	C
	PM	11/03/05	39	D	40	D	40	D	0.7	0.010	40	D
16	SAT	04/01/06	37	D	37	D	37	D	-0.1	0.019	37	D
	AM	11/03/05	18	B	18	B	18	B	0.4	0.012	18	B
17	PM	11/03/05	19	B	19	B	19	B	0.9	0.040	19	B
	SAT	04/01/06	18	B	18	B	21	C	4.7	0.148	21	C
18	AM	09/27/05	55	E	57	E	57	E	0.2	0.002	66	E
	PM	09/30/04	110	F	117	F	121	F	6.4	0.009	142	F
19	SAT	04/08/06	54	D	54	D	53	D	-0.2	0.013	53	D
	AM	09/29/04	30	C	31	C	31	C	0.0	0.003	31	C
20	PM	09/29/04	36	D	36	D	36	D	0.3	0.009	36	D
	SAT	04/08/06	38	D	38	D	38	D	0.1	0.011	38	D

\* Denotes CMP Intersection

-Denotes Significant Impact

**Table ES 2  
Freeway Segment Level of Service Summary**

Freeway Segment	Direction	Peak Hour	Existing Plus Project Trips										Project Trips					
			Mixed-Flow					HOV					Total		Mixed-Flow		HOV	
			Ave. Speed/Al	# of Lanes	Volume/Al	Density	LOS	Ave. Speed/Al	# of Lanes	Volume/Al	Density	LOS	Volume	Capacity	%	Volume	Capacity	%
SR 17	Hamilton to I-280	AM	42	3.4	7,161	50.1	E	-	-	-	-	-	-	21	21	0.3%	-	-
		PM	66	3.4	6,336	28.2	D	-	-	-	-	-	-	56	56	0.7%	-	-
I-880	I-280 to Stevens Creek	AM	32	3	5,921	61.7	F	-	-	-	-	-	-	61	61	0.9%	-	-
		PM	67	3	3,580	17.8	C	-	-	-	-	-	-	160	160	2.3%	-	-
I-880	Stevens Creek to Bascom	AM	19	3	4,920	86.3	F	-	-	-	-	-	-	20	20	0.3%	-	-
		PM	66	3	5,041	25.5	D	-	-	-	-	-	-	91	91	1.3%	-	-
I-880	Bascom to The Alameda	AM	30	3	5,780	64.2	F	-	-	-	-	-	-	20	20	0.3%	-	-
		PM	66	3	5,241	26.5	D	-	-	-	-	-	-	91	91	1.3%	-	-
I-280	Lawrence to Saratoga	AM	47	3	6,508	46.2	E	67	1	943	14.1	B	-	21	18	0.3%	3	0.1%
		PM	21	3	5,144	81.6	F	66	1	1,462	22.2	C	-	56	44	0.6%	12	0.7%
I-280	Saratoga to Winchester	AM	42	3	6,318	50.1	E	67	1	1,013	15.1	B	-	21	18	0.3%	3	0.2%
		PM	43	3	6,362	49.3	E	62	1	2,184	35.2	D	-	56	42	0.6%	14	0.8%
I-280	Winchester to I-880	AM	66	3	4,550	23.0	C	67	1	600	9.0	A	-	0	0	0.0%	0	0.0%
		PM	63	3	6,430	34.0	D	67	1	1,210	18.1	C	-	0	0	0.0%	0	0.0%
I-280	I-880 to Mendian	AM	65	3.7	6,992	29.1	D	66	1	1,454	22.0	C	-	26	22	0.3%	4	0.2%
		PM	27	3.7	6,976	69.8	F	62	1	2,197	35.4	D	-	113	86	1.0%	27	1.5%
I-280	Mendian to Bird	AM	51	4	8,796	43.1	D	-	-	-	-	-	-	26	26	0.3%	-	-
		PM	26	4	7,493	72.0	F	-	-	-	-	-	-	113	113	1.2%	-	-
I-280	Bird to Mendian	AM	16	4	6,060	94.7	F	-	-	-	-	-	-	40	40	0.4%	-	-
		PM	36	4	8,164	56.7	F	-	-	-	-	-	-	104	104	1.1%	-	-
I-280	Mendian to I-880	AM	10	3.7	4,247	114.8	F	36	1	2,063	67.3	F	-	40	27	0.3%	13	0.7%
		PM	66	3.7	6,691	27.4	D	67	1	2,033	3.0	A	-	104	101	1.2%	3	0.2%
I-280	I-880 to Winchester	AM	26	3	5,540	71.0	F	42	1	2,100	50.0	E	-	0	0	0.0%	0	0.0%
		PM	64	3	6,340	33.0	D	67	1	470	7.0	A	-	0	0	0.0%	0	0.0%
I-280	Winchester to Saratoga	AM	33	3	5,950	60.1	F	64	1	2,054	32.1	D	-	14	10	0.2%	4	0.2%
		PM	41	3	6,324	51.4	E	67	1	746	11.1	B	-	60	54	0.8%	6	0.4%
I-280	Saratoga to Lawrence	AM	58	3	6,621	38.0	D	55	1	2,203	40.1	D	-	14	11	0.2%	3	0.2%
		PM	66	3	5,594	28.3	D	67	1	676	10.1	B	-	60	54	0.8%	6	0.4%
I-880	The Alameda to Bascom	AM	66	3	5,362	27.2	D	-	-	-	-	-	-	32	32	0.5%	-	-
		PM	31	3	5,944	63.9	F	-	-	-	-	-	-	84	84	1.2%	-	-
I-880	Bascom to Stevens Creek	AM	58	3	6,642	38.2	D	-	-	-	-	-	-	32	32	0.5%	-	-
		PM	41	3	6,354	51.7	E	-	-	-	-	-	-	84	84	1.2%	-	-
I-880	Stevens Creek to I-280	AM	66	3	4,588	23.2	C	-	-	-	-	-	-	39	39	0.6%	-	-
		PM	65	3	6,224	31.9	D	-	-	-	-	-	-	174	174	2.5%	-	-
SR 17	I-260 to Hamilton	AM	66	3	4,764	24.1	D	-	-	-	-	-	-	14	14	0.2%	-	-
		PM	63	3	6,480	34.3	D	-	-	-	-	-	-	60	60	0.9%	-	-

Box indicates significant impact

/Al/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2004.

# 1. Introduction

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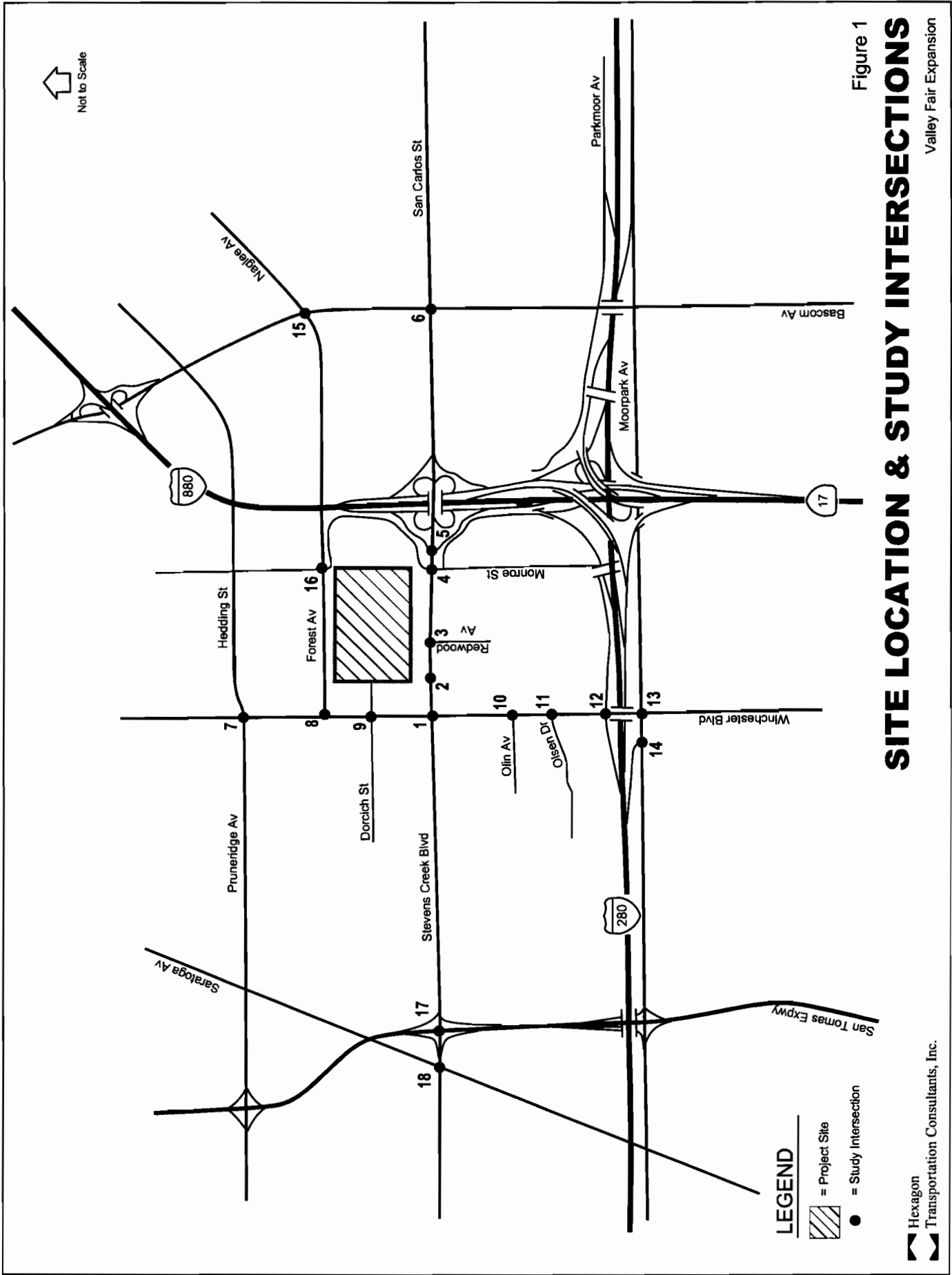
This report presents the results of the traffic impact analysis conducted for the proposed expansion of Westfield Valley Fair in San Jose, California. Valley Fair is located along the north side of Stevens Creek Boulevard between Monroe Street and Winchester Boulevard. The project as proposed will consist of the expansion of the mall to accommodate two new anchor stores and additional retail space and expansion and/or relocation of out parcel buildings. The existing Bank of America and Washington Mutual buildings will be relocated to the northeast quadrant of the intersection of Winchester Boulevard and Stevens Creek Boulevard. The existing Safeway and Longs Drug Stores will be expanded just north of their existing locations. In total the project will result in the addition of 552,615 square feet (s.f.) of gross leasable retail space. Two new parking structures also will be constructed as part of the project. Access will be provided via the existing entrances along Forest Avenue and Winchester Boulevard. The number of entrances along Stevens Creek Boulevard will remain unchanged, but their configurations and locations will be adjusted slightly. The project site and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

## Scope of Study

This study was conducted for the purpose of identifying the potential traffic impacts related to the proposed expansion. The impacts of the project were evaluated following the standards and methodologies set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the county Congestion Management Program (CMP). The traffic analysis is based on peak-hour levels of service for signalized intersections and freeway segments. The study intersections and freeway segments are identified below.

### **Study Intersections**

Stevens Creek Boulevard and Winchester Boulevard\*  
Stevens Creek Boulevard and Santana Row  
Stevens Creek Boulevard and Redwood Avenue



↑  
Not to Scale

**LEGEND**

▨ = Project Site

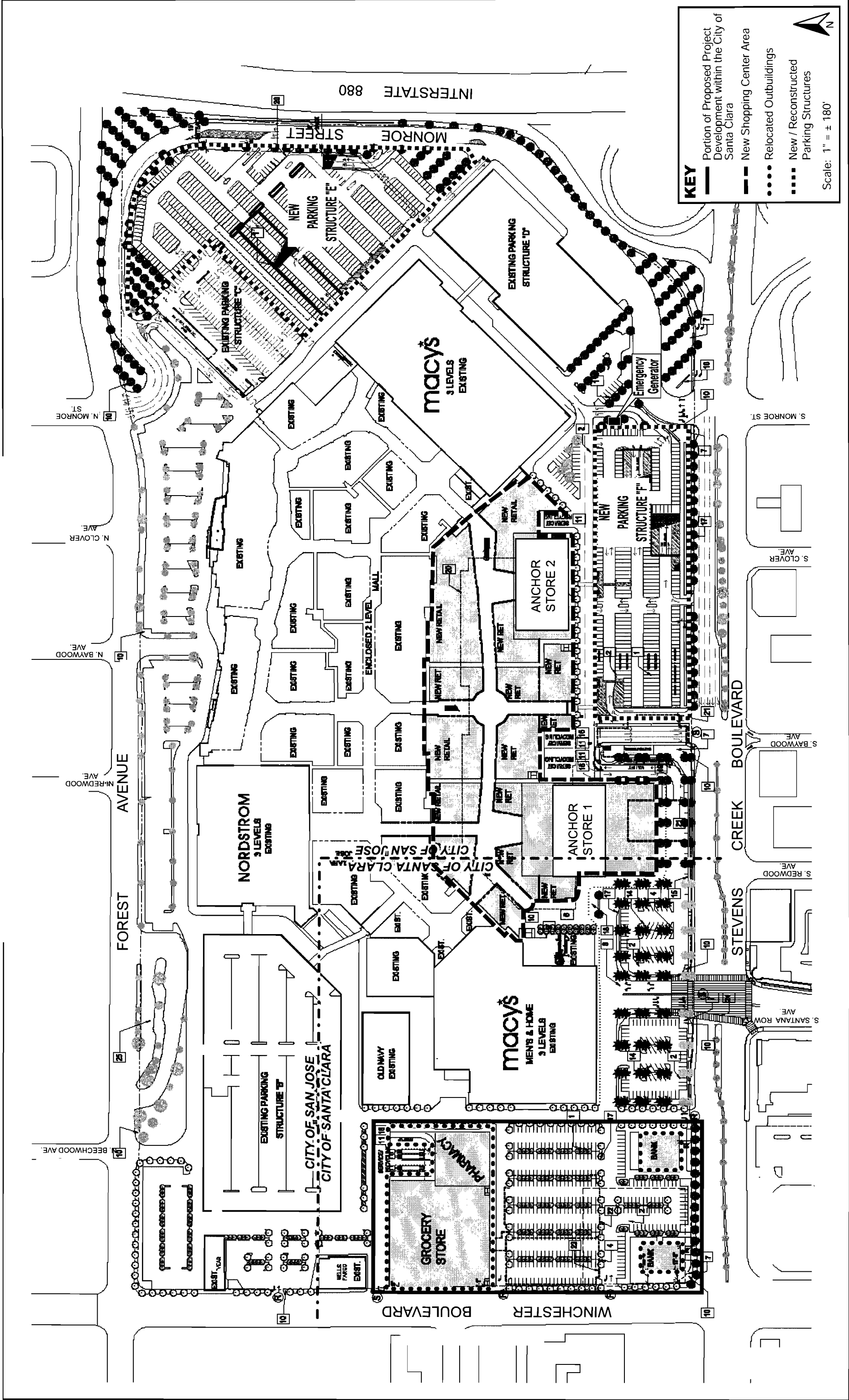
● = Study Intersection

Figure 1

**SITE LOCATION & STUDY INTERSECTIONS**

Valley Fair Expansion





CONCEPTUAL SITE PLAN

FIGURE 2

Stevens Creek Boulevard and Monroe Street  
Stevens Creek Boulevard and I-880 SB off-ramp\*  
San Carlos Street and Bascom Avenue  
Winchester Boulevard and Hedding Street  
Winchester Boulevard and Forest Avenue  
Winchester Boulevard and Dorcich Street  
Winchester Boulevard and Olin Avenue  
Winchester Boulevard and Olsen Drive  
Winchester Boulevard and I-280 WB on-ramp  
Winchester Boulevard and Moorpark Avenue  
I-280 EB off-ramp and Moorpark Avenue\*  
Naglee Avenue and Bascom Avenue  
Forest Avenue and Monroe Street  
Stevens Creek Boulevard and San Tomas Expressway\*  
Stevens Creek Boulevard and Saratoga Avenue\*

CMP intersections are denoted with an asterisk (\*)

### ***Freeway Segments***

SR 17, between Hamilton Avenue and I-280  
I-880, between I-280 and Stevens Creek Boulevard  
I-880, between Stevens Creek Boulevard and Bascom Avenue  
I-880, between Bascom Avenue and The Alameda  
I-280, between Lawrence Expressway and Saratoga Avenue  
I-280, between Saratoga Avenue and Winchester Boulevard  
I-280, between Winchester Boulevard and I-880  
I-280, between I-880 and Meridian Avenue  
I-280, between Meridian Avenue and Bird Avenue  
I-280, between Bird Avenue and Meridian Avenue  
I-280, between Meridian Avenue and I-880  
I-280, between I-880 and Winchester Boulevard  
I-280, between Winchester Boulevard and Saratoga Avenue  
I-280, between Saratoga Avenue and Lawrence Expressway  
I-880, between The Alameda and Bascom Avenue  
I-880, between Bascom Avenue and Stevens Creek Boulevard  
I-880, between Stevens Creek Boulevard and I-280  
SR 17, between I-280 and Hamilton Avenue

In summary, the study includes an analysis of eighteen signalized intersections and 18 directional freeway segments in the vicinity of the project site. The five CMP signalized intersections were evaluated against the standards of both the City of San Jose and the Santa Clara County CMP.

Traffic conditions at the intersections were analyzed for the weekday AM and PM and Saturday peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day. The Saturday peak hour, between 1:00 and 3:00 PM, was analyzed since it is generally the day that retail centers generate the greatest amount of their traffic.

Traffic conditions were evaluated for the following scenarios:

- Scenario 1:** *Existing Conditions.* Existing conditions were represented by existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.
- Scenario 2:** *Background Conditions.* Background conditions were represented by future background traffic volumes on the near-term future roadway network. Background traffic volumes were estimated by adding to existing peak-hour volumes the projected volumes from approved but not yet completed developments. The latter component is contained in the City of San Jose Approved Trips Inventory (ATI).
- Scenario 3:** *Project Conditions.* Project conditions were represented by future traffic volumes, with the project, on the near-term future roadway network. Future traffic volumes with the project (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.
- Scenario 4:** *Cumulative Growth Conditions.* Traffic volumes for cumulative conditions were estimated by adding traffic associated with pending developments in the Cities of San Jose and Santa Clara to background plus project traffic volumes. The analysis of cumulative growth conditions was conducted at the request of the City of San Jose and is in conformance with the California Environmental Quality Act CEQA..

## Methodology

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

### Data Requirements

The data required for the analysis were obtained from new traffic counts, previous traffic studies, and the City of San Jose. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing
- average speed (for freeway segments only)

### Analysis Methodologies and Level of Service Standards

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

### City of San Jose Signalized Intersections

All of the signalized study intersections are located in the City of San Jose and are therefore subject to the

City of San Jose Level of Service standards. The City of San Jose level of service methodology is TRAFFIX, which is based on the *Highway Capacity Manual* (HCM) 2000 method for signalized intersections. TRAFFIX evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service CMP Intersections methodology, the City of San Jose methodology employs the CMP default values for the analysis parameters. The City of San Jose level of service standard for signalized intersections is LOS D or better. The correlation between average delay and level of service is shown in Table 1.

**Table 1**  
**Intersection Level of Service Definitions Based on Delay**

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

Source: Transportation Research Board, *Highway Capacity Manual* (Washington, D.C., 2000), p. 16-2

Since TRAFFIX is the designated level of service methodology for both the CMP and the City of San Jose, the CMP study intersections are not analyzed separately, but rather are among the City of San Jose signalized study intersections analyzed using TRAFFIX. The only difference between the San Jose and CMP analyses is that project impacts are determined on the basis of different level of service standards – the CMP level of service standard for signalized intersections is LOS E or better.

### Freeway Segments

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated

based on vehicle density. Density is calculated by the following formula:

$$D = V / (N * S)$$

where:

D= density, in vehicles per mile per lane (vpml)

V= peak hour volume, in vehicles per hour (vph)

N= number of travel lanes

S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 2. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV (carpool) lanes. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments six lanes or wider in both directions and a capacity of 2,200 vphpl be used for segments four lanes wide in both directions. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

**Table 2**  
**Freeway Level of Service Based on Density**

Level of Service	Density (vehicles/mile/lane)
A	< 11.0
B	11.0 - 18.0
C	18.0 - 26.0
D	26.0 - 46.0
E	46.0 - 58.0
F	> 58.0

## Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the intersection operations under background conditions. Chapter 4 describes the method used to estimate project traffic and its impact on the transportation system and describes the recommended mitigation measures. Chapter 5 discusses the traffic conditions resulting from additional cumulative growth. Chapter 6 presents the conclusions of the traffic impact analysis.

## 2. Existing Conditions

---

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

### Existing Roadway Network

Regional access to the project site is provided via I-880 and I-280. These facilities are described below.

*I-880* is a six-lane freeway in the vicinity of the site. It extends northeast to Oakland and south to I-280 in San Jose, at which point it makes a transition into SR 17 to Santa Cruz. Access to the site is provided via its interchange with Stevens Creek Boulevard.

*I-280* is a six-lane freeway in the vicinity of the site. It extends northwest to San Francisco and east to King Road in San Jose, at which point it makes a transition into I-680 to Oakland. Access to the site is provided via its interchange with Winchester Boulevard.

Local access to the site is provided by Stevens Creek Boulevard, Winchester Boulevard, Forest Avenue, and Monroe Street. These roadways are described below.

*Stevens Creek Boulevard* is a divided six-lane east/west roadway in the vicinity of the project site. It extends from Cupertino eastward to I-880, at which point it makes a transition into San Carlos Street to Downtown San Jose. Access to the site is provided via full access signalized intersections at Santana Row and Redwood Avenue as well as an unsignalized driveway.

*Winchester Boulevard* is a six-lane north/south roadway that runs from Los Gatos to Market Street in Santa Clara. North of Market Street, the roadway transitions to Lincoln Street. Winchester Boulevard provides direct access to the site via Dorcich Street and two unsignalized driveways.

*Forest Avenue* is a four-lane east-west roadway that runs from Winchester Boulevard to Bascom Avenue. The roadway provides direct access to the mall via two signalized intersections as well as an unsignalized driveway.

*Monroe Street* is generally a two-lane north-south roadway in the vicinity of the shopping mall. The roadway extends north from Stevens Creek Boulevard in San Jose to San Tomas Expressway in Santa Clara. Monroe Street provides direct access to several of the shopping mall parking garages.

## **Existing Bicycle and Pedestrian Facilities**

There are no county designated bike lanes in the vicinity of the project site. However, some roadways that do not provide designated bike lanes are identified bike routes.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets. Sidewalks are found along virtually all previously described local roadways in the study area and along the local residential streets and collectors near the site.

## **Existing Transit Service**

Existing transit service to the study area is provided by the VTA. The VTA bus service is described below and shown on Figure 3.

### ***VTA Transit Service***

The Valley Fair Transit Center is located at Valley Fair shopping mall, along Forest Avenue, with direct access to the project site. The Valley Fair Transit Center is served by three bus lines (lines 23, 36, and 60), two of which provide direct service to the project site. The 23 line provides service between Downtown San Jose and the San Antonio Shopping Center in Los Altos via Stevens Creek Boulevard, with 15-30-minute headways during commute hours. The 60 line provides service between the Winchester Transit Center and Great America via Winchester Boulevard, with 15-30-minute headways during commute hours. Other bus lines in the vicinity of the project site include the 25 line that provides service between the Alum Rock Transit Center and De Anza College, with 10-30-minute headways during commute hours. The 36 line provides service between Valley Fair/Vallco Park and the Penitencia Creek Transit Center, with 30-minute headways during commute hours. The 85 line provides service between Lawrence Expressway/Moorpark and 10<sup>th</sup> Street/Hedding Street, with 30-minute headways during commute hours.

## **Existing Intersection Lane Configurations**

The existing lane configurations at the study intersections were provided by City staff and confirmed by observations in the field. The existing intersection lane configurations are shown on Figure 4.

## **Existing Traffic Volumes**

Existing peak-hour traffic volumes were obtained from the City of San Jose and supplemented with manual turning-movement counts at intersections where counts were either unavailable or outdated (more than one year old). The existing peak-hour intersection volumes are shown on Figure 5. The traffic count data are included in Appendix A.

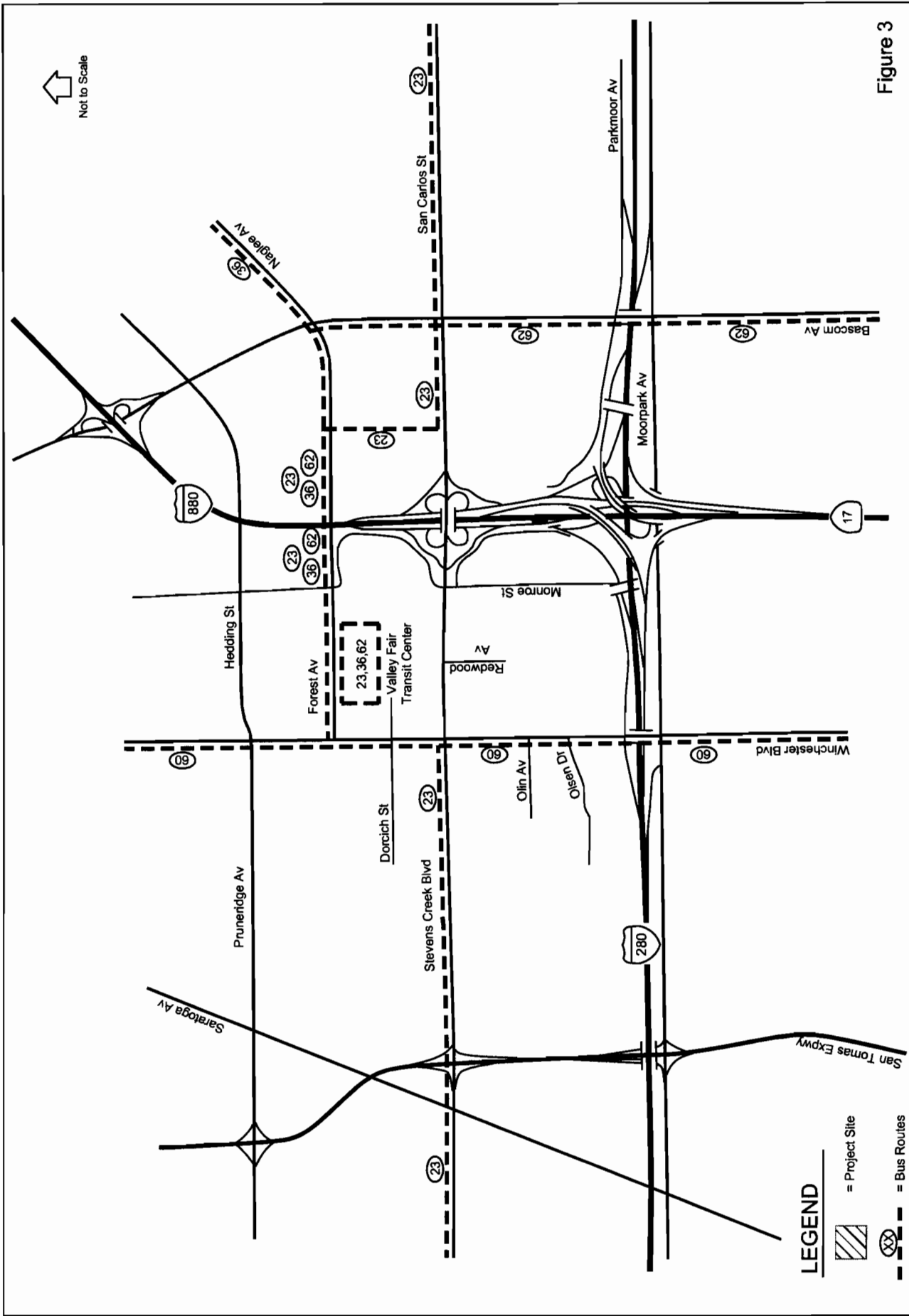



Figure 3

# EXISTING TRANSIT SERVICE

Valley Fair Expansion

## LEGEND

-  = Project Site
-  = Bus Routes
-  = San Tomas Expwy



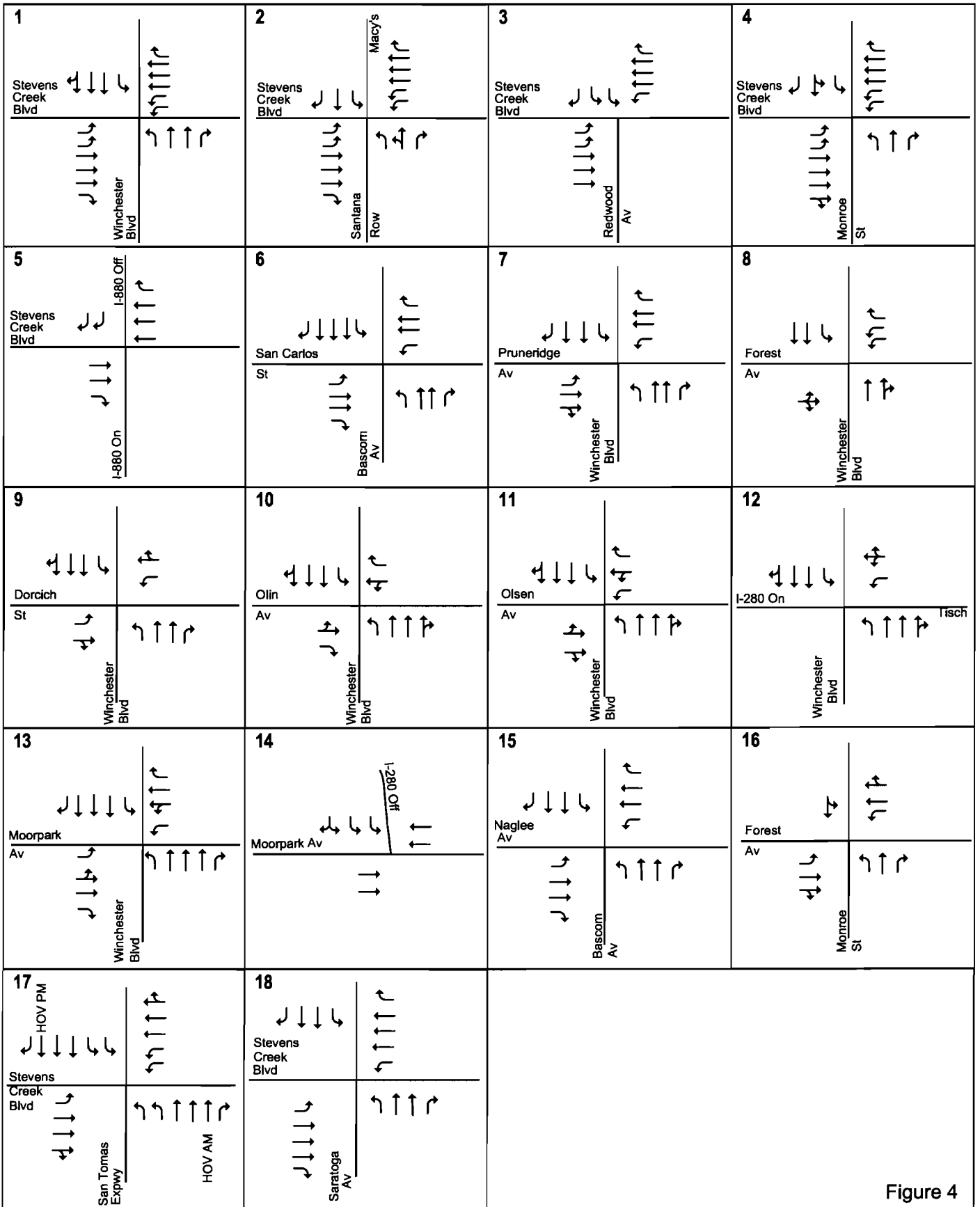
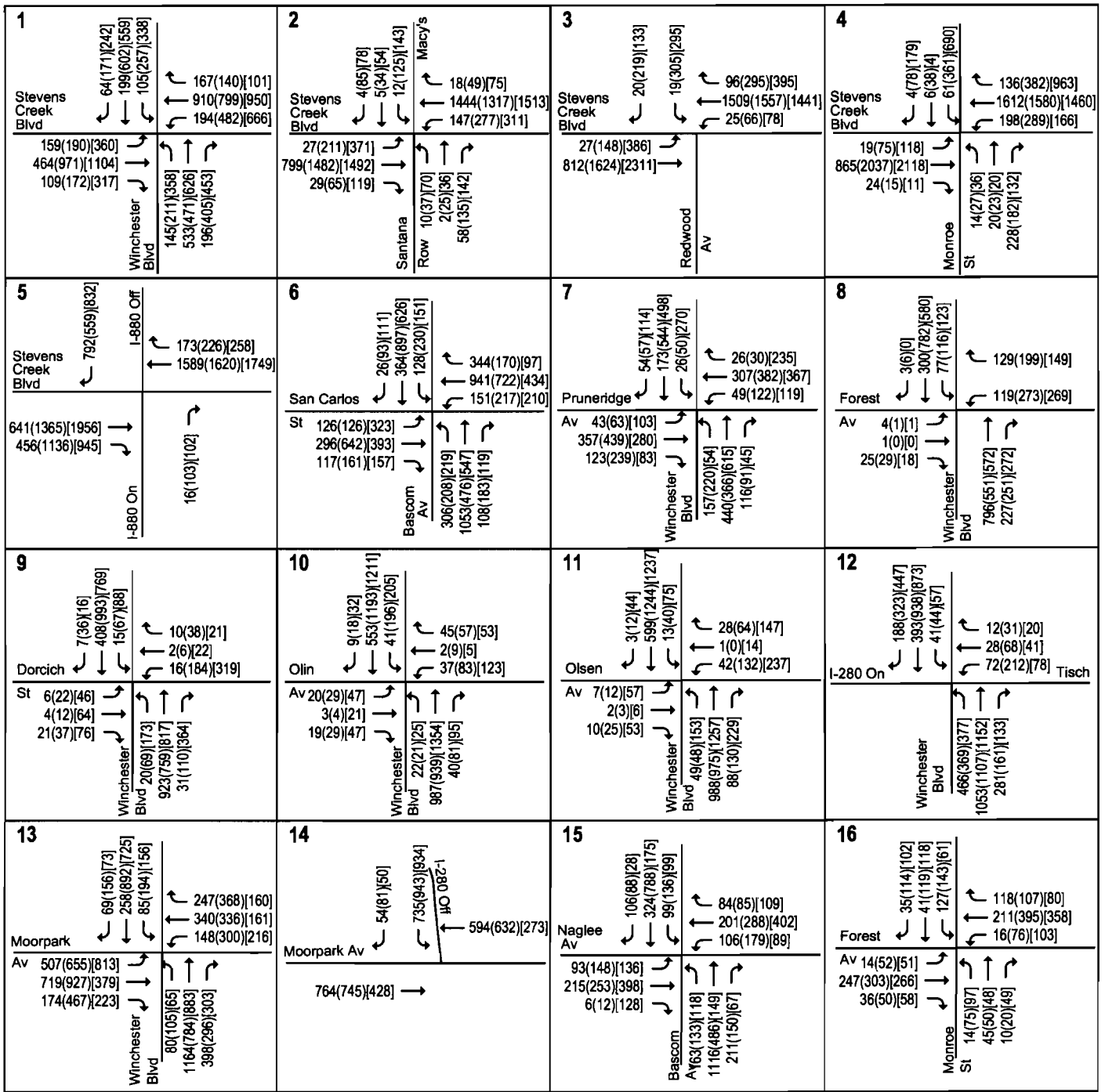


Figure 4

# EXISTING LANE CONFIGURATIONS



**LEGEND**

XX(XX)[XX] = AM(PM) [Saturday] Peak-Hour Volumes

Figure 5

**EXISTING TRAFFIC VOLUMES**

## Existing Intersection Levels of Service

### ***City of San Jose Intersection Analysis***

The results of the intersection level of service analysis under existing conditions are summarized in Table 3. The results show that, measured against the City of San Jose level of service standards, all of the study intersections, with the exception of one intersection, currently operate at an acceptable LOS D or better during the weekday and Saturday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway, which is a CMP Intersection, currently operates at an unacceptable LOS E and F during the AM and PM peak hours, respectively. The level of service calculation sheets are included in Appendix C.

### ***CMP Intersection Analysis***

The intersection level of service results for the CMP intersections under existing conditions are summarized in Table 3. The results show that, measured against the CMP level of service standards, all of the CMP study intersections, with the exception of one intersection, currently operate at an acceptable LOS E or better during the weekday and Saturday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway currently operates at an unacceptable LOS F during the PM peak hour.

## Existing Freeway Levels of Service

Traffic volumes for the subject freeway segments were obtained from the 2004 CMP Annual Monitoring Report. There is no freeway segment data available for the Saturday peak hour, therefore no freeway segment analysis for the Saturday peak hour was performed. The results of the analysis are summarized in Table 4. The results show that the mixed-flow lanes on 11 of the 18 directional freeway segments analyzed currently operate at an unacceptable LOS F during at least one of the peak hours. The results also show that the HOV lane on 1 of the 8 directional freeway segments (with HOV lanes) analyzed currently operate at an unacceptable LOS F during at least one of the peak hours. All other freeway segments analyzed operate at LOS E or better during the AM and PM peak hours.

## Observed Existing Traffic Conditions

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

Field observations revealed the following operational problems that may not be reflected in level of service calculations:

*Stevens Creek Boulevard* – In general, Stevens Creek Boulevard experiences heavy congestion during the weekday PM peak hour and Saturday peak hour in both directions of travel between Winchester Boulevard and I-880. The congestion is made worse by the close spacing of several signalized

**Table 3**  
**Existing Intersection Levels of Service**

Study Number	Intersection	Peak Hour	Count Date	Ave. Delay	LOS
1	Stevens Creek Boulevard and Winchester Boulevard*	AM	10/14/04	35	C
		PM	10/14/04	42	D
		SAT	04/01/06	48	D
2	Stevens Creek Boulevard and Santana Row	AM	04/26/05	13	B
		PM	04/26/05	26	C
		SAT	04/01/06	29	C
3	Stevens Creek Boulevard and Redwood Avenue	AM	05/10/05	8	A
		PM	05/10/05	19	B
		SAT	04/01/06	20	C
4	Stevens Creek Boulevard and Monroe Street	AM	04/26/05	19	B
		PM	04/26/05	27	C
		SAT	04/01/06	29	C
5	Stevens Creek Boulevard and I-880 SB off-ramp*	AM	10/05/04	23	C
		PM	10/05/04	20	C
		SAT	04/01/06	25	C
6	San Carlos Street and Bascom Avenue	AM	03/31/05	37	D
		PM	03/31/05	44	D
		SAT	04/08/06	45	D
7	Winchester Boulevard and Hedding Street	AM	11/03/05	31	C
		PM	11/03/05	38	D
		SAT	04/01/06	35	D
8	Winchester Boulevard and Forest Avenue	AM	11/03/05	18	B
		PM	11/03/05	20	C
		SAT	04/01/06	21	C
9	Winchester Boulevard and Dorcich Street	AM	11/03/05	10	A
		PM	11/03/05	19	B
		SAT	04/01/06	25	C
10	Winchester Boulevard and Olin Avenue	AM	04/26/05	11	B
		PM	04/26/05	13	B
		SAT	04/01/06	15	B
11	Winchester Boulevard and Olsen Drive	AM	04/26/05	10	B
		PM	04/26/05	13	B
		SAT	04/01/06	20	C
12	Winchester Boulevard and I-280 WB on-ramp	AM	05/03/05	20	B
		PM	04/26/05	28	C
		SAT	04/08/06	20	C
13	Winchester Boulevard and Moorpark Avenue	AM	05/05/05	37	D
		PM	05/05/05	43	D
		SAT	04/08/06	41	D
14	I-280 EB off-ramp and Moorpark Avenue*	AM	09/29/04	11	B
		PM	09/29/04	24	C
		SAT	04/08/06	21	C
15	Naglee Avenue and Bascom Avenue	AM	11/03/05	32	C
		PM	11/03/05	39	D
		SAT	04/01/06	37	D
16	Forest Avenue and Monroe Street	AM	11/03/05	18	B
		PM	11/03/05	19	B
		SAT	04/01/06	18	B
17	Stevens Creek Boulevard and San Tomas Expressway*	AM	09/27/05	55	E
		PM	09/30/04	110	F
		SAT	04/08/06	54	D
18	Stevens Creek Boulevard and Saratoga Avenue*	AM	09/29/04	30	C
		PM	09/29/04	36	D
		SAT	04/08/06	38	D

\* Denotes CMP Intersection

**Table 4  
Existing Freeway Levels of Service**

Freeway	Segment	Direction	Peak Hour	Mixed-Flow Lanes				HOV Lane Traffic Volume						
				Ave. Speed/1/h	# of Lanes	Volume/1/h	Density	LOS	Ave. Speed/1/h	# of Lanes	Volume/1/h	Density	LOS	
SR 17	Hamilton to I-280	NB	AM	42	3	7,140	50.0	E	N/A	N/A	N/A	N/A	N/A	N/A
I-880	I-280 to Stevens Creek	NB	PM	66	3	6,280	28.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-880	Stevens Creek to Bascom	NB	PM	67	3	3,420	17.0	C	N/A	N/A	N/A	N/A	N/A	N/A
I-880	Bascom to The Alameda	NB	AM	19	3	4,950	25.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-280	Lawrence to Saratoga	EB	AM	30	3	5,780	64.0	F	N/A	N/A	N/A	N/A	N/A	N/A
I-280	Saratoga to Winchester	EB	AM	66	3	5,150	28.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-280	Winchester to I-880	EB	AM	47	3	6,490	46.0	E	67	1	940	14.0	B	
I-280	I-880 to Meridian	EB	AM	21	3	5,100	81.0	F	68	1	1,450	22.0	C	
I-280	Meridian to Bird	EB	AM	43	3	6,300	50.0	E	67	1	1,010	15.1	B	
I-280	Bird to Meridian	WB	AM	66	3	4,550	23.0	C	62	1	2,170	35.0	D	
I-280	Meridian to I-880	WB	AM	63	3	6,430	34.0	D	67	1	600	9.0	A	
I-280	I-880 to Meridian	WB	AM	65	4	6,970	29.0	D	67	1	1,210	18.1	C	
I-280	Meridian to Bird	WB	AM	27	4	6,890	69.0	F	62	1	1,450	22.0	C	
I-280	Bird to Meridian	WB	AM	51	4	8,770	43.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-280	Meridian to I-880	WB	AM	26	4	7,380	71.0	F	N/A	N/A	N/A	N/A	N/A	N/A
I-280	I-880 to Meridian	WB	AM	16	4	6,020	94.1	F	N/A	N/A	N/A	N/A	N/A	N/A
I-280	Meridian to I-880	WB	AM	36	4	6,060	56.0	F	N/A	N/A	N/A	N/A	N/A	N/A
I-280	I-880 to Winchester	WB	AM	10	4	4,220	114.1	F	36	1	2,050	56.9	F	
I-280	Winchester to Saratoga	WB	AM	66	4	6,590	27.0	D	67	1	200	3.0	A	
I-280	Saratoga to Lawrence	WB	AM	26	3	5,540	71.0	F	42	1	2,100	50.0	E	
I-280	Lawrence to Bascom	WB	AM	64	3	6,340	33.0	D	67	1	470	7.0	A	
I-280	Bascom to Stevens Creek	WB	AM	33	3	5,940	60.0	F	64	1	2,050	32.0	D	
I-280	Stevens Creek to I-280	WB	AM	41	3	6,270	51.0	E	67	1	740	11.0	B	
I-280	I-280 to Hamilton	WB	AM	58	3	6,610	38.0	D	55	1	2,200	40.0	D	
I-880	The Alameda to Bascom	SB	AM	66	3	5,540	28.0	D	67	1	670	10.0	A	
I-880	Bascom to Stevens Creek	SB	AM	31	3	5,350	27.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-880	Stevens Creek to I-280	SB	AM	58	3	6,610	38.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-880	I-280 to Hamilton	SB	AM	41	3	6,270	51.0	E	N/A	N/A	N/A	N/A	N/A	N/A
I-880	Hamilton to I-280	SB	AM	66	3	4,550	23.0	C	N/A	N/A	N/A	N/A	N/A	N/A
I-880	I-280 to Hamilton	SB	AM	65	3	6,050	31.0	D	N/A	N/A	N/A	N/A	N/A	N/A
I-880	Hamilton to I-280	SB	AM	66	3	4,750	24.0	C	N/A	N/A	N/A	N/A	N/A	N/A
I-880	I-280 to Hamilton	SB	AM	63	3	6,430	34.0	D	N/A	N/A	N/A	N/A	N/A	N/A

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2004.

intersections along the roadway. At its intersections with I-880 and Monroe Street vehicles do not clear at nearly every approach during the peak hours. Left-turn queues in the westbound direction regularly extend out of the provided turn-pockets at its intersections with Winchester Boulevard and Santana Row during the PM and Saturday peak hours. Vehicles making the westbound left-turn movement at Santana Row do not clear within the allotted green time. Left-turn pockets in the eastbound direction are adequate with no vehicles spilling out of the provided storage.

Operations along Stevens Creek Boulevard can be improved by providing longer left-turn pockets into the Santana Row entrance. The longer pockets will allow for more storage capacity and prevent the blockage of through lanes. A second southbound left-turn lane at the intersection with Winchester Boulevard would provide for more green time to all other approaches and improve intersection operations. Improvements to the intersections near the Monroe Street and I-880 intersections are physically restricted. Improvements would require the full reconstruction of the interchange to provide additional capacity.

*Winchester Boulevard* – Each approach at the intersection of Stevens Creek Boulevard and Winchester Boulevard serve large volumes during each peak hour. Though lengthy vehicle queues develop on each approach, the allotted green times are adequate to clear all vehicles. With the exception of the area near the I-280 interchange, as described below, the remainder of the intersections along Winchester Boulevard operate without any major operational problems.

*I-880 and Stevens Creek Boulevard* – The I-880 interchange at Stevens Creek Boulevard serves as the main gateway to the Valley Fair area. Traffic bound for Stevens Creek Boulevard compounded with vehicles utilizing the I-280 to I-880 interchange, lead to poor operations with lengthy vehicle queues at the interchange. Vehicle queues consistently extend back from Monroe Street on to the I-880 northbound loop off-ramp, and back to I-280 sometimes to Bird Avenue.

*I-280 and Winchester Boulevard/Moorpark Avenue* – The area near the I-280 interchange sees heavy congestion during the PM and Saturday peak hours. Long vehicle queues are prevalent at both the eastbound off-ramp and westbound on-ramp of I-280. Traffic volumes at the eastbound off-ramp are too large to be accommodated by the traffic signal controlling the ramp. Vehicle queues extend back on the ramp and do not always clear in the allotted green time. The metered westbound on-ramp creates vehicle queues that extend back on Winchester Boulevard through Olsen Drive.

Operations at the I-280 interchange can be improved with the widening of the westbound on-ramp, which is underway, and signal timing coordination at the I-280 eastbound off-ramp/Moorpark, Winchester/Moorpark, and I-280 westbound on-ramp/Winchester intersections.

*Forest Avenue* – There are no operational problems along Forest Avenue since traffic volumes along the roadway are fairly low. Its intersections with Monroe Street and Winchester Boulevard serve the majority of any cross traffic on the roadway, but there are no major operational issues at either intersection.

*Monroe Street* – The majority of traffic volumes on Monroe Street between Stevens Creek Boulevard and Forest Avenue are associated with Valley Fair Mall. The intersection at Stevens Creek Boulevard serves as a main access point to the area from I-880 and I-280. As such, lengthy vehicle queues develop at the intersection due to the large traffic volumes served by the intersection during each peak hour. The queuing problem is made worse by the intersections close proximity to the I-880 ramps. Mall traffic from southbound Monroe Street and traffic along Stevens Creek Boulevard compete for green time at the intersection. Vehicle queues along southbound Monroe Street and westbound Stevens Creek Boulevard extend back almost 30 vehicles (approximately 750 feet) at times. But vehicles clear the intersection during most cycles.

### 3.

## **Background Conditions**

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This chapter describes background traffic conditions. Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

### **Background Transportation Network**

It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network with the exception of the following intersection improvements:

*Winchester Boulevard and Olin Avenue* – Addition of second northbound left-turn lane (Already Funded by Other Development)

*Winchester Boulevard and Olsen Drive* – Addition of second northbound left-turn lane (Already Funded by Other Development)

### **Background Traffic Volumes**

Background peak-hour traffic volumes were estimated by adding to existing volumes the estimated traffic from approved, but not yet constructed, developments. The added traffic during the weekday peak hours from approved but not yet constructed developments was provided by the city in the form of the Approved Trips Inventory (ATI). There is no database available for the Saturday peak hour. It is assumed that approved project traffic will be negligible during the Saturday peak hour. Background traffic volumes are shown on Figure 6.

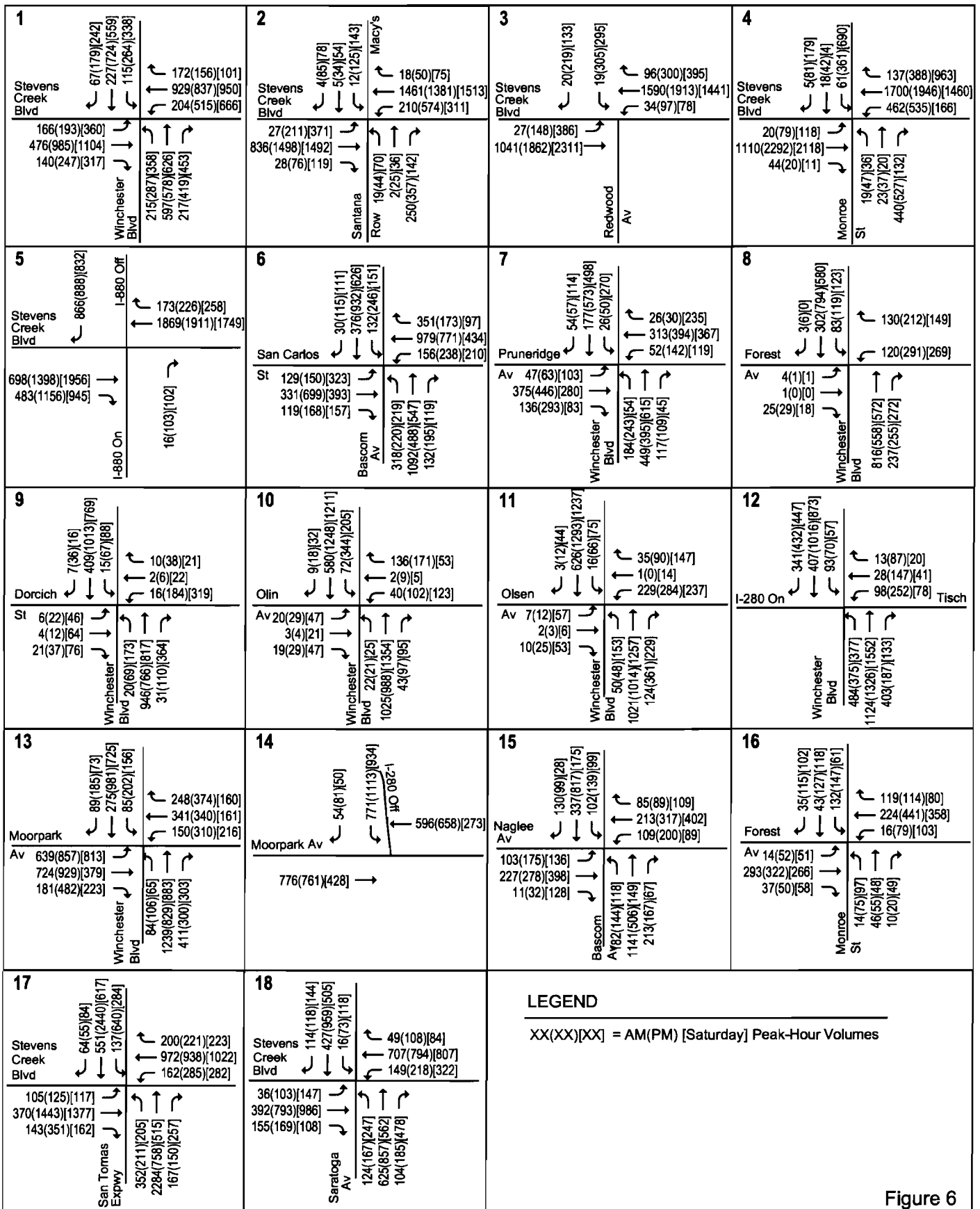


Figure 6

# BACKGROUND TRAFFIC VOLUMES



## **Background Intersection Levels of Service**

### ***City of San Jose Intersection Analysis***

The results of the intersection level of service analysis under background conditions are summarized in Table 5. The results show that, measured against the City of San Jose level of service standards, all of the study intersections, with the exception of one intersection, are projected to operate at an acceptable LOS D or better during the weekday and Saturday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway, which is a CMP intersection, is projected to operate at an unacceptable LOS E and F during the AM and PM peak hours, respectively. The level of service calculation sheets are included in Appendix C.

### ***CMP Intersection Analysis***

The intersection level of service results for the CMP intersections under background conditions are summarized in Table 5. The results show that, measured against the CMP level of service standards, all of the CMP study intersections, with the exception of one intersection, are projected to operate at an acceptable LOS E or better during the weekday and Saturday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway is projected to operate at an unacceptable LOS F during the PM peak hour.

**Table 5**  
**Background Intersection Levels of Service**

Study Number	Intersection	Peak Hour	Count Date	Existing		Background	
				Ave. Delay	LOS	Ave. Delay	LOS
1	Stevens Creek Boulevard and Winchester Boulevard*	AM	10/14/04	35	C	35	D
		PM	10/14/04	42	D	43	D
		SAT	04/01/06	48	D	48	D
2	Stevens Creek Boulevard and Santana Row	AM	04/26/05	13	B	20	B
		PM	04/26/05	26	C	29	C
		SAT	04/01/06	29	C	29	C
3	Stevens Creek Boulevard and Redwood Avenue	AM	05/10/05	8	A	7	A
		PM	05/10/05	19	B	19	B
		SAT	04/01/06	20	C	20	C
4	Stevens Creek Boulevard and Monroe Street	AM	04/26/05	19	B	26	C
		PM	04/26/05	27	C	36	D
		SAT	04/01/06	29	C	29	C
5	Stevens Creek Boulevard and I-880 SB off-ramp*	AM	10/05/04	23	C	24	C
		PM	10/05/04	20	C	26	C
		SAT	04/01/06	25	C	25	C
6	San Carlos Street and Bascom Avenue	AM	03/31/05	37	D	38	D
		PM	03/31/05	44	D	45	D
		SAT	04/08/06	45	D	45	D
7	Winchester Boulevard and Hedding Street	AM	11/03/05	31	C	31	C
		PM	11/03/05	38	D	39	D
		SAT	04/01/06	35	D	35	D
8	Winchester Boulevard and Forest Avenue	AM	11/03/05	18	B	18	B
		PM	11/03/05	20	C	21	C
		SAT	04/01/06	21	C	21	C
9	Winchester Boulevard and Dorcich Street	AM	11/03/05	10	A	10	A
		PM	11/03/05	19	B	19	B
		SAT	04/01/06	25	C	25	C
10	Winchester Boulevard and Olin Avenue	AM	04/26/05	11	B	13	B
		PM	04/26/05	13	B	16	B
		SAT	04/01/06	15	B	15	B
11	Winchester Boulevard and Olsen Drive	AM	04/26/05	10	B	17	B
		PM	04/26/05	13	B	17	B
		SAT	04/01/06	20	C	19	B
12	Winchester Boulevard and I-280 WB on-ramp	AM	05/03/05	20	B	20	C
		PM	04/26/05	28	C	33	C
		SAT	04/08/06	20	C	20	C
13	Winchester Boulevard and Moorpark Avenue	AM	05/05/05	37	D	37	D
		PM	05/05/05	43	D	45	D
		SAT	04/08/06	41	D	41	D
14	I-280 EB off-ramp and Moorpark Avenue*	AM	09/29/04	11	B	11	B
		PM	09/29/04	24	C	24	C
		SAT	04/08/06	21	C	21	C
15	Naglee Avenue and Bascom Avenue	AM	11/03/05	32	C	33	C
		PM	11/03/05	39	D	40	D
		SAT	04/01/06	37	D	37	D
16	Forest Avenue and Monroe Street	AM	11/03/05	18	B	18	B
		PM	11/03/05	19	B	19	B
		SAT	04/01/06	18	B	18	B
17	Stevens Creek Boulevard and San Tomas Expressway*	AM	09/27/05	55	E	57	E
		PM	09/30/04	110	F	117	F
		SAT	04/08/06	54	D	54	D
18	Stevens Creek Boulevard and Saratoga Avenue*	AM	09/29/04	30	C	31	C
		PM	09/29/04	36	D	36	D
		SAT	04/08/06	38	D	38	D

\* Denotes CMP Intersection

## 4.

# Project Impacts and Mitigation Measures

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This chapter describes project traffic conditions, significant project impacts, and measures that are recommended to mitigate project impacts. Included are descriptions of the significance criteria that define an impact, estimates of project-generated traffic, identification of the impacts, and descriptions of the mitigation measures. Project conditions are represented by background traffic conditions with the addition of traffic generated by the project.

### Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis there are three sets of relevant criteria for impacts on intersections. These are based on: (1) the City of San Jose (CSJ) Level of Service standards, (2) the CMP Level of Service standards, and (3) the CMP Freeway Segment Level of Service standards. The criteria described below apply to the weekday AM and PM peak hours. There are no identified criteria for Saturday or weekend peak hours.

Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined on the basis of engineering judgment.

### ***City of San Jose Definition of Significant Intersection Impacts***

The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of San Jose if for either weekday peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under project conditions, or
2. The level of service at the intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e. the change in average stopped delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by .01 or more.

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

### ***CMP Definition of Significant Intersection Impacts***

The definition of a significant impact at a CMP intersection is the same as for the City of San Jose, except that the CMP standard for acceptable level of service at a CMP intersection is LOS E or better. A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to LOS E or better.

### ***CMP Definition of Significant Freeway Segment Impacts***

A project is said to create a significant adverse impact on traffic conditions on a CMP freeway segment if for either peak hour:

1. The level of service on the freeway segment is an unacceptable LOS F under project conditions, and
2. The number of project trips on that segment constitutes at least one percent of capacity on that segment.
3. The level of service on the freeway segment degrades from an acceptable LOS under existing conditions to an unacceptable LOS F under project conditions.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better.

## **Transportation Network Under Project Conditions**

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

## **Project Trip Estimates**

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the weekday and Saturday peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described further in the following sections.

## **Trip Generation**

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development.

The magnitude of traffic generated by the proposed project was estimated by applying to the size of the development the applicable trip generation rates published in the Institute of Transportation Engineers (ITE) Manual entitled *Trip Generation*, seventh edition, 2003.

Trip generation for retail uses is typically adjusted to account for pass-by-trips. Pass-by-trips are trips that would already be on the adjacent roadways (and are therefore already counted in the background traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that such retail traffic is not actually generated by the retail development, but is already part of the ambient traffic levels. Pass-by-trips are therefore excluded from the traffic projections. A pass-by trip reduction of 25 percent was applied to the retail component of the proposed project.

It is estimated that the proposed project would generate an additional 20,631 weekday daily trips and 27,126 Saturday daily trips with a total of 437 trips during the AM peak hour, 1,451 trips during the PM peak hour and 1,972 trips during the Saturday peak-hour. Using the specified inbound/outbound splits, the project would produce 266 inbound and 170 outbound trips during the AM peak hour and 696 inbound and 755 outbound trips during PM peak hour and 1,025 inbound and 947 outbound trips during the Saturday peak hour. The project trip generation estimates are presented in Table 6.

## **Trip Distribution**

The trip distribution pattern for the proposed retail/commercial use was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The trip distribution patterns are shown graphically on Figure 7.

## **Trip Assignment**

The peak-hour trips generated by the proposed development were assigned to the roadway system in accordance with the trip distribution patterns discussed above. Figures 8 and 9 show the project trip assignment.

## **Project Traffic Volumes**

Project trips, as represented in the above project trip assignment, were added to future background traffic volumes to obtain background plus project traffic volumes. Background traffic volumes plus project trips are typically referred to simply as *project traffic volumes*; this is contrasted with the term *project trips*, which is used to signify the traffic that is produced specifically by the project. The project traffic volumes are shown graphically on Figure 10. Traffic volumes for all components of traffic are tabulated in Appendix B.

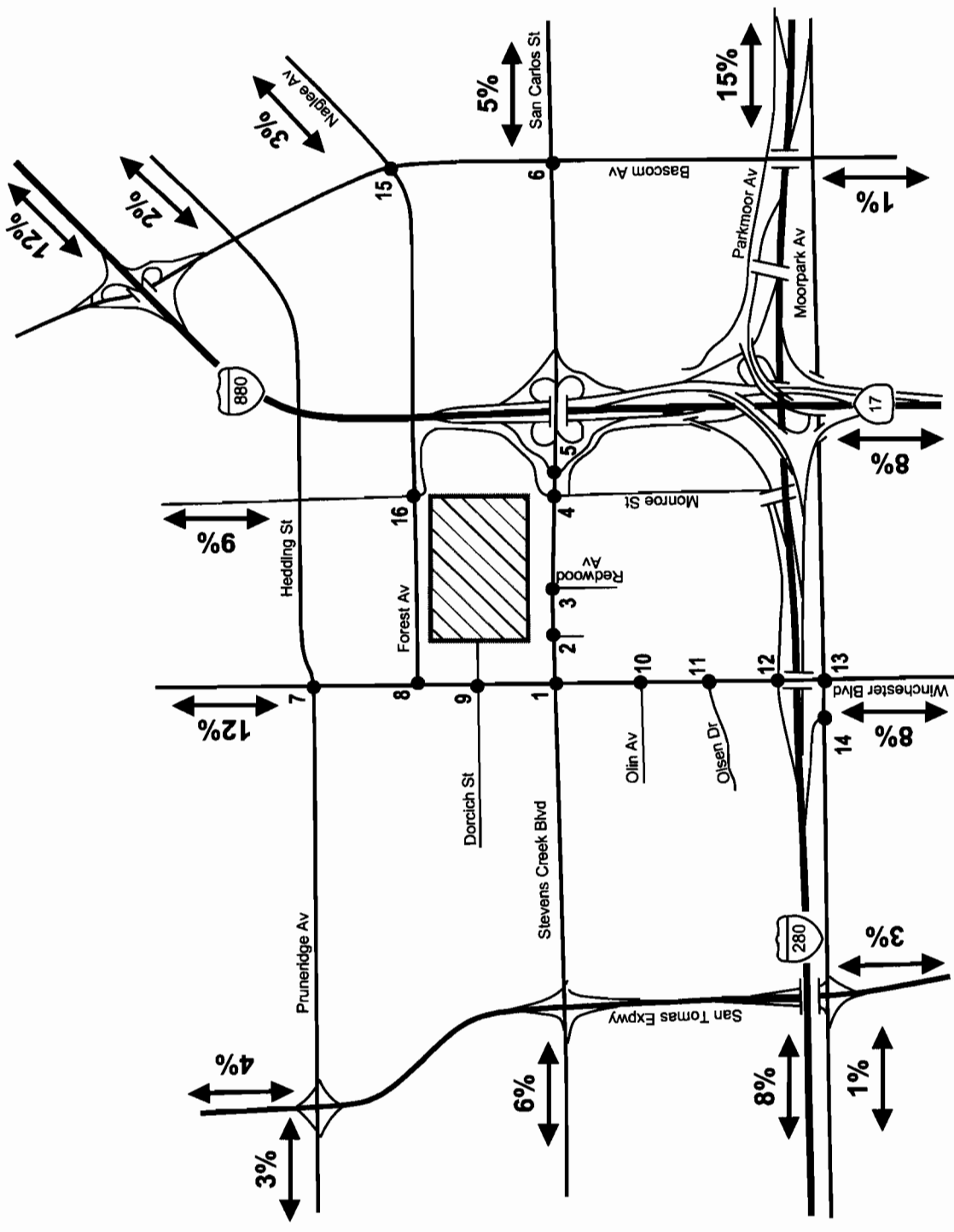
**Table 6  
Trip Generation Estimates for Valley Fair Mall Expansion**

Land Use	Size	Weekday			AM Peak Hour			PM Peak Hour								
		Daily Trip Rates	Daily Trips	Pk-Hr Rate	Splits In	Splits Out	Trips In	Trips Out	Pass-By Reduction	Trips In	Trips Out	Total				
Retail/Commercial/a/	552,615 s.f.	37.33	20,631	0.79	61%	39%	266	170	437	3.50	48%	52%	25%	696	755	1,451
		Saturday			Saturday Peak Hour											
		Daily Trip Rates	Daily Trips	Pk-Hr Rate	Splits In	Splits Out	Trips In	Trips Out	Total	Pk-Hr Rate	Splits In	Splits Out	Pass-By Reduction	Trips In	Trips Out	Total
		49.09	27,126	4.76	52%	48%	25%	1,025	947	1,972						



Source:  
ITE Trip Generation, 7th Edition

Notes:  
/a/ Shopping Center (820) rates used for proposed retail/commercial use (ITE)

↑  
Not to Scale



**LEGEND**

-  = Project Site
-  = Study Intersection

Hexagon  
Transportation Consultants, Inc.

Figure 7

# PROJECT TRIP DISTRIBUTION

Valley Fair Expansion

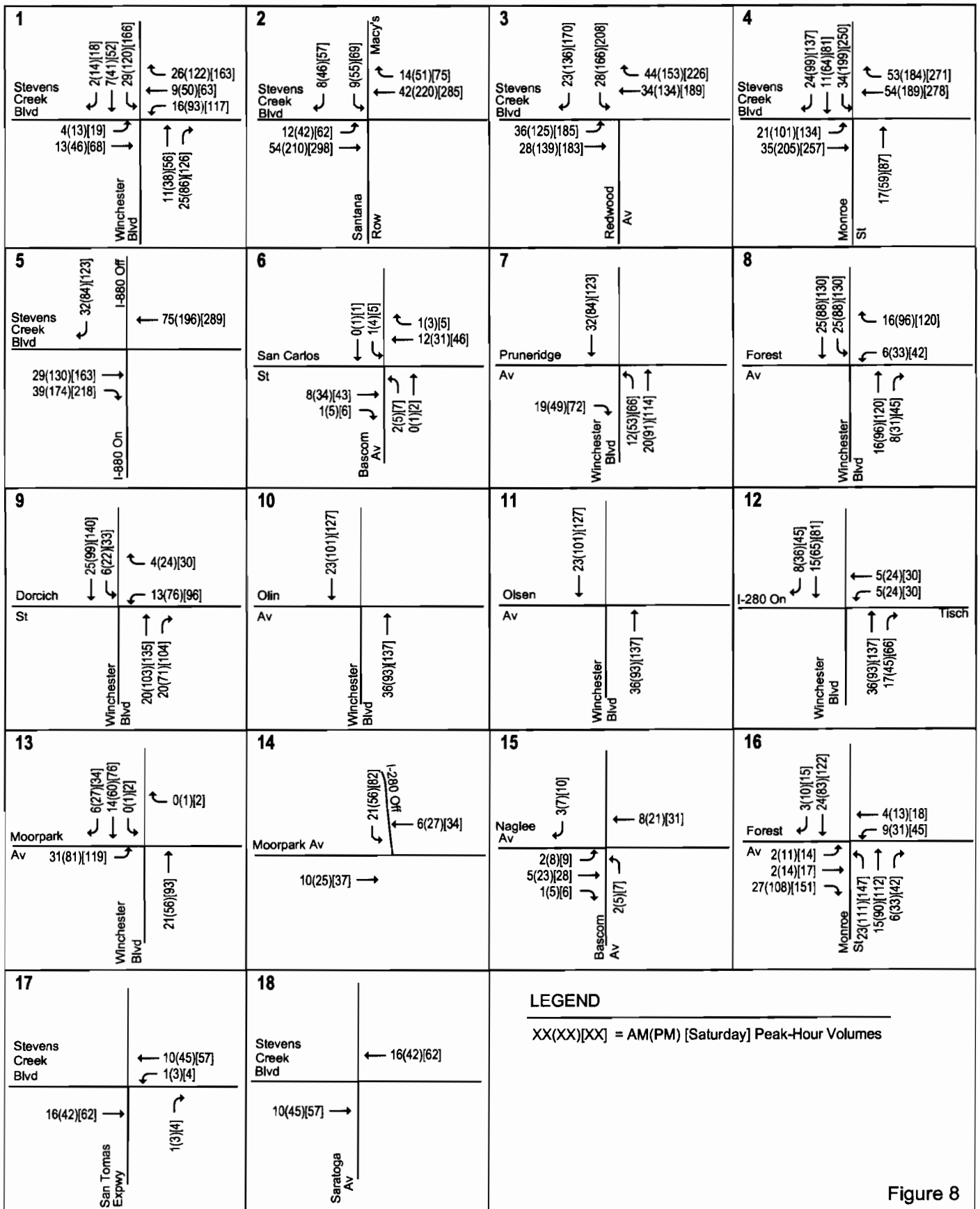
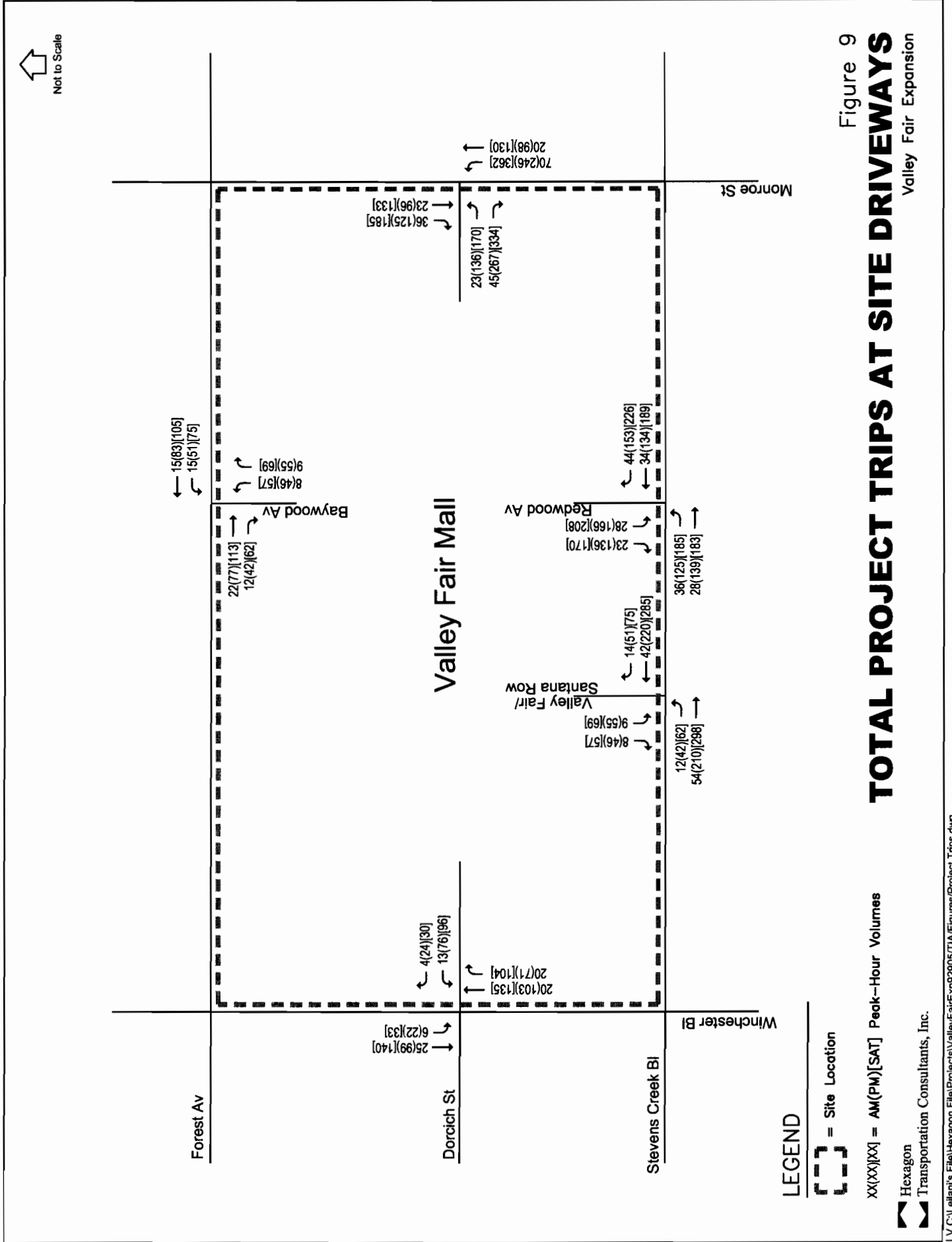


Figure 8

# PROJECT TRIP ASSIGNMENT





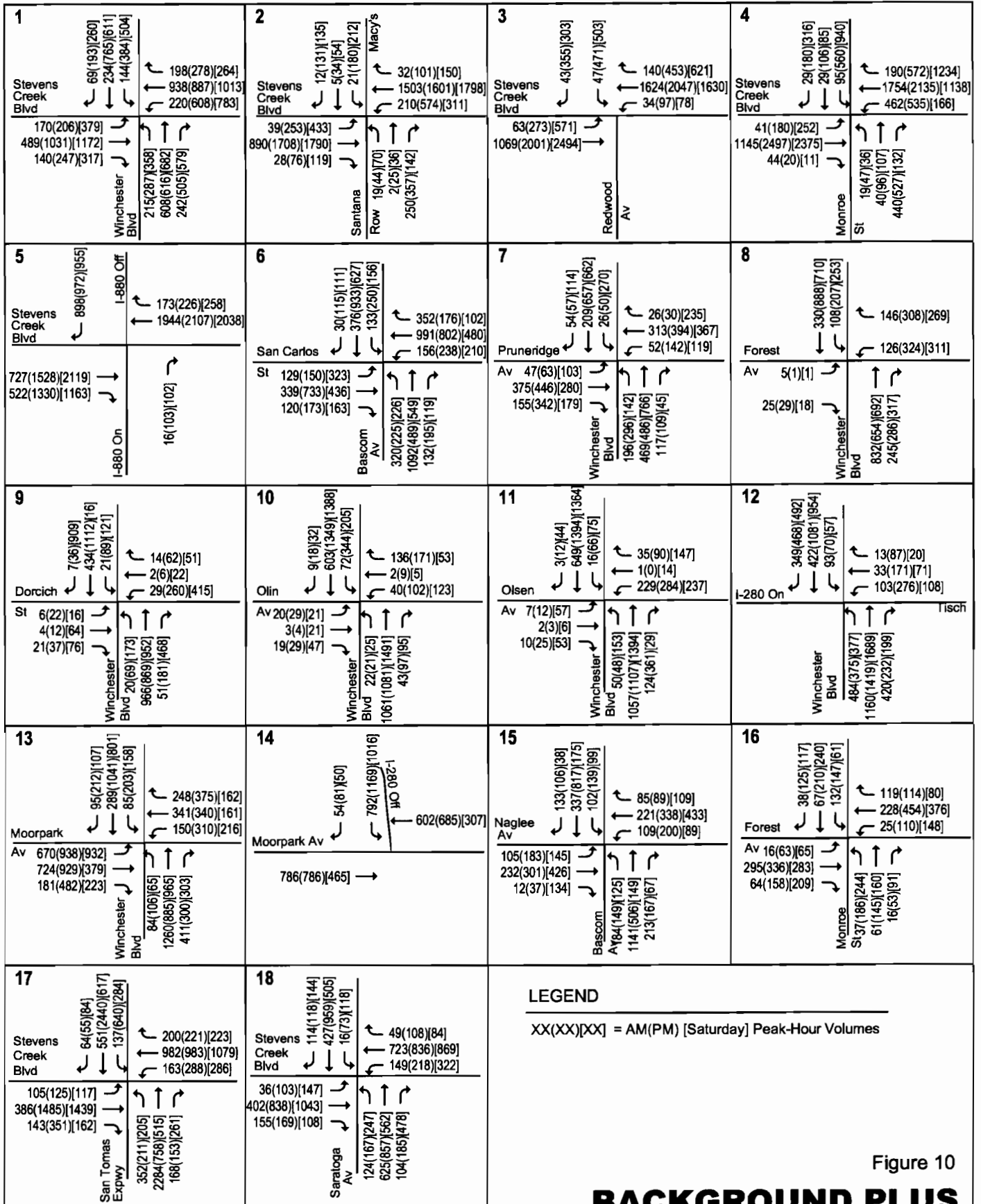


Figure 10

# BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

## **Project Weekday Intersection Analysis**

### ***City of San Jose Intersection Analysis***

The results of the intersection level of service analysis under project conditions are summarized in Table 7. The results show that, measured against the City of San Jose level of service standards, all of the study intersections, with the exception of one intersection, currently operate at an acceptable LOS D or better during the weekday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway, which is a CMP Intersection, currently operates at an unacceptable LOS E and F during the AM and PM peak hours, respectively. The intersection would not be significantly impacted by the project according to the City of San Jose definition of impacts. The level of service calculation sheets are included in Appendix C.

### ***CMP Intersection Analysis***

The intersection level of service results for the CMP intersections under project conditions are summarized in Table 7. The results show that, measured against the CMP level of service standards, all of the CMP study intersections, with the exception of one intersection, are projected to operate at an acceptable LOS E or better during the weekday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway is projected to operate at an unacceptable LOS F during the PM peak hour. The intersection would not be significantly impacted by the project according to the CMP definition of impacts.

## **Project Saturday Traffic Analysis**

A check of Saturday midday peak-hour conditions was performed to assess the project's impact on Saturday traffic conditions. The Saturday traffic analysis consisted of an evaluation of midday (1:00 to 3:00 PM) peak-hour intersection level of service, for the study intersections. Existing Saturday peak-hour volumes were obtained from traffic counts conducted in April 2006.

The project trip generation for Saturday was estimated based on Valley Fair trip generation rates for Saturday. As shown in Table 6, the project is expected to generate 1,972 new trips (excluding pass-by) during the Saturday midday peak hour. This compares with 1,451 trips generated by the project during the weekday PM peak-hour. Although the Saturday midday peak hour is the period of peak traffic generation for the project itself, it is the aim of the traffic study to evaluate impacts during the periods of worst congestion. The periods of worst traffic congestion occur when the ambient traffic levels and the project traffic combine to produce the highest traffic volumes.

The Saturday intersection level of service results are shown in Table 7. The results show that one study intersection, Stevens Creek Boulevard and Winchester Boulevard, is projected to operate at an acceptable LOS E or worse. There are no established significance criteria to identify what constitutes an impact during the Saturday peak hour. Based on the weekday impact criteria, the intersection would be impacted by the project since it causes the level of service at the intersection to degrade from an acceptable LOS D under background conditions to an unacceptable LOS E under project conditions during the Saturday peak hour.

**Table 7**  
**Project Intersection Levels of Service**

Study Number	Intersection	Peak Hour	Background		Project Conditions			
			Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Stevens Creek Boulevard and Winchester Boulevard*	AM	35	D	36	D	1.3	0.025
		PM	43	D	46	D	7.0	0.128
		SAT	48	D	<b>62</b>	<b>E</b>	<b>30.3</b>	<b>0.174</b>
2	Stevens Creek Boulevard and Santana Row	AM	20	B	20	B	0.4	0.018
		PM	29	C	32	C	2.4	0.073
		SAT	29	C	32	C	3.8	0.117
3	Stevens Creek Boulevard and Redwood Avenue	AM	7	A	9	A	2.4	0.028
		PM	19	B	24	C	9.0	0.124
		SAT	20	C	27	C	6.7	0.105
4	Stevens Creek Boulevard and Monroe Street	AM	26	C	26	C	1.1	0.032
		PM	36	D	44	D	9.3	0.111
		SAT	29	C	41	D	13.9	0.221
5	Stevens Creek Boulevard and I-880 SB off-ramp*	AM	24	C	24	C	0.5	0.025
		PM	26	C	28	C	1.6	0.064
		SAT	25	C	27	C	2.1	0.094
6	San Carlos Street and Bascom Avenue	AM	38	D	38	D	0.2	0.004
		PM	45	D	45	D	0.3	0.013
		SAT	45	D	45	D	0.4	0.018
7	Winchester Boulevard and Hedding Street	AM	31	C	31	C	0.7	0.023
		PM	39	D	40	D	2.5	0.073
		SAT	35	D	36	D	0.4	0.055
8	Winchester Boulevard and Forest Avenue	AM	18	B	19	B	1.7	0.025
		PM	21	C	23	C	3.7	0.108
		SAT	21	C	24	C	5.6	0.150
9	Winchester Boulevard and Dorcich Street	AM	10	A	10	B	0.4	0.012
		PM	19	B	21	C	2.9	0.091
		SAT	25	C	26	C	5.4	0.139
10	Winchester Boulevard and Olin Avenue	AM	13	B	13	B	-0.1	0.007
		PM	16	B	16	B	9.6	0.096
		SAT	15	B	14	B	-0.7	0.027
11	Winchester Boulevard and Olsen Drive	AM	17	B	17	B	-0.2	0.007
		PM	17	B	17	B	-0.5	0.018
		SAT	19	B	18	B	-0.7	0.026
12	Winchester Boulevard and I-280 WB on-ramp	AM	20	C	20	C	0.4	0.010
		PM	33	C	34	C	1.4	0.041
		SAT	20	C	22	C	2.0	0.055
13	Winchester Boulevard and Moorpark Avenue	AM	37	D	38	D	0.4	0.015
		PM	45	D	47	D	2.8	0.040
		SAT	41	D	41	D	1.1	0.060
14	I-280 EB off-ramp and Moorpark Avenue*	AM	11	B	11	B	0.1	0.008
		PM	24	C	25	C	0.3	0.019
		SAT	21	C	21	C	0.3	0.028
15	Naglee Avenue and Bascom Avenue	AM	33	C	33	C	0.4	0.004
		PM	40	D	40	D	0.7	0.010
		SAT	37	D	37	D	-0.1	0.019
16	Forest Avenue and Monroe Street	AM	18	B	18	B	0.4	0.012
		PM	19	B	19	B	0.9	0.040
		SAT	18	B	21	C	4.7	0.148
17	Stevens Creek Boulevard and San Tomas Expressway*	AM	57	E	57	E	0.2	0.002
		PM	117	F	121	F	6.4	0.009
		SAT	54	D	53	D	-0.2	0.013
18	Stevens Creek Boulevard and Saratoga Avenue*	AM	31	C	31	C	0.0	0.003
		PM	36	D	36	D	0.3	0.009
		SAT	38	D	38	D	0.1	0.011

\* Denotes CMP Intersection

  -Denotes Significant Impact

## Freeway Segment Analysis

Project traffic volumes on the freeway segments were estimated by adding to existing freeway volumes the estimated project trips on freeway segments. The percentage of HOVs in the traffic stream was assumed to remain unchanged from existing conditions. The results of the analysis are summarized in Table 8. The results show that the mixed-flow lanes on 11 of the 18 directional freeway segments analyzed would operate at an unacceptable LOS F during at least one of the peak hours under project conditions.

The results also show that the HOV lane on one of the eight directional freeway segments (with HOV lanes) analyzed would operate at an unacceptable LOS F during at least one of the peak hours under project conditions. All other freeway segments analyzed would operate at LOS E or better during the AM and PM peak hours.

Project traffic would constitute one percent or more of freeway capacity in the mixed-flow lanes on four directional freeway segments that operate at LOS F during the PM peak hour:

- I-280 eastbound from I-880 to Meridian Avenue
- I-280 eastbound from Meridian Avenue to Bird Avenue
- I-280 westbound from Bird Avenue to Meridian Avenue
- I-880 southbound from The Alameda to Bascom Avenue

Therefore, based on the CMP criteria for significant impacts on freeways, the project would have a significant impact on the four directional freeway segments under project conditions.

## Saturday Peak Hour Intersection Mitigation

### Stevens Creek Boulevard and Winchester Boulevard

If evaluated against the weekday level of service impact criteria, the intersection of Winchester Boulevard and Stevens Creek Boulevard would be impacted by the project during the Saturday peak hour. But, the City of San Jose level of service policy is only applicable to the weekday peak hour. Therefore, the impact would not require mitigation and may be overridden by City Council.

Despite the lack of weekend impact criteria, it is desirable to make improvements to the intersection. Possible improvements include the addition of a second southbound left-turn lane. Intersection levels of service calculations indicate the improvement would improve intersection level of service to LOS D. The intersection has historically been shown to operate at unacceptable levels with analysis for other projects. The southbound left-turn was identified as a required improvement for the previous Valley Fair expansion and Santana Row projects in 1998-1999. The improvement would require that southbound Winchester Boulevard be widened by approximately two feet. The necessary roadway widening would require the acquisition of right-of-way from the property in the northwest quadrant of the intersection or the narrowing of the existing sidewalk by the necessary two feet. Jurisdiction for the intersection is shared by both the Cities of San Jose and Santa Clara, therefore any improvements must be coordinated between the two cities.

**Table 8  
Freeway Segment Level of Service Summary**

Freeway Segment	Direction	Peak Hour	Existing Plus Project Trips										Project Trips					
			Mixed-Flow					HOV					Total		Mixed-Flow		HOV	
			Ave. Speed/	# of Lanes	Density	LOS	Ave. Speed/	# of Lanes	Density	LOS	Volume/	Density	LOS	Volume	Capacity	%	Volume	Capacity
SR 17	Hamilton to I-280	AM	42	3.4	7,161	50.1	E	-	-	-	-	21	21	0.3%	-	-	-	-
		PM	66	3.4	6,336	28.2	D	-	-	-	-	56	56	0.7%	-	-	-	-
I-880	I-280 to Stevens Creek	AM	32	3	5,921	61.7	F	-	-	-	-	61	61	0.8%	-	-	-	-
		PM	67	3	3,960	17.8	C	-	-	-	-	160	160	2.3%	-	-	-	-
I-880	Stevens Creek to Bascom	AM	19	3	4,920	66.3	F	-	-	-	-	20	20	0.3%	-	-	-	-
		PM	66	3	5,041	25.5	D	-	-	-	-	91	91	1.3%	-	-	-	-
I-880	Bascom to The Alameda	AM	30	3	5,780	64.2	F	-	-	-	-	20	20	0.3%	-	-	-	-
		PM	66	3	5,241	26.5	D	-	-	-	-	91	91	1.3%	-	-	-	-
I-280	Lawrence to Saratoga	AM	47	3	6,508	46.2	E	67	1	943	14.1	B	21	18	0.3%	3	0.1%	
		PM	21	3	5,144	81.6	F	66	1	1,462	22.2	C	56	44	0.6%	12	0.7%	
I-280	Saratoga to Winchester	AM	42	3	6,318	50.1	E	67	1	1,013	15.1	B	21	18	0.3%	3	0.2%	
		PM	43	3	6,362	49.3	E	62	1	2,164	35.2	D	56	42	0.6%	14	0.8%	
I-280	Winchester to I-880	AM	66	3	4,950	23.0	C	67	1	600	9.0	A	0	0	0.0%	0	0.0%	
		PM	63	3	6,430	34.0	D	67	1	1,210	18.1	C	0	0	0.0%	0	0.0%	
I-280	I-880 to Mendian	AM	65	3.7	6,992	29.1	D	66	1	1,454	22.0	C	26	22	0.3%	4	0.2%	
		PM	27	3.7	6,976	68.8	F	62	1	2,197	35.4	D	113	86	1.0%	27	1.5%	
I-280	Mendian to Bird	AM	51	4	8,796	43.1	D	-	-	-	-	26	26	0.3%	-	-	-	-
		PM	26	4	7,493	72.0	F	-	-	-	-	113	113	1.2%	-	-	-	-
I-280	Bird to Mendian	AM	16	4	6,060	94.7	F	-	-	-	-	40	40	0.4%	-	-	-	-
		PM	36	4	8,164	66.7	F	-	-	-	-	104	104	1.1%	-	-	-	-
I-280	Mendian to I-880	AM	10	3.7	4,247	114.8	F	36	1	2,063	67.3	F	40	27	0.3%	13	0.7%	
		PM	66	3.7	6,691	27.4	D	67	1	203	3.0	A	104	101	1.2%	3	0.2%	
I-280	I-880 to Winchester	AM	26	3	5,540	71.0	F	42	1	2,100	50.0	E	0	0	0.0%	0	0.0%	
		PM	64	3	6,340	33.0	D	67	1	470	7.0	A	0	0	0.0%	0	0.0%	
I-280	Winchester to Saratoga	AM	33	3	5,950	60.1	F	64	1	2,054	32.1	D	14	10	0.2%	4	0.2%	
		PM	41	3	6,324	51.4	E	67	1	746	11.1	B	60	54	0.8%	6	0.4%	
I-280	Saratoga to Lawrence	AM	58	3	6,621	38.0	D	55	1	2,203	40.1	D	14	11	0.2%	3	0.2%	
		PM	66	3	5,594	28.3	D	67	1	676	10.1	B	60	54	0.8%	6	0.4%	
I-880	The Alameda to Bascom	AM	66	3	5,382	27.2	D	-	-	-	-	32	32	0.5%	-	-	-	-
		PM	31	3	5,944	63.9	F	-	-	-	-	84	84	1.2%	-	-	-	-
I-880	Bascom to Stevens Creek	AM	58	3	6,642	38.2	D	-	-	-	-	32	32	0.5%	-	-	-	-
		PM	41	3	6,354	51.7	E	-	-	-	-	84	84	1.2%	-	-	-	-
I-880	Stevens Creek to I-280	AM	66	3	4,989	23.2	C	-	-	-	-	39	39	0.8%	-	-	-	-
		PM	65	3	6,224	31.9	D	-	-	-	-	174	174	2.5%	-	-	-	-
SR 17	I-280 to Hamilton	AM	66	3	4,764	24.1	D	-	-	-	-	14	14	0.2%	-	-	-	-
		PM	63	3	6,490	34.3	D	-	-	-	-	60	60	0.9%	-	-	-	-

- Box indicates significant impact

/ft/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2004.

## **Mitigation Measures**

**Freeway Segments** - The mitigation necessary to reduce significant impacts upon the freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project. These impacts are therefore considered significant and unavoidable.

## **Other Transportation Issues**

### ***Roadway and Intersection Operations***

Though intersection level of service results identified no major problems at isolated intersections, except at Stevens Creek Boulevard and Winchester Boulevard, facilities in the area of Valley Fair mall experience operational problems such as lengthy vehicle queues and lane blockage by stacked vehicles. The operational deficiencies are not identified by level of service calculations because the method used for the level of service analysis is based on operations of isolated intersections. Operational deficiencies in the area are due to the functioning and coordination of intersections along roadways as a whole. Described below are several facilities that experience operational deficiencies, and in some cases there are planned improvements. A subsequent more detailed traffic operations analysis will be completed for the area surrounding the mall. The analysis will identify possible improvements that may include signal timing adjustments and coordination.

#### **Stevens Creek Boulevard and I-880 Interchange**

The Stevens Creek Boulevard/I-880 interchange area serves as a primary gateway to Stevens Creek Boulevard. As such, the interchange serves a large volume of traffic, not only bound for Valley Fair mall, but also the area in general. Congestion at the intersection of Stevens Creek Boulevard and Monroe Street inhibits traffic flow along Stevens Creek Boulevard. In turn, this creates vehicle queues that extend from westbound Stevens Creek Boulevard back onto the I-880 off ramps and even further back on to I-280. The back-up of vehicles restricts the flow of vehicles along the I-880 auxiliary lanes and restricts the flow of through traffic from I-280 to northbound I-880.

There are plans for a \$20 million improvement to the east side, of the I-280 to I-880 northbound interchange. The improvements will provide separate ramps for traffic traveling from I-280 northbound to I-880 northbound and for traffic accessing Stevens Creek Boulevard. In addition, the loop ramp to westbound Stevens Creek Boulevard will be replaced with a diagonal ramp and signal, which will have much greater capacity. The separation of freeway-to-freeway traffic from traffic bound for Stevens Creek Boulevard will improve the operations of freeway facilities.

Improvements to the southbound side of the interchange also are being studied, although no specific design has been selected and no funding has been secured. It is expected that this project will contribute a fair share towards the identified improvements. Possible improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. The additional right-turn lane would be provided on the southbound I-880 off-ramp and would only provide access to Valley Fair/Monroe Street. The existing right-turn lane would allow for travel westbound along Stevens Creek Boulevard or the right-turn to Monroe Street.

### **Winchester Boulevard and I-280 Interchange**

The area near the I-280 interchange sees heavy congestion during the PM and Saturday peak hours. Lengthy vehicle queues are prevalent at both the eastbound off-ramp and westbound on-ramp of I-280. Vehicle queues on the eastbound off-ramp extend back on the ramp and do not always clear in the allotted green time. Queues at the westbound on-ramp are created by the ramp meter and extend back onto Winchester Boulevard.

Improvements to be identified by the operations analysis may include the adjustment and coordination of signal timing at the Winchester Boulevard/Moorpark Avenue and Moorpark Avenue/I-280 off-ramp intersections to better serve traffic demands. Vehicle back-ups onto Winchester Boulevard from the I-280 on-ramp may be alleviated through changes to the ramp metering scheme.

### **Stevens Creek Boulevard**

In general, Stevens Creek Boulevard experiences heavy congestion in both directions of travel between Winchester Boulevard and I-880. The congestion is exacerbated by the close spacing of several signalized intersections along the roadway. Left-turn queues occasionally spill out of the provided turn-pockets at intersection.

Again, the operations analysis will determine possible signal timing adjustments and coordination that may improve traffic operations along Stevens Creek Boulevard. Nevertheless, there are several improvements already planned along Stevens Creek Boulevard and its intersections between I-880 and Winchester Boulevard (see Figure in Appendix D). Improvements include a dedicated westbound right-turn lane along Stevens Creek Boulevard to serve traffic bound for Valley Fair and lengthening of the left-turn pockets serving Valley Fair and Santana Row. The planned improvements are discussed in further detail below and will be analyzed further as part of the operations analysis to follow.

### **Site Access**

Some of the existing driveways serving the site will be reconstructed or relocated, but the project is not proposing any additional access points. The site will continue to be served by driveways and signalized entrances along Stevens Creek Boulevard, Winchester Boulevard, Monroe Street, and Forest Avenue. The proposed increase in retail space will require an increase in the number of parking spaces, which in turn will determine the access points that will see increased traffic. The parking structure fronting Stevens Creek Boulevard will be removed and replaced with a slightly larger parking structure located slightly more to the east. The new structure will provide an additional 555 spaces. A portion of the existing two-story Macy's parking deck along Monroe Street will be replaced with a five-story parking structure providing an additional 1,779 spaces. The effects of these changes on site access are discussed below.

### **Stevens Creek Boulevard**

Two full access signalized intersections and one restricted right-in right-out driveway currently serve and will continue to serve the project site from Stevens Creek Boulevard. There are planned improvements along Stevens Creek Boulevard that are discussed in detail below. It is expected that this project will contribute a fair share towards the identified improvements along Stevens Creek Boulevard.

### **Baywood Avenue Entrance**

Since most of the new parking along Stevens Creek Boulevard will be concentrated near Baywood



Avenue, the project is proposing to relocate the signalized entrance intersection between Redwood and Baywood Avenues to directly opposite Baywood Avenue. To prevent an increase in traffic volumes and a disruption of the residences along Baywood Avenue, the southbound leg of the intersection, from Valley Fair, will be restricted to right and left turns only with no access to Baywood Avenue. Baywood Avenue will remain right-in right-out only. This relocation will allow for longer left-turn lanes on Stevens Creek Boulevard into Valley Fair and Santana Row that are needed. Two inbound lanes and two outbound lanes at the mall entrance will be provided to allow for efficient ingress and egress from the parking garage and maintain acceptable levels of service at the Baywood intersection. The project will also add a dedicated right-turn lane into the new parking structure from westbound Stevens Creek Boulevard. The right-turn lane will provide additional storage for vehicles bound for the new garage and prevent blockage of through traffic along Stevens Creek. The addition of the right-turn lane along westbound Stevens Creek Boulevard will require the dedication of approximately 16 feet of right-of way along the project's frontage to accommodate the lane. Level of service calculations indicate that the relocated intersection will improve slightly to LOS B or better during all studied peak periods.

### **Macy's Mens Entrance/Santana Row**

Based on field observations and pedestrian counts (described below), changes to the intersection of Macy's Mens/Santana Row with Stevens Creek Boulevard are being recommended. With the relocation of the parking garage further east to Baywood Avenue, it is expected that less of a demand will be placed on the Macy's Mens entrance to Valley Fair. So as to accommodate pedestrian improvements described below and provide a more pedestrian friendly crossing, the entrance from Valley Fair across from Santana Row should be narrowed to one lane in and two lanes out. The narrowing of the entrance will require that one eastbound left-turn lane into the Valley Fair entrance be eliminated. Additionally, the right-turn lanes on Stevens Creek Boulevard will be converted from exclusive right-turn lanes to shared through-right-turn lanes to improve pedestrian safety. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

### **Winchester Boulevard**

One signalized intersection and one right-turn only driveway currently serve the project. The right-turn only driveway will remain unchanged. The current signalized access intersection at Dorcich Street will be relocated north to allow for the expansion of the Safeway and Longs Drug Stores. The new signalized entrance to Valley Fair located north of Dorcich Street will be a T-intersection providing a more direct route to the existing Parking Structure B. Level of service calculations indicate that the new intersection will operate at LOS B or better during all studied peak periods. The relocation will require that the existing traffic signal at Dorcich Street be removed and outbound left-turns be disallowed. The City of Santa Clara requested that a neighborhood study be completed to evaluate the effects of the proposed relocation of the signal on traffic circulation throughout the neighborhood surrounding Dorcich Street. The neighborhood study is included in Appendix E.

The neighborhood analysis concluded that the signal removal along with the elimination of the eastbound left-turn movement would result in a significant decrease in traffic volume along Dorcich Street and Cecil Avenue. In turn, Henry Avenue would serve any displaced traffic in the neighborhood due to the turn-restrictions at Dorcich Street. The volumes along Henry Avenue, even with the increase, would continue to be within an acceptable range for a typical residential street. Approval by the City of Santa Clara will be necessary prior to implementation of the signal relocation since intersection is located within City of Santa Clara limits.

## Forest Avenue

The project is proposing no changes to the locations of the access points along Forest Avenue. As such, the surrounding residential areas along Forest Avenue will be unaffected by access modifications to the existing mall. The project will be adding a throat to the driveway nearest Winchester Boulevard. It is also recommended that left-turns be allowed from the driveway and that exclusive right and left-turn lanes be provided. Left-turns are currently prohibited from the driveway. This will improve the function of the driveway, which serves the existing Parking Structure B.

## Monroe Street

A new parking garage will be constructed along Monroe Street along the northeast corner of Macys, replacing a portion of the existing two-story deck. It is expected that the majority of additional traffic generated by the proposed expansion will utilize Monroe Street and the new parking garage that adds 1,779 parking spaces to this end of the mall. With the construction of this parking structure, the three existing drive aisles that provide access to Monroe Street from the existing parking structure will be condensed to one to serve the new structure. This will improve traffic flow along Monroe Street by reducing the number of vehicle conflicts that occur by vehicles circulating in and out of the parking areas.

No access changes are proposed at the intersections of Monroe Street with Forest Street but improvements have been recommended at its intersection with Stevens Creek Boulevard. The improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. To accommodate the additional right-turn lane, one eastbound left-turn lane from Stevens Creek Boulevard to northbound Monroe Street will need to be removed. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

## **Parking**

The proposed expansion will include the construction of two new parking structures. The parking structure currently located along Stevens Creek Boulevard at Redwood Avenue will be demolished and reconstructed further east near Monroe Street. The structure will increase the number of parking spaces from 1,410 to 1,965 spaces. A new 2,379 space parking structure will be constructed along Monroe Street near the northeast corner of Macys. The new structure will replace 600 spaces in the two level structure near Macys. The two new structures combined will provide 2,334 additional spaces for the expansion.

One problem that the mall has experienced since the last expansion is that the parking structure on Stevens Creek Boulevard gets congested, and the structures on the back side are underutilized. To address this problem, the project will provide more direct and clearer on-site circulation aisles so that patrons more easily can find the parking structures to the rear. Also, the project will add better signage, possibly to include active parking occupancy signs, to direct patrons quickly to the available spaces.

## **Transit Facilities**

There is an existing on-site bus transfer center along Forest Avenue that will be maintained with the expansion. It can be assumed that some of the project trips could be made by transit. Assuming up to 3% transit mode share, which is probably the highest that could be expected, yields an estimate of 43 additional transit trips during the weekday PM peak hour and 59 additional trips during the Saturday peak hour. Given that there is a major transit station located adjacent to the mall with several bus routes, these riders easily could be accommodated by the existing service.

## ***Pedestrian and Bicycle Facilities***

Currently there is busy pedestrian activity at the Stevens Creek Boulevard and Valley Fair/Santana Row intersection. The intersection serves as a major crossing point for patrons moving between Valley Fair Mall and Santana Row. Pedestrian crossing counts were completed during the Saturday peak hour. The counts indicate a total of 114 pedestrian crossings of Stevens Creek Boulevard. By comparison, the intersection of Stevens Creek Boulevard and Winchester Boulevard had 20-30 crossings of Stevens Creek Boulevard.

Despite the relatively high number of pedestrians using this intersection, the facilities are limited. Only one side of the intersection has a crosswalk over Stevens Creek Boulevard, and the sidewalk area at the corners are limited. Planned improvements include the addition of a sidewalk and crosswalk on the east side of the intersection and conversion of the exclusive right-turn lanes on Stevens Creek Boulevard to shared through-right turn lanes (see Figure in Appendix D). The conversion of right-turn lanes will include the removal of the “pork-chop” island located at the southwest corner of the intersection. The narrowing of the Valley Fair mall entrance described above will allow for sidewalk areas at the corners to be expanded. These improvements will enhance safety.

Similarly, along Forest Avenue, the intersections of Monroe Street and Baywood Avenue serve as major pedestrian connections between the neighborhoods north of Forest Avenue and the shopping mall. Both intersections currently provide crosswalks, but do not provide protected pedestrian crossing phases. Pedestrians crossing Forest Avenue are in conflict with left-turning vehicles from Monroe Street and Baywood Avenue. Pedestrian safety would be improved with the conversion of the signals at each of the intersections to 8-phase operation. Intersection delay at the Monroe Street intersection would deteriorate slightly from LOS B to LOS C, but no change would be seen at the Baywood Avenue intersection with the conversion.

In all other respects, the existing and proposed pedestrian access and circulation at the mall is satisfactory.

The project will not affect any existing or planned bicycle facilities. There would be a small increase in bicycle travel, which could be accommodated on the existing facilities.

## 5. Cumulative Growth Conditions

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This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. It includes descriptions of nearby pending developments and the procedure used to estimate traffic volumes associated with them. This chapter also presents the results of the intersection level of service calculations. The analysis of cumulative growth conditions was conducted at the request of the City of San Jose and is in conformance with the California Environmental Quality Act CEQA.

### Roadway Network and Traffic Volumes

The intersection lane configurations under cumulative conditions were assumed to be the same as described under background conditions. Traffic volumes for cumulative conditions were estimated by adding traffic associated with pending developments in the Cities of San Jose and Santa Clara to background plus project traffic volumes. Cumulative traffic volumes include trips associated with the following pending developments located near the project site: *Santana Row Residential Conversion*, and the *BAREC Residential Development*. These projects are described below.

- *Santana Row Residential Conversion* (City of San Jose) – the replacement of the previously approved, but yet to be constructed, 190 hotel rooms with 400 residential units and 15,000 square feet (s.f.) of retail/commercial space, located at the southeast quadrant of Stevens Creek Boulevard and Winchester Boulevard
- *BAREC Residential Development* (City of Santa Clara) – 110 single-family homes and 165 senior housing units, located along the west side of Winchester Boulevard at Forest Avenue

Weekday peak hour trips associated with each of the projects were obtained from their respective preliminary traffic reports. No Saturday peak hour data was available for either project. Traffic volumes for cumulative conditions were estimated by adding traffic associated with these three pending developments to background plus project traffic volumes.

## **Cumulative Impact Criteria**

### ***Intersection Impact Criteria***

Applying the CEQA guidelines to the City of San Jose level of service policy, a significant adverse cumulative impact on traffic conditions at a signalized intersection can be said to occur if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or worse under cumulative conditions, and the project adds a significant percentage of trips to the intersection critical movements relative to the total cumulative volume of critical movements at the intersection, or
2. The level of service at the intersection is an unacceptable LOS E or LOS F under background conditions, and the project adds a significant percentage of trips to the intersection critical movements relative to the total cumulative volume of critical movements at the intersection.

### ***Freeway Segment Impact Criteria***

Applying the CEQA guidelines to the CMP standards for freeway segments, a significant adverse cumulative impact on traffic conditions on a freeway segment can be said to occur if for either peak hour:

1. The level of service on the freeway segment is an unacceptable LOS F under cumulative conditions, and the project adds a significant percentage of trips to the freeway segment relative to the total cumulative volume on the freeway segment, or
2. The level of service on the freeway segment degrades from an acceptable LOS under existing conditions to an unacceptable LOS F under cumulative conditions and the project adds a significant percentage of trips to the freeway segment relative to the total cumulative volume on the freeway segment.

## **Weekday Intersection Levels of Service Under Cumulative Conditions**

### ***City of San Jose Intersection Analysis***

The results show that, measured against the City of San Jose level of service standards, all of the study intersections, with the exception of one intersection, are projected to operate at an acceptable LOS D or better during the weekday peak hours under cumulative conditions (see Table 9). The intersection of Stevens Creek Boulevard and San Tomas Expressway, which is a CMP intersection, currently operates at an unacceptable LOS E and F during the AM and PM peak hours, respectively.

The project would account for approximately 50% and 83% percent of the added cumulative volume, during the AM and PM peak hours, respectively, to the critical volumes at the intersection of Stevens Creek Boulevard and San Tomas Expressway. These contributions are considered significant and thus would constitute an impact. The level of service calculation sheets are included in Appendix C.

**Table 9**  
**Cumulative Intersection Levels of Service**

Study Number	Intersection	Peak Hour	Ave. Delay	LOS
1	Stevens Creek Boulevard and Winchester Boulevard*	AM	36	D
		PM	47	D
		SAT	<b>62</b>	<b>E</b>
2	Stevens Creek Boulevard and Santana Row	AM	22	C
		PM	32	C
		SAT	32	C
3	Stevens Creek Boulevard and Redwood Avenue	AM	9	A
		PM	24	C
		SAT	27	C
4	Stevens Creek Boulevard and Monroe Street	AM	27	C
		PM	45	D
		SAT	41	D
5	Stevens Creek Boulevard and I-880 SB off-ramp*	AM	23	C
		PM	28	C
		SAT	27	C
6	San Carlos Street and Bascom Avenue	AM	38	D
		PM	45	D
		SAT	45	D
7	Winchester Boulevard and Hedding Street	AM	31	C
		PM	40	D
		SAT	36	D
8	Winchester Boulevard and Forest Avenue	AM	27	C
		PM	32	C
		SAT	24	C
9	Winchester Boulevard and Dorcich Street	AM	11	B
		PM	20	C
		SAT	26	C
10	Winchester Boulevard and Olin Avenue	AM	13	B
		PM	16	B
		SAT	14	B
11	Winchester Boulevard and Olsen Drive	AM	19	B
		PM	17	B
		SAT	18	B
12	Winchester Boulevard and I-280 WB on-ramp	AM	21	C
		PM	35	C
		SAT	22	C
13	Winchester Boulevard and Moorpark Avenue	AM	38	D
		PM	48	D
		SAT	41	D
14	I-280 EB off-ramp and Moorpark Avenue*	AM	11	B
		PM	25	C
		SAT	21	C
15	Naglee Avenue and Bascom Avenue	AM	33	C
		PM	40	D
		SAT	37	D
16	Forest Avenue and Monroe Street	AM	18	B
		PM	19	B
		SAT	21	C
17	Stevens Creek Boulevard and San Tomas Expressway*	AM	<b>66</b>	<b>E</b>
		PM	<b>142</b>	<b>F</b>
		SAT	53	D
18	Stevens Creek Boulevard and Saratoga Avenue*	AM	31	C
		PM	36	D
		SAT	38	D

\* Denotes CMP intersection

### **CMP Intersection Analysis**

The intersection level of service results for the CMP intersections under cumulative conditions are summarized in Table 9. The results show that, measured against the CMP level of service standards, all of the CMP study intersections, with the exception of one intersection, are projected to operate at an acceptable LOS E or better during the weekday peak hours. The intersection of Stevens Creek Boulevard and San Tomas Expressway is projected to operate at an unacceptable LOS F during the PM peak hour under cumulative conditions.

As described above, the project's contribution to the added cumulative volume at the intersection will constitute an impact.

### **Saturday Intersection Levels of Service Under Cumulative Conditions**

The Saturday intersection level of service results under cumulative conditions are shown in Table 9. The results show that one study intersection, Stevens Creek Boulevard and Winchester Boulevard, is projected to operate at an acceptable LOS E under cumulative conditions. There are no established significance criteria to identify what constitutes an impact during the Saturday peak hour. Based on the weekday impact criteria, the intersection would be impacted by the cumulative growth since it causes the level of service at the intersection to degrade from an acceptable LOS D under background conditions to an unacceptable LOS E under cumulative conditions during the Saturday peak hour.

Though no cumulative data for other projects was available for the Saturday peak hour, it is assumed that the project would account for a majority of the cumulative traffic added to the intersection of Winchester Boulevard and Stevens Creek Boulevard during the Saturday peak hour since it is during the Saturday peak hour that the project generates its largest amount of traffic. The contribution of the project to cumulative traffic volumes is considered significant and thus would constitute an impact.

### **Freeway Segment Levels of Service Under Cumulative Conditions**

The results of the freeway segment analysis for cumulative conditions are summarized in Table 10. The results show that in addition to the four freeway segments impacted by the proposed project two additional segments would be impacted under cumulative conditions:

- I-880 northbound from I-280 to Stevens Creek
- I-280 eastbound from Lawrence to Saratoga
- I-280 eastbound from I-880 to Meridian Avenue
- I-280 eastbound from Meridian Avenue to Bird Avenue
- I-280 westbound from Bird Avenue to Meridian Avenue
- I-880 southbound from The Alameda to Bascom Avenue

The project would account for at least 60% percent of the added cumulative volume on each of the freeway segments. These contributions are considered significant and thus would constitute an impact.

**Table 10  
Freeway Segment Level of Service Summary -Cumulative Conditions**

Freeway Segment	Direction	Peak Hour	Existing Plus Project Trips													
			Mixed-Flow					HOV								
			Ave. Speed/la/	# of Lanes	Volume/la/	Density	LOS	Ave. Speed/la/	# of Lanes	Volume/la/	Density	LOS				
SR 17	Hamilton to I-280	AM	42	3.4	7,163	50.2	E	-	-	-	-	23	23	0.3%	-	-
		PM	66	3.4	6,358	28.3	D	-	-	-	-	78	78	1.0%	-	-
I-880	I-280 to Stevens Creek	AM	32	3	5,928	61.7	F	-	-	-	-	66	66	1.0%	-	-
		PM	67	3	3,625	18.0	C	-	-	-	-	205	205	3.0%	-	-
I-880	Stevens Creek to Bascom	AM	19	3	4,962	87.1	F	-	-	-	-	62	62	0.9%	-	-
		PM	66	3	5,063	25.6	D	-	-	-	-	113	113	1.6%	-	-
I-880	Bascom to The Alameda	AM	30	3	5,822	64.7	F	-	-	-	-	62	62	0.9%	-	-
		PM	66	3	5,263	26.6	D	-	-	-	-	113	113	1.6%	-	-
I-280	Lawrence to Saratoga	AM	47	3	6,508	46.2	E	67	1	943	14.1	21	18	0.3%	3	0.1%
		PM	21	3	5,173	82.1	F	66	1	1,471	22.3	94	73	1.1%	21	1.2%
I-280	Saratoga to Winchester	AM	42	3	6,318	50.1	E	67	1	1,013	15.1	21	18	0.3%	3	0.2%
		PM	43	3	6,390	49.5	E	62	1	2,194	35.4	94	70	1.0%	24	1.3%
I-280	Winchester to I-880	AM	66	3	4,550	23.0	C	67	1	600	9.0	0	0	0.0%	0	0.0%
		PM	63	3	6,430	34.0	D	67	1	1,210	18.1	0	0	0.0%	0	0.0%
I-280	I-880 to Meridian	AM	65	3.7	7,006	29.1	D	66	1	1,458	22.1	44	36	0.4%	8	0.4%
		PM	27	3.7	6,987	69.9	F	62	1	2,200	35.5	127	87	1.1%	30	1.7%
I-280	Meridian to Bird	AM	51	4	8,814	43.2	D	-	-	-	-	44	44	0.5%	-	-
		PM	26	4	7,507	72.2	F	-	-	-	-	127	127	1.4%	-	-
I-280	Bird to Meridian	AM	16	4	6,063	94.7	F	-	-	-	-	43	43	0.5%	-	-
		PM	36	4	8,187	56.9	F	-	-	-	-	127	127	1.4%	-	-
I-280	Meridian to I-880	AM	10	3.7	4,249	114.8	F	36	1	2,064	57.3	43	29	0.3%	14	0.8%
		PM	66	3.7	6,713	27.5	D	67	1	204	3.0	127	123	1.4%	4	0.2%
I-280	I-880 to Winchester	AM	26	3	5,540	71.0	F	42	1	2,100	50.0	0	0	0.0%	0	0.0%
		PM	64	3	6,340	33.0	D	67	1	470	7.0	0	0	0.0%	0	0.0%
I-280	Winchester to Saratoga	AM	33	3	5,978	60.4	F	64	1	2,063	32.2	51	38	0.5%	13	0.7%
		PM	41	3	6,340	51.5	E	67	1	748	11.2	78	70	1.0%	8	0.5%
I-280	Saratoga to Lawrence	AM	58	3	6,648	38.2	D	55	1	2,213	40.2	51	38	0.6%	13	0.7%
		PM	66	3	5,610	28.3	D	67	1	678	10.1	78	70	1.0%	8	0.5%
I-880	The Alameda to Bascom	AM	66	3	5,382	27.2	D	-	-	-	-	32	32	0.5%	-	-
		PM	31	3	5,990	64.4	F	-	-	-	-	130	130	1.9%	-	-
I-880	Bascom to Stevens Creek	AM	58	3	6,642	38.2	D	-	-	-	-	32	32	0.5%	-	-
		PM	41	3	6,400	52.0	E	-	-	-	-	130	130	1.9%	-	-
I-880	Stevens Creek to I-280	AM	66	3	4,624	23.4	C	-	-	-	-	74	74	1.1%	-	-
		PM	65	3	6,251	32.1	D	-	-	-	-	201	201	2.9%	-	-
SR 17	I-280 to Hamilton	AM	66	3	4,781	24.1	D	-	-	-	-	31	31	0.4%	-	-
		PM	63	3	6,503	34.4	D	-	-	-	-	73	73	1.1%	-	-

Box indicates significant impact

Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2004.



## Cumulative Mitigation Measures

The following are possible intersection improvements that can be implemented at each of the identified impacted intersections to mitigate impacts due to cumulative growth.

**Stevens Creek Boulevard and San Tomas Expressway (Weekday)** - According to the *Comprehensive County Expressway Planning Study Implementation Plan*, future improvements for San Tomas Expressway include widening of San Tomas Expressway from six to eight lanes. This is a Tier 1A project that currently is not funded. The widening of San Tomas Expressway would improve the operations of this intersection to better than background conditions.

**Stevens Creek Boulevard and Winchester Boulevard (Saturday)** - Potential mitigation for the intersection of Stevens Creek Boulevard and Winchester Boulevard would consist of the addition of a second southbound left-turn lane. The implementation of the left-turn lane would improve intersection operations to LOS D.

**Freeway Segments** - The mitigation necessary to reduce significant impacts upon the freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for just a few development projects. These impacts are therefore considered significant and unavoidable.

## 6. Conclusions

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The potential impacts of the project were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included the analysis of weekday AM and PM and Saturday peak-hour traffic conditions for eighteen signalized intersections and 18 directional freeway segments.

The impacts of the project on intersections were identified on the basis of the following criteria: (1) the City of San Jose (CSJ) Level of Service standards, (2) the CMP Level of Service standards, and (3) the CMP Freeway Segment Level of Service standards.

Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined on the basis of engineering judgment.

### **Project Impacts**

Listed below are the transportation facilities that would be impacted by the project and the criteria by which the impacts were determined to occur:

#### ***Intersection Levels of Service***

Stevens Creek Boulevard and Winchester Boulevard (Saturday Peak Hour Only) – CSJ Impact

#### ***Freeway Segment Levels of Service***

I-280 eastbound from I-880 to Meridian Avenue (PM, mixed-flow lanes only)  
I-280 eastbound from Meridian Avenue to Bird Avenue (PM, mixed-flow lanes only)  
I-280 westbound from Bird Avenue to Meridian Avenue (PM, mixed-flow lanes only)  
I-880 southbound from The Alameda to Bascom Avenue (PM, mixed-flow lanes only)

## **Saturday Peak Hour Intersection Mitigation**

### **Stevens Creek Boulevard and Winchester Boulevard**

If evaluated against the weekday level of service impact criteria, the intersection of Winchester Boulevard and Stevens Creek Boulevard would be impacted by the project during the Saturday peak hour. But, the City of San Jose level of service policy is only applicable to the weekday peak hour. Therefore, the impact would not require mitigation and may be overridden by City Council.

Despite the lack of weekend impact criteria, it is desirable to make improvements to the intersection. Possible improvements include the addition of a second southbound left-turn lane. Intersection levels of service calculations indicate the improvement would improve intersection level of service to LOS D. The intersection has historically been shown to operate at unacceptable levels with analysis for other projects. The southbound left-turn was identified as a required improvement for the previous Valley Fair expansion and Santana Row projects in 1998-1999. The improvement would require that southbound Winchester Boulevard be widened by approximately two feet. The necessary roadway widening would require the acquisition of right-of-way from the property in the northwest quadrant of the intersection or the narrowing of the existing sidewalk by the necessary two feet. Jurisdiction for the intersection is shared by both the Cities of San Jose and Santa Clara, therefore any improvements must be coordinated between the two cities.

### **Mitigation Measures**

**Freeway Segments** - The mitigation necessary to reduce significant impacts upon the freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project. These impacts are therefore considered significant and unavoidable.

### **Roadway and Intersection Operations**

Though intersection level of service results identified no major problems at isolated intersections, except at Stevens Creek Boulevard and Winchester Boulevard, facilities in the area of Valley Fair mall experience operational problems such as lengthy vehicle queues and lane blockage by stacked vehicles. The operational deficiencies are not identified by level of service calculations because the method used for the level of service analysis is based on operations of isolated intersections. Operational deficiencies in the area are due to the functioning and coordination of intersections along roadways as a whole. Described below are several facilities that experience operational deficiencies, and in some cases there are planned improvements. A subsequent more detailed traffic operations analysis will be completed for the area surrounding the mall. The analysis will identify possible improvements that may include signal timing adjustments and coordination.

### **Stevens Creek Boulevard and I-880 Interchange**

The Stevens Creek Boulevard/I-880 interchange area serves as a primary gateway to Stevens Creek Boulevard. As such, the interchange serves a large volume of traffic, not only bound for Valley Fair mall, but also the area in general. Congestion at the intersection of Stevens Creek Boulevard and Monroe Street inhibits traffic flow along Stevens Creek Boulevard. In turn, this creates vehicle queues that extend from westbound Stevens Creek Boulevard back onto the I-880 off ramps and even further back on to I-280. The back-up of vehicles restricts the flow of vehicles along the I-880 auxiliary lanes and restricts the flow of through traffic from I-280 to northbound I-880.

There are plans for a \$20 million improvement to the east side, of the I-280 to I-880 northbound interchange. The improvements will provide separate ramps for traffic traveling from I-280 northbound to I-880 northbound and for traffic accessing Stevens Creek Boulevard. In addition, the loop ramp to westbound Stevens Creek Boulevard will be replaced with a diagonal ramp and signal, which will have much greater capacity. The separation of freeway-to-freeway traffic from traffic bound for Stevens Creek Boulevard will improve the operations of freeway facilities.

Improvements to the southbound side of the interchange also are being studied, although no specific design has been selected and no funding has been secured. It is expected that this project will contribute a fair share towards the identified improvements. Possible improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. The additional right-turn lane would be provided on the southbound I-880 off-ramp and would only provide access to Valley Fair/Monroe Street. The existing right-turn lane would allow for travel westbound along Stevens Creek Boulevard or the right-turn to Monroe Street.

### **Winchester Boulevard and I-280 Interchange**

The area near the I-280 interchange sees heavy congestion during the PM and Saturday peak hours. Lengthy vehicle queues are prevalent at both the eastbound off-ramp and westbound on-ramp of I-280. Vehicle queues on the eastbound off-ramp extend back on the ramp and do not always clear in the allotted green time. Queues at the westbound on-ramp are created by the ramp meter and extend back onto Winchester Boulevard.

Improvements to be identified by the operations analysis may include the adjustment and coordination of signal timing at the Winchester Boulevard/Moorpark Avenue and Moorpark Avenue/I-280 off-ramp intersections to better serve traffic demands. Vehicle back-ups onto Winchester Boulevard from the I-280 on-ramp may be alleviated through changes to the ramp metering scheme.

### **Stevens Creek Boulevard**

In general, Stevens Creek Boulevard experiences heavy congestion in both directions of travel between Winchester Boulevard and I-880. The congestion is exacerbated by the close spacing of several signalized intersections along the roadway. Left-turn queues occasionally spill out of the provided turn-pockets at intersection.

Again, the operations analysis will determine possible signal timing adjustments and coordination that may improve traffic operations along Stevens Creek Boulevard. Nevertheless, there are several improvements already planned along Stevens Creek Boulevard and its intersections between I-880 and Winchester Boulevard. Improvements include a dedicated westbound right-turn lane along Stevens Creek Boulevard to serve traffic bound for Valley Fair and lengthening of the left-turn pockets serving Valley Fair and Santana Row. The planned improvements are discussed in further detail below and will be analyzed further as part of the operations analysis to follow.

### **Site Access**

Some of the existing driveways serving the site will be reconstructed or relocated, but the project is not proposing any additional access points. The site will continue to be served by driveways and signalized entrances along Stevens Creek Boulevard, Winchester Boulevard, Monroe Street, and Forest Avenue. The proposed increase in retail space will require an increase in the number of parking spaces, which in turn will determine the access points that will see increased traffic. The parking structure fronting Stevens Creek Boulevard will be removed and replaced with a slightly larger parking structure located slightly

more to the east. The new structure will provide an additional 555 spaces. A portion of the existing two-story Macy's parking deck along Monroe Street will be replaced with a five-story parking structure providing an additional 1,779 spaces. The effects of these changes on site access are discussed below.

## **Stevens Creek Boulevard**

Two full access signalized intersections and one restricted right-in right-out driveway currently serve and will continue to serve the project site from Stevens Creek Boulevard. There are planned improvements along Stevens Creek Boulevard that are discussed in detail below. It is expected that this project will contribute a fair share towards the identified improvements along Stevens Creek Boulevard.

### **Baywood Avenue Entrance**

Since most of the new parking along Stevens Creek Boulevard will be concentrated near Baywood Avenue, the project is proposing to relocate the signalized entrance intersection between Redwood and Baywood Avenues to directly opposite Baywood Avenue. To prevent an increase in traffic volumes and a disruption of the residences along Baywood Avenue, the southbound leg of the intersection, from Valley Fair, will be restricted to right and left turns only with no access to Baywood Avenue. Baywood Avenue will remain right-in right-out only. This relocation will allow for longer left-turn lanes on Stevens Creek Boulevard into Valley Fair and Santana Row that are needed. Two inbound lanes and two outbound lanes at the mall entrance will be provided to allow for efficient ingress and egress from the parking garage and maintain acceptable levels of service at the Baywood intersection. The project will also add a dedicated right-turn lane into the new parking structure from westbound Stevens Creek Boulevard. The right-turn lane will provide additional storage for vehicles bound for the new garage and prevent blockage of through traffic along Stevens Creek. The addition of the right-turn lane along westbound Stevens Creek Boulevard will require the dedication of approximately 16 feet of right-of way along the project's frontage to accommodate the lane. Level of service calculations indicate that the relocated intersection will improve slightly to LOS B or better during all studied peak periods.

### **Macy's Mens Entrance/Santana Row**

Based on field observations and pedestrian counts (described below), changes to the intersection of Macy's Mens/Santana Row with Stevens Creek Boulevard are being recommended. With the relocation of the parking garage further east to Baywood Avenue, it is expected that less of a demand will be placed on the Macy's Mens entrance to Valley Fair. So as to accommodate pedestrian improvements described below and provide a more pedestrian friendly crossing, the entrance from Valley Fair across from Santana Row should be narrowed to one lane in and two lanes out. The narrowing of the entrance will require that one eastbound left-turn lane into the Valley Fair entrance be eliminated. Additionally, the right-turn lanes on Stevens Creek Boulevard will be converted from exclusive right-turn lanes to shared through-right-turn lanes to improve pedestrian safety. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

## **Winchester Boulevard**

One signalized intersection and one right-turn only driveway currently serve the project. The right-turn only driveway will remain unchanged. The current signalized access intersection at Dorcich Street will be relocated north to allow for the expansion of the Safeway and Longs Drug Stores. The new signalized entrance to Valley Fair located north of Dorcich Street will be a T-intersection providing a more direct route to the existing Parking Structure B. Level of service calculations indicate that the new intersection will operate at LOS B or better during all studied peak periods. The relocation will require that the

existing traffic signal at Dorcich Street be removed and outbound left-turns be disallowed. The City of Santa Clara requested that a neighborhood study be completed to evaluate the effects of the proposed relocation of the signal on traffic circulation throughout the neighborhood surrounding Dorcich Street. The neighborhood study is included in Appendix E.

The neighborhood analysis concluded that the signal removal along with the elimination of the eastbound left-turn movement would result in a significant decrease in traffic volume along Dorcich Street and Cecil Avenue. In turn, Henry Avenue would serve any displaced traffic in the neighborhood due to the turn-restrictions at Dorcich Street. The volumes along Henry Avenue, even with the increase, would continue to be within an acceptable range for a typical residential street. Approval by the City of Santa Clara will be necessary prior to implementation of the signal relocation since intersection is located within City of Santa Clara limits.

## Forest Avenue

The project is proposing no changes to the locations of the access points along Forest Avenue. As such, the surrounding residential areas along Forest Avenue will be unaffected by access modifications to the existing mall. The project will be adding a throat to the driveway nearest Winchester Boulevard. It is also recommended that left-turns be allowed from the driveway and that exclusive right and left-turn lanes be provided. Left-turns are currently prohibited from the driveway. This will improve the function of the driveway, which serves the existing Parking Structure B.

## Monroe Street

A new parking garage will be constructed along Monroe Street along the northeast corner of Macys, replacing a portion of the existing two-story deck. It is expected that the majority of additional traffic generated by the proposed expansion will utilize Monroe Street and the new parking garage that adds 1,779 parking spaces to this end of the mall. With the construction of this parking structure, the three existing drive aisles that provide access to Monroe Street from the existing parking structure will be condensed to one to serve the new structure. This will improve traffic flow along Monroe Street by reducing the number of vehicle conflicts that occur by vehicles circulating in and out of the parking areas.

No access changes are proposed at the intersections of Monroe Street with Forest Street but improvements have been recommended at its intersection with Stevens Creek Boulevard. The improvements include the addition of a direct right-turn lane from the I-880 southbound off-ramp to northbound Monroe Street. To accommodate the additional right-turn lane, one eastbound left-turn lane from Stevens Creek Boulevard to northbound Monroe Street will need to be removed. Level of service calculations indicate that the changes to the intersection will result in no change to the intersection LOS.

## **Parking**

The proposed expansion will include the construction of two new parking structures. The parking structure currently located along Stevens Creek Boulevard at Redwood Avenue will be demolished and reconstructed further east near Monroe Street. The structure will increase the number of parking spaces from 1,410 to 1,965 spaces. A new 2,379 space parking structure will be constructed along Monroe Street near the northeast corner of Macys. The new structure will replace 600 spaces in the two level structure near Macys. The two new structures combined will provide 2,334 additional spaces for the expansion.

One problem that the mall has experienced since the last expansion is that the parking structure on Stevens Creek Boulevard gets congested, and the structures on the back side are underutilized. To address

this problem, the project will provide more direct and clearer on-site circulation aisles so that patrons more easily can find the parking structures to the rear. Also, the project will add better signage, possibly to include active parking occupancy signs, to direct patrons quickly to the available spaces.

### ***Transit Facilities***

There is an existing on-site bus transfer center along Forest Avenue that will be maintained with the expansion. It can be assumed that some of the project trips could be made by transit. Assuming up to 3% transit mode share, which is probably the highest that could be expected, yields an estimate of 43 additional transit trips during the weekday PM peak hour and 59 additional trips during the Saturday peak hour. Given that there is a major transit station located adjacent to the mall with several bus routes, these riders easily could be accommodated by the existing service.

### ***Pedestrian and Bicycle Facilities***

Currently there is busy pedestrian activity at the Stevens Creek Boulevard and Valley Fair/Santana Row intersection. The intersection serves as a major crossing point for patrons moving between Valley Fair Mall and Santana Row. Pedestrian crossing counts were completed during the Saturday peak hour. The counts indicate a total of 114 pedestrian crossings of Stevens Creek Boulevard. By comparison, the intersection of Stevens Creek Boulevard and Winchester Boulevard had 20-30 crossings of Stevens Creek Boulevard.

Despite the relatively high number of pedestrians using this intersection, the facilities are limited. Only one side of the intersection has a crosswalk over Stevens Creek Boulevard, and the sidewalk area at the corners are limited. Planned improvements include the addition of a sidewalk and crosswalk on the east side of the intersection and conversion of the exclusive right-turn lanes on Stevens Creek Boulevard to shared through-right turn lanes. The conversion of right-turn lanes will include the removal of the “pork-chop” island located at the southwest corner of the intersection. The narrowing of the Valley Fair mall entrance described above will allow for sidewalk areas at the corners to be expanded. These improvements will enhance safety.

Similarly, along Forest Avenue, the intersections of Monroe Street and Baywood Avenue serve as major pedestrian connections between the neighborhoods north of Forest Avenue and the shopping mall. Both intersections currently provide crosswalks, but do not provide protected pedestrian crossing phases. Pedestrians crossing Forest Avenue are in conflict with left-turning vehicles from Monroe Street and Baywood Avenue. Pedestrian safety would be improved with the conversion of the signals at each of the intersections to 8-phase operation. Intersection delay at the Monroe Street intersection would deteriorate slightly from LOS B to LOS C, but no change would be seen at the Baywood Avenue intersection with the conversion.

In all other respects, the existing and proposed pedestrian access and circulation at the mall is satisfactory.

The project will not affect any existing or planned bicycle facilities. There would be a small increase in bicycle travel, which could be accommodated on the existing facilities.