INITIAL STUDY

for the

COLEMAN SOCCER FIELDS

City File No. PP10-155

CITY OF SAN JOSE

NOVEMBER 2010

revised April 2011

TEXT REVISIONS TO FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION - COLEMAN SOCCER FIELDS

The following shows the text changes to the Final IS/MND for the Coleman Soccer Fields project. Additions are shown in underline and deletions are shown with ~~strikethrough~~.

Page 2, first paragraph, the second sentence is revised as follows:

> The northernmost portion of the project site (3.5_acres) is located within the jurisdiction of the City of Santa Clara, although the entire property is owned by the City of San Jose.

Page 3, under PROJECT APPROVALS, the following text is inserted after the last bullet:

- City of Santa Clara – possible encroachment permit(s)

Pages 5, 6, and 7, Figures 2-4 have been revised as shown in the attached materials.

Page 36, second paragraph under LAND USE, the first sentence is revised as follows:

> The northwest portion of the project site located within the City of Santa Clara is designated Santa Clara Station Focus Area ~~Heavy Industrial~~ in the City of Santa Clara's most current General Plan.

Page 50, the second paragraph is revised as follows:

> **Transit**. ~~Based on the very limited transit service currently provided along Coleman Avenue, it can be concluded that, without any improvements, users of the soccer fields would be unable to adequately utilize public transit to get to and from the site.~~ The VTA currently provides bus service along line 10 (Airport Flyer Service), which stops less than 1,000 feet from the site on Coleman Avenue at Aviation Avenue. This route operates on 15-minute headways during most weekdays and weekends. This route also provides direct connections to the VTA Metro/Airport light rail station and Santa Clara Transit Center. The traffic study prepared for the adjacent stadium project recommends that improvements to transit services in the study area occur in conjunction with construction of the stadium. Improvements could include providing VTA bus service directly to the soccer stadium, providing shuttle service between the soccer stadium and the Santa Clara transit center, constructing a pedestrian connection between the stadium and transit center, and providing shuttle service between the stadium and the Civic Center and Gish LRT stations on North First Street. These improvements would help to encourage the use of public transit and reduce auto usage in the area. Given the available ridership capacities of the existing bus, LRT, Caltrain, and ACE services currently serving the general project area, it is estimated that potential new riders generated by the soccer fields (and the planned soccer stadium) could be accommodated.

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Chapter 1. Background Information

PROJECT DATA

1. **Project Title:** Coleman Soccer Fields

2. **Lead Agency Name and Address:** City of San Jose Planning, Building and Code Enforcement, 200 E. Santa Clara Street, San Jose, CA 95113 Contact: John Davidson (408) 535-7895 John. Davidson@sanjoseca.gov

3. **Project Proponent:** City of San Jose Public Works Department, 200 E. Santa Clara Street, San Jose, CA 95113 Contact: Loren Rundle (408) 535-8418

4. **Project Location:** Approximately 9.5 acres west of Coleman Avenue and Aviation Drive, in the City of San Jose.

5. **Project Description:** Construct municipal soccer fields, including four lighted artificial turf soccer fields, a concession building with restroom, site furniture, parking, and landscaping.

Chapter 2. Project Description

PROJECT LOCATION

The project site is located on approximately 9.5 acres west of Coleman Avenue and Aviation Drive, north of Newhall Drive primarily within the City of San Jose. The northernmost portion of the project site is located within the jurisdiction of the City of Santa Clara, although the entire property is owned by the City of San Jose. The site was formerly occupied by FMC Corporation and most recently used for the manufacture of armored vehicles and similar equipment. The site is currently unoccupied and consists of vacant land and pavement. The property is located on portions of assessor parcels (APNs) 230-46-060, -062, and -063 (refer to Figures 1 and 2). An aerial of the project site and surrounding area is presented in Figure 3.

PROJECT DESCRIPTION

The City of San Jose Public Works Department is proposing to construct municipal soccer fields near the planned San Jose Earthquakes Soccer Stadium. The proposed project consists of four soccer fields and associated facilities, as follows:

- Four lighted artificial turf fields, measuring 75 yards X 110 yards each
- A 2,500 square-foot building containing concessions, restrooms, changing room, office, and storage
- A 3,500 square-foot covered picnic area
- Site furniture (e.g., bleachers)
- An eight-foot high chain link fence around the soccer fields
- Parking facilities
- Landscaping

A site plan of the proposed soccer fields is presented in Figure 4. The fields will be used by local and regional soccer teams and leagues for soccer practice, games, and tournaments. Each field will have a maximum capacity of 60, for an overall capacity of 240 for entire facility. The fields will generally operate on weekday evenings from 3 PM to 10 PM and weekends from 8 AM to 10 PM.

Access/Parking. The main access to the soccer fields would be provided via Aviation Avenue, with minor access provided via Newhall Drive. The project proposes to provide approximately 84 parking spaces in an onsite surface lot located at the center of the soccer facility. Parking will also be provided along the planned driveway along the northeast boundary of the soccer facility, providing approximately 158 additional spaces.

Demolition. Development of the site would require the removal of all pavement and other minor structures on the site.

Grading. Final grading for the project will be dependent on the requirements of the California Department of Toxic Substances Control, given the potential presence of hazardous materials on the site (refer to H. Hazards and Hazardous Materials of this Initial Study). As a worst-case scenario, the project is assuming a depth of excavation of 24" for permeable surfaces and 12" for non-permeable surfaces. This would result in the excavation of approximately 30,000 cubic yards of material, to be exported and/or disposed of at an authorized site. Approximately 14,500 cubic yards of clean material will be imported for fill as well as other materials including aggregate needed for base rock, to balance grading on the site.

Landscaping. The project proposes landscaping including street trees adjacent to the soccer fields. The proposed soccer fields will be composed of artificial turf. A vegetated bioswale with landscape planting is also proposed between the soccer fields and the west property boundary.

Lighting. Exterior lighting is proposed to allow for evening use of the soccer fields. The lighting plan consists of four, 70-foot high (maximum) poles for each field, with each pole containing seven 1,500 watt metal halide flood lights. Street lighting will also be provided in accordance with City standards. Please refer to Section A. Aesthetics of this Initial Study for additional discussion of the lighting plan.

Utilities. The project includes the provision of services and utilities to serve the proposed uses, including storm drainage, water, wastewater, and electricity. The existing overhead PG&E lines will be placed underground in the street adjacent to the soccer fields.

PROJECT SCHEDULE

Final project design is scheduled to begin in July 2011. Construction of the project is scheduled to start in November 2011 and take approximately one year to complete. The project will be constructed in three phases, as follows:

Phase 1: Demolition and grading: 3 months (11/11 – 2/12)
Phase 2: Construction of two north fields, parking lot and access road: 5 months (2/12 – 7/12)
Phase 3: Construction of remaining fields: 4 months (7/12 – 11/12)

PROJECT OBJECTIVES

The City of San Jose is proposing the soccer fields in order to meet the following objectives:

- Construct a voter approved bond funded soccer project.
- Provide a public outdoor recreation facility suitable for use in tournament soccer in a central location with easy access.
- Provide a soccer facility for use primarily by local and regional sports leagues with and emphasis on serving the residents of San Jose.
- Meet the increasing demands for soccer playing fields in the area.
- Achieve the goals and policies of the "Greenprint for Parks and Community Facilities and Programs" related to recreation opportunities.

PROJECT APPROVALS

The project will require the following approvals:

- City of San Jose – Environmental Clearance, Planned Development permit, approval of a design/build contract, approval of an operations and maintenance contract
- California Department of Toxic Substances Control – Approval of Soil Management Plan

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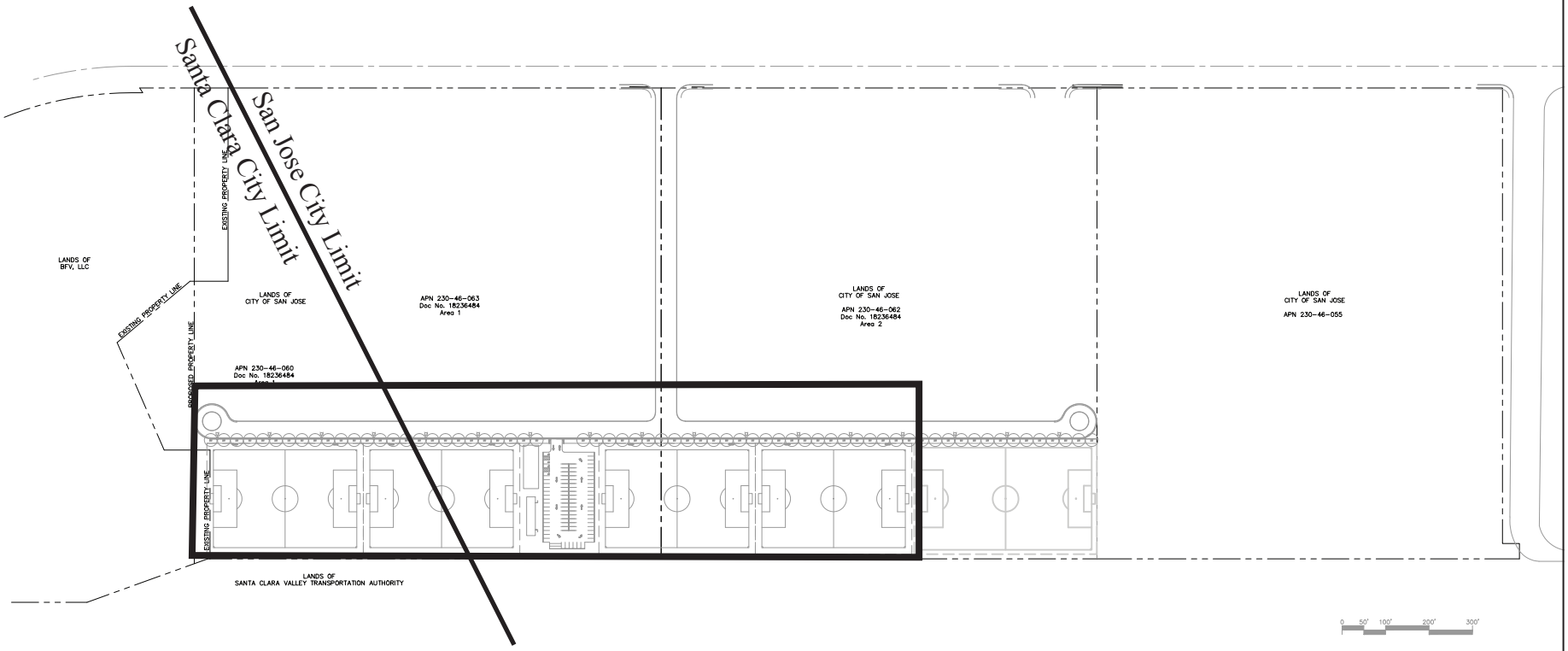
Regional Map

Figure 1

Project Boundaries



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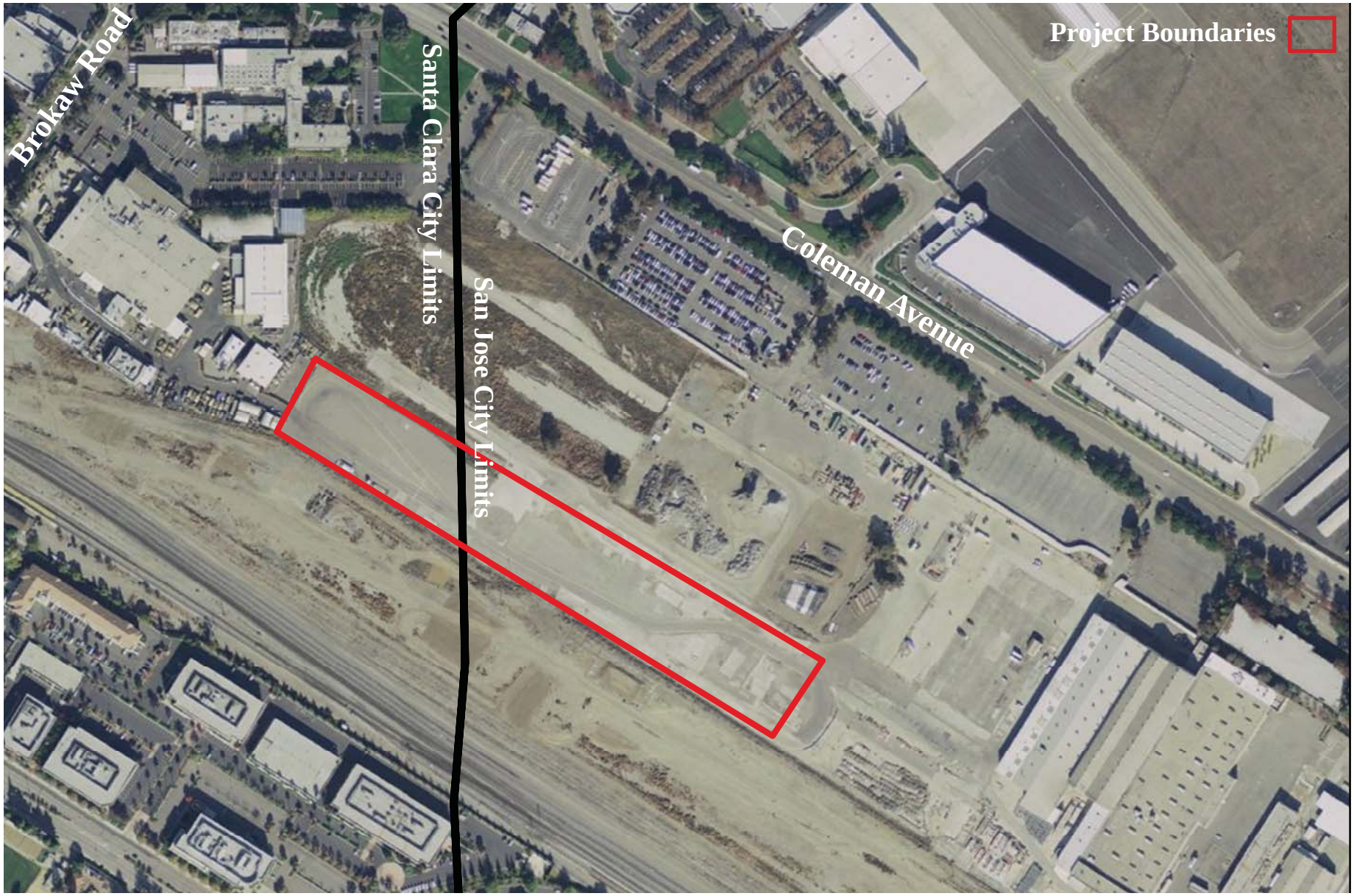
APN Map

Figure
2



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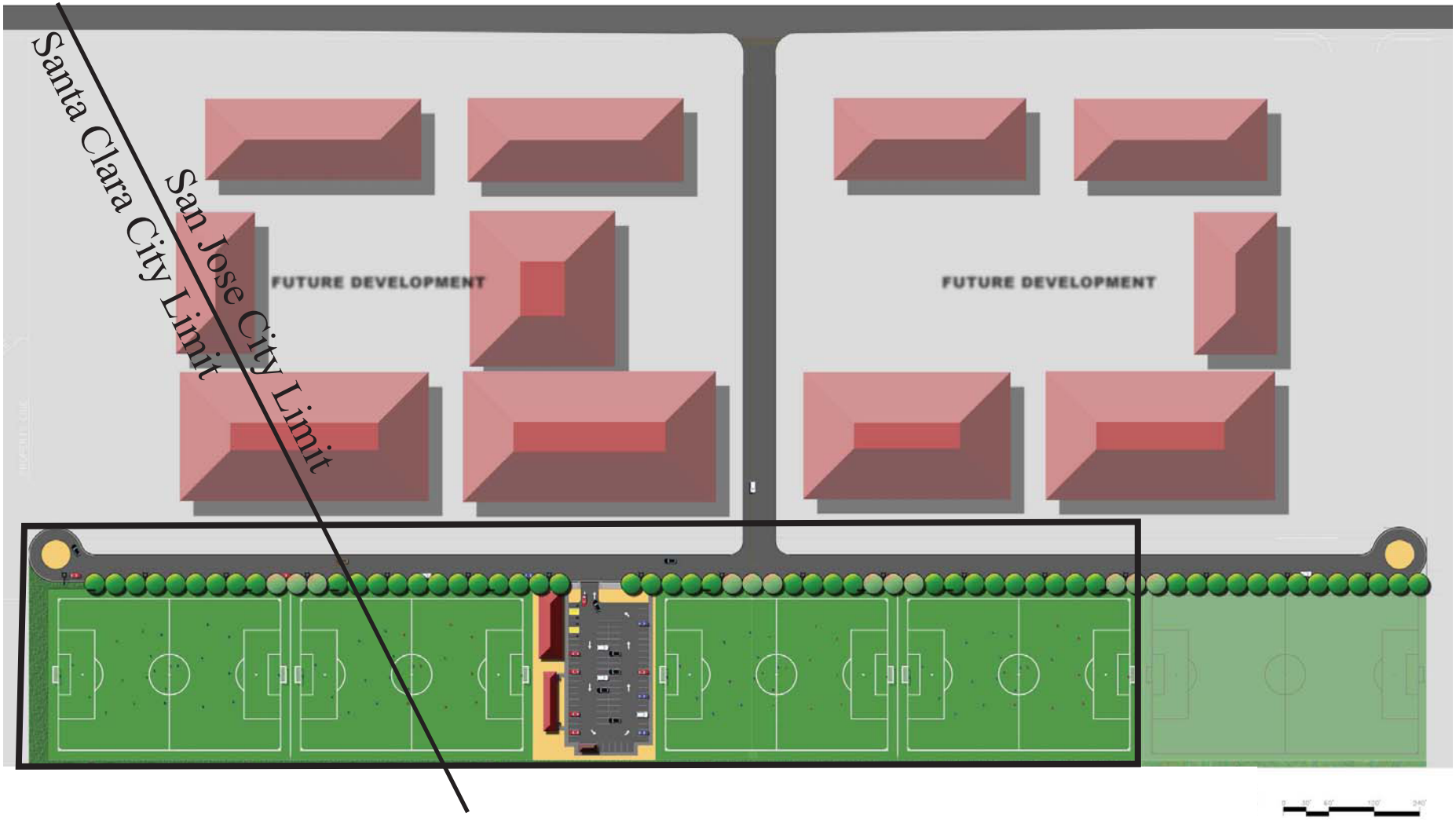
Aerial Photograph

Figure 3



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Site Plan

Figure 4

Photo 1. View of the site from the south boundary looking north.

Photo 2. View of the site from the west boundary looking southwest.

Photo 3. View of the site from the north boundary looking south.

Photo 4. View of the site from the central portion of the site looking east.

	Site Photos	Figure 5

Chapter 3. Environmental Evaluation

INTRODUCTION

This Initial Study has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA). The purpose of an Initial Study is to determine whether the proposed project could significantly affect the environment, requiring the preparation and distribution of an Environmental Impact Report. Based on the following analysis, it is concluded that the environmental impacts of the project would be less-than-significant with proposed mitigation and the project would be eligible for a Mitigated Negative Declaration.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors identified below are discussed within Chapter 3. Environmental Setting and Impacts. Sources used for analysis of environmental effects are cited in parenthesis after each discussion, and are listed in Chapter 4. References.

☒ Aesthetics	☒ Agricultural Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards/Hazardous Materials	☒ Hydrology/Water Quality
☒ Land Use/Planning	☒ Mineral Resources	☒ Noise
☒ Population/Housing	☒ Public Services	☒ Recreation
☒ Transportation/Traffic	☒ Utilities/Service Systems	☒ Mandatory Findings of Significance

ENVIRONMENTAL SETTING AND IMPACTS

The following section describes the environmental setting and identifies the environmental impacts anticipated from implementation of the proposed project. The criteria provided in the CEQA environmental checklist was used to identify potentially significant environmental impacts associated with the project. Sources used for the environmental analysis are cited in the checklist and listed in Chapter 4 of this Initial Study.

A. AESTHETICS

Setting

The visual/aesthetic character of the project site is that of a formerly developed industrial site with most structures removed. The project site consists of dilapidated pavement, a former rail line, some utilities, and weedy vegetation. Photographs of the project property are presented in Figure 5. As shown in the photos, the project site at present is visually unappealing, with no trees or other notable scenic features.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. AESTHETICS. Would the project:					
a) Have a substantial adverse effect on a scenic vista?				X	1, 2
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?				X	1, 2
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X	1, 2
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X		1, 2
e) Increase the amount of shade in public or private open space on adjacent sites?				X	1, 2

Discussion

a) **No Impact**. The proposed soccer facility will consist of four grade-level soccer fields and small single-level buildings, which will not adversely affect any views or scenic vistas. The site is generally located in an industrial and commercial area and will not impact views from existing residences.

b) **No Impact**. The project site is not located within any City or state-designated scenic routes. The project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings since none are located on the site.

c) **No Impact**. The proposed soccer fields will not substantially degrade the existing visual character or quality of the site and its surroundings. Refer also to response a) above.

d) **Less Than Significant Impact**. The proposed soccer fields include the installation of lighting for evening and night use of the soccer fields. The lighting scheme consists of the following, as shown in Figure 6:

- Four standard poles, a maximum of 70 feet in height (16 poles for all four fields)
- Seven 1,500 watt metal halide flood lamps on each pole, with light visors directed downward

The City has an Outdoor Lighting on Private Development Policy (Policy 4-3). This policy is intended to promote energy-efficient outdoor lighting adequate for nighttime activities, while allowing continued enjoyment of the night sky and operation of the Lick Observatory by reducing light pollution and sky glow. In general, the Policy requires the use of low-pressure sodium lighting for outdoor unroofed areas and requires that light fixtures be oriented downward and designed to preclude spillover light. Exceptions to the Policy are considered at the PD permit stage by the Director of PBCE and could include lighting for outdoor recreational facilities. All

exceptions are required to prepare a photometric study of the proposal, a referral to the Lick Observatory, and be subject to a public hearing. The lights proposed for the project, while not low-pressure sodium lights, qualify for an exception under Policy 4-3. One of the exceptions noted in the Policy is for outdoor recreational facilities, including facilities for field sports such as soccer.

An illumination summary (i.e., photometric study) was prepared for the proposed soccer fields by the lighting manufacturer (Musco, 2010). The summary indicates that the outdoor lighting scheme for the project will produce an average illumination of 31.01 foot-candles per field, as shown in Figure 6 (Musco, 2010). A foot-candle is the unit of measure of the intensity of light falling on a surface equal to one lumen per square foot.[1] For the project, this translates into approximately 330 lumens per square meter of soccer field. The horizontal illumination spilling off the soccer fields at 150 feet from the edge of the fields will be a maximum of 0.13 foot-candles or 1.4 lumens per square meter. All night lighting sources will be extinguished by 11 PM.

Due the height and intensity of the fixtures, the lighting from the soccer fields will be visible in the immediate area. However, the site is located in an industrial and commercial area that is generally not sensitive to night lighting sources. The nearest existing and planned residential uses are approximately 800 - 850 feet from the center of the soccer fields (to the existing residences on Dahila Loop and the future residential uses at 1270 Campbell Avenue, respectively). Residential areas to the east along Newhall Drive are located over 2,300 feet from the closest soccer field. Although the proposed night lighting of the soccer fields will increase the ambient night light levels in the immediate area, this light will not significantly adversely affect day or nighttime views in the area, based on the distance to sensitive receptors and the lighting plan that minimizes spillover light. The flat topography and development in the project area would also limit night-time lighting spillover beyond the immediate project area.

A photometric study was prepared for the proposed soccer field lighting (Musco, 2010) and will be submitted to the Director of PBCE in accordance with the exception to Policy 4.3 process.

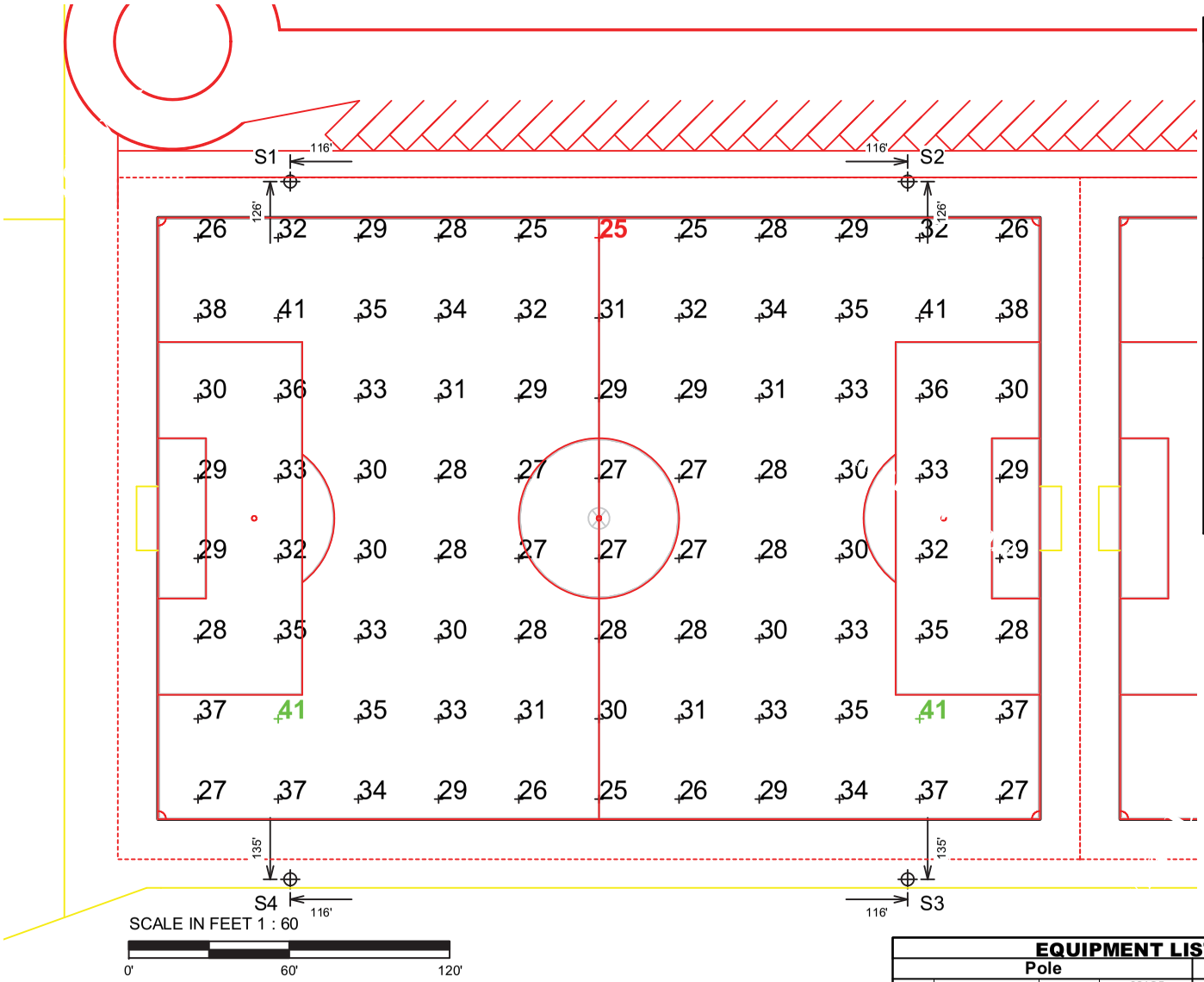
e) **No Impact**. The proposed soccer field project does not include any significant sources of shade and, therefore, will not increase the amount of shade or result in any shade impacts on adjacent public or private open space areas.

B. AGRICULTURAL AND FOREST RESOURCES

Setting

In California, agricultural land is given consideration under CEQA. According to Public Resources Code §21060.1, "agricultural land" is identified as prime farmland, farmland of statewide importance, or unique farmland, as defined by the U.S. Department of Agriculture land inventory and monitoring criteria, as modified for California. CEQA also requires consideration of impacts on lands that are under Williamson Act contracts. The project area is identified as "urban/built-up land" on the Santa Clara County Important Farmlands Map (2006).

[1] A foot-candle is technically defined as the illumination produced by a standardized candle burning at one foot from a given surface.



ILLUMINATION SUMMARY

Soccer Field #1
Coleman Avenue Soccer Complex
San Jose,CA

Soccer Field #1
· Size: 330' x 225'
· Grid Spacing = 30.0' x 30.0'
· Values given at 3.0' above grade

· Luminaire Type: Green Generation
· Rated Lamp Life: 5,000 hours
· Avg Lumens/Lamp: 134,000

CONSTANT ILLUMINATION HORIZONTAL FOOTCANDLES

	Entire Grid
No. of Target Points:	88
Average:	31.01
Maximum:	41
Minimum:	25
Avg/Min:	1.26
Max/Min:	1.66
UG (Adjacent Pts):	1.44
CV:	0.13

Average Lamp Tilt Factor:	1.000
Number of Luminaires:	28
Avg KW over 5,000:	43.79
Max KW:	47.6

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S1-S4	70'	-	70'	1500W MZ	7	7	0
4	← TOTALS →					28	28	0

Source: Musco, 2010

N

Soccer Field Lighting Plan and Illumination

Figure 6

CEQA requires the evaluation of forest and timber resources where they are present. The project site is located in an urban area that has been historically used for industrial uses. The site does not contain any forest land as defined in Public Resources Code section 12220(g)), timberland as defined by Public Resources Code section 4526, or property zoned for Timberland Production as defined by Government Code section 51104(g).

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
2. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X	3
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X	2
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?				X	2
d) Result in the loss of forest land or conversion of forest land to non-forest uses?				X	2
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X	2

Discussion

a) **No Impact**. The project site is designated as urban land on the Important Farmlands Map for Santa Clara County and does not contain any prime farmland, unique farmland, or farmland of statewide importance. The project will not affect agricultural land.

b) **No Impact**. The project site is not zoned for agricultural use and does not contain lands under Williamson Act contract; therefore no conflicts with agricultural uses will occur.

c) **No Impact**. No other changes to the environment will occur from the proposed soccer fields that will result in conversion of farmland to non-agricultural uses.

d) **No Impact**. The project site is located in an urban area that has been historically used for industrial uses. The project would not impact forest resources since the site does not contain any forest land as defined in Public Resources Code section 12220(g)), timberland as defined by Public Resources Code section 4526, or property zoned for Timberland Production as defined by Government Code section 51104(g).

e) **No Impact**. As per the discussion above, the proposed soccer fields will not involve changes in the existing environment which, due to their location or nature, could result in conversion of farmland or agricultural land, since none are present on this previously developed infill property.

C. AIR QUALITY

Setting

The project is located within the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the local agency authorized to regulate stationary air quality sources in the Bay Area. The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of specific air pollutants. Under these Acts, the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for specific "criteria" pollutants, designed to protect public health and welfare. Primary criteria pollutants include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_X), particulate matter (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). Secondary criteria pollutants include ozone (O_3), and fine particulate matter.

The BAAQMD defines sensitive receptors as facilities where sensitive population groups are located, including residences, schools, childcare centers, convalescent homes, and medical facilities. There are no sensitive receptors in the immediate project area. The nearest sensitive receptors are as follows: 1) planned residences at 1270 Campbell Avenue in Santa Clara, approximately 800 feet southwest of the site, and 2) existing residences on Dahila Loop in Santa Clara, about 850 feet southwest of the site. The other closest residential uses are to the south of the site along Newhall Street, just north of Interstate 880, which are located over 2,300 feet from the project site.

An air quality evaluation of the project was prepared by Denise Duffy & Associates, in accordance with the most recent CEQA Guidelines approved by the BAAQMD (June 2010). Technical data from the URBEMIS2007 model output and assumptions is provided in Appendix A.

The BAAQMD Guidelines establish significance criteria to judge the potential air quality impacts of project proposals. The thresholds of significance applied to this project are presented in the table below and discussed further under “Impacts and Mitigation.” Effects from greenhouse gas emissions are evaluated later in this Initial Study in Section G. Greenhouse Gas.

Adopted and Effective Air Quality Thresholds of Significance* (Source: BAAQMD CEQA Guidelines effective June 2, 2010)			
Pollutant	**Construction-Related**	**Operational-Related**	
Criteria Air Pollutant and Precursors (Regional)	**Average Daily Emissions (lb/day)**	**Average Daily Emissions (lb/day)**	**Maximum Annual Emissions (tpy)**
ROG	54	54	10
NOx	54	54	10
PM_{10}	82 (exhaust only)	82	15
$PM_{2.5}$	54 (exhaust only)	54	10
PM_{10}/ $PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs Projects other than Stationary Sources	None	1,100 MT CO2e/yr (BAAQMD guidelines provide two other options for this threshold)	
*This table includes only "Project-Level Thresholds" for Projects without a Stationary Source of Emissions. The thresholds relevant to Risk and Hazard, Hazardous Air Pollutants, and Odors are not applicable to this project based upon the lack of sources of these air pollutants in the vicinity of the project (i.e. greater than 1,000 feet from the site boundary) and the nature of the project that would not result in emissions of these pollutants in excess of screening thresholds.			

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?				X	1, 2, 4
b) Violate any air quality standard or contribute to an existing or projected air quality violation?			X		1, 2, 4
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X		1, 2, 4
d) Expose sensitive receptors to substantial pollutant concentrations?			X		1, 2, 4
e) Create objectionable odors affecting a substantial number of people?				X	1, 2

Discussion

a) **No Impact**. Although a Draft 2010 Clean Air Plan was published in March 2010, the currently applicable air quality plan for the project region is the *Bay Area 2005 Ozone Strategy*, which aims to reduce ozone levels to meet ambient air quality standards. The project is consistent with the current Clean Air Plan (2005) assumptions and projections as it is a recreational use that would not increase population or create any substantial new air pollutant emissions either directly or indirectly.

b) **Less Than Significant Impact**. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below state and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard at both federal and State levels. Carbon monoxide emissions from traffic generated by the project were evaluated using the screening criteria in the BAAQMD CEQA Guidelines. According to the screening criteria, the proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Carbon monoxide concentrations in the worst-case background plus project with Major League Soccer Game conditions would be below ambient air quality standards because the traffic volumes would be well below 10,000 vehicles per hour at all study intersections and the project is consistent with the congestion management program. The results of the screening analysis indicate that carbon monoxide levels would be below the California ambient air quality standards (used to judge the significance of the impact) of 9.0 ppm (8-hour) and 20.0 ppm (1-hour); therefore the impact is considered less than significant**.**

c) **Less Than Significant Impact**. As part of an effort to attain and maintain ambient air quality standards for ozone, PM_{10}, and $PM_{2.5}$, the BAAQMD has established thresholds of significance for regional (criteria) air pollutants and their precursors. The thresholds are for ozone precursor pollutants (reactive organic gases and nitrogen oxides), PM_{10}, and $PM_{2.5}$ are 54 lb/day, 54 lb/day, 82 lb/day, and 54 lb/day, respectively.

Operational Emissions. The traffic study for the project indicates that the proposed soccer fields would add up to 287 new daily traffic trips on a worst-case, weekend peak day, leading to increased emissions of air pollutants (Hexagon, 2010). Emissions of air pollutants associated with the project were predicted using the URBEMIS2007 model. Daily operational (indirect) and area source emissions predicted with the project are reported in Table 1 below and compared against the BAAQMD thresholds. Appendix A to this report includes the URBEMIS2007 model output.

Table 1 Projected Daily Project Emissions in Pounds Per Day				
	Modeled Worst-Case Weekend Emissions (lbs/day)			
Scenario	**Reactive Organic Gases (ROG)**	**Nitrogen Oxides (NOx)**	**Particulate Matter < 10 microns (PM_{10})**	**Particulate Matter < 2.5 microns ($PM_{2.5}$)**
Project Area Sources	0.12	0.02	0.01	0.01
Project Operation Sources	1.46	1.83	3.61	0.68
Project Total Sources	1.58	1.85	3.62	0.69
BAAQMD Thresholds	*54*	*54*	*82*	*54*

In addition, if the project is considered a "City Park" in accordance with assumptions in the BAAQMD CEQA Guidelines (Table 3-1 of the Guidelines) and the project is well below the project size screening threshold of 2,613 acres for operational emissions of criteria pollutants. Emissions associated with the project would not exceed BAAQMD thresholds for operational-related criteria air pollutant and precursors, as a result, the project would have a less-than-significant impact on regional air quality during operation.

Construction Emissions. Construction activities of the project would result in emissions of particulate matter (including PM_{10}, and $PM_{2.5}$) from fugitive dust associated with grading and excavation activities. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known Toxic Air Contaminant and contains PM_{10}, and $PM_{2.5}$. Diesel exhaust poses both a health and nuisance impact to nearby receptors. Diesel exhaust is also a substantial source of NO_x emissions that affect regional ozone levels. These construction activities would not occur near sensitive receptors (specifically, the closest receptor is approximately 800 feet from the property boundary) and would have a relatively short duration. In addition, the size of the project is well below the BAAQMD CEQA Guidelines screening criteria for construction period impacts. However, the BAAQMD CEQA Guidelines require that in addition to being below the applicable screening level size, the project must include all Basic Construction Mitigation Measures in the project design and construction-related activities must not include any of the following:

a. Demolition;
b. Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
c. Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);
d. Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
e. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

Currently, construction activities would include some demolition (pavement removal), some phasing overlap, extensive site preparation, and extensive material transport. Specifically, the project involves extensive site preparation, including material transport that may be required due to California Department of Toxic Substances Control requirements[2]. Because project construction activities would not be consistent with the screening level criteria to demonstrate a less than significant impact, the URBEMIS2007 model was used to estimate project emissions from construction activities. Table 2 shows the unmitigated construction emissions of criteria pollutants and precursors by year.

Table 2
Worst-Case Construction Criteria Air Pollutant and Precursor Emissions and Significance Determination in 2011 and 2012

Emission Source	**Emissions (lb/day)**			
	ROG	**NOx**	**PM_{10}**	**$PM_{2.5}$**
2011				
Fugitive Dust	--	--	171.7	35.9
Construction Equipment Exhaust	3.63	35.56	1.6	1.5
Total Unmitigated Emissions	*3.63*	*35.56*	*173.3*	*37.4*
BAAQMD Threshold	54	54	82 (Note 1)	54 (Note 1)
2012				
Fugitive Dust	--	--	171.7	35.9
Construction Equipment Exhaust	3.42	32.6	1.6	1.3
Total Unmitigated Emissions	*3.42*	*32.6*	*173.2*	*37.2*
BAAQMD Threshold	54	54	82 (Note 1)	54 (Note 1)

Note 1: Applies to construction equipment exhaust only and not fugitive dust; the 1.6 lbs/day of PM_{10} generated from exhaust is far below the threshold.
Analysis assumes the top 24 inches of soil from the project site would be exported ±20 miles away. It does not assume any overlap of phases as shown in Appendix A.

Based on the results of the URBEMIS 2007 analysis, the project would result in a less-than-significant impact due to emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$, because these emissions would not exceed BAAQMD thresholds. The exposure of off-site receptors to diesel exhaust during construction is discussed further under item d) below. The standard measures below would further avoid air quality impacts during construction activities.

Standard Measures

The following measures are required by law and/or are City standard conditions of approval that will be incorporated into the project.

- The project proponent and/or contractor shall implement the following "Basic" Construction Mitigation Measures Recommended for All Proposed Projects, in accordance with BAAQMD requirements:

  - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
  - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

[2] Given the potential presence of hazardous materials in on-site soils, this analysis assumes two feet of excavation across the entire project site (for a total of approximately 30,000 cubic yards).

- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted at the site with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

d) **Less Than Significant Impact**. Operation of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels because there are essentially no operational sources of pollutants onsite. Construction activities would result in localized emissions of dust and diesel exhaust that could result in temporary impacts to adjacent land uses. Implementation of "Basic" mitigation measures for construction period emissions listed above would reduce this effect to a less-than-significant level.

The BAAQMD Guidelines state that a project may be considered a sensitive receptor if it is a place where people live, play, or convalesce, or if sensitive individuals are likely to spend a significant amount of time at the site. The Guidelines include "parks" as an example of a sensitive receptor; however, the soccer fields would be used only sporadically for short periods of time (1 – 2 hours up to 5 days per week or 6 hours less than weekly for tournaments) by any one individual and rarely by "sensitive individuals." In addition, there are no substantial sources of air pollutants within 1,000 feet of the proposed soccer fields. Based on this information, the impacts of nearby, off-site sources of toxic air contaminants is considered less-than-significant.

e) **Less Than Significant Impact**. Operation of the proposed soccer fields would not create any new sources of odor. During construction, use of diesel powered vehicles and equipment could create localized odors; however, there are no sensitive receptors within about 800 feet of the project site that would be affected.

D. BIOLOGICAL RESOURCES

Setting

The project property was formerly developed with industrial uses and consists of disturbed areas of pavement and weedy vegetation. The site does not contain any trees. A chain-link fence extends along the west site of the site. The habitat value of the site is considered low, inhabited only with wildlife species that occur is highly disturbed areas, such as various bird species, western fence lizard, Botta's pocket gopher, black-tailed jack rabbit, and house mice.

A vacant field is located adjacent to the project site to the west. Recent studies have indicated that this area could provide habitat for burrowing owl. Burrowing owls (*Athene cunicularia*), a California species of special concern, are terrestrial birds typically found in open, dry annual or perennial grasslands, deserts, and scrublands. They have also been found in urban, developed areas. They prefer habitats with low-growing vegetation, and/or slightly elevated areas of bare ground and nest in burrows excavated by burrowing mammals, particularly California ground squirrels. The project site has not been identified as burrowing owl habitat. However, the land west of the site was identified as burrowing owl habitat in the 2003 FMC EIR, which indicated that burrowing owls were nested on the area west of the site between 1992 and 2000. A protocol-level survey was completed in May 2002, and no burrowing owls or signs of their presence were observed (*Final Environmental Impact Report, Airport West Stadium and Great Oaks Place Project*, January 2010).

Habitat Conservation Plans

Six local partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill) and three wildlife agencies (the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service) are in the process of designing a multispecies habitat conservation plan. The study area of the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) primarily covers southern Santa Clara County, which includes the City of San Jose with the exception of the bayland areas. A draft version is currently available for review, with the projected completion of 2010. The HCP/NCCP will address listed species and species that are likely to become listed during the plan's 50-year permit term. The covered species include, but are not limited to, western burrowing owl, California tiger salamander, and California red-legged frog. The HCP/NCCP Planning Agreement requires that the agencies comment on reportable interim projects and recommend mitigation measures or project alternatives that would help achieve the preliminary conservation objectives and not preclude important conservation planning options or connectivity between areas of high habitat value.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
4. BIOLOGICAL RESOURCES. Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X			1, 2, 5
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X	1, 2

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X	1
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X			1, 2, 5
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X	1, 6
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?			X		1

Discussion

a) **Less Than Significant Impact with Mitigation**. In the 2003 FMC EIR, the land west of the project site was identified as burrowing owl habitat and owls were present from 1992 - 2000. Although no owls were identified during a protocol-level survey in 2002, it is possible, though unlikely, that burrowing owls could locate on the project site prior to construction, which would result in a significant impact if the owls were present during construction. Mitigation is identified below to reduce this impact to a less-than-significant level.

Mitigation

- Preconstruction surveys shall be conducted for burrowing owls in accordance with the California Department of Fish and Game (CDFG) guidelines, no more than 30 days prior to the start of site grading. If no burrowing owls are found, then no further mitigation is warranted. If owls are located on or immediately adjacent to the site, a qualified burrowing owl biologist in consultation with CDFG would establish a construction-free buffer zone around the active burrow. No activities, including grading or other construction work, shall proceed until the buffer zone is established, or a CDFG approved relocation of the birds has been performed [such relocations can occur only during the non-reproductive season (September through January)]. Regardless of the time of year when burrowing owls are observed on the site, implementation of one of the following two mitigation measures is required, to the satisfaction of the Director of PBCE:

  -If preconstruction surveys confirm that burrowing owls occupy the site, then avoidance of impacts to the habitat utilized by these owls would be considered the preferred mitigation method. In order to effectively avoid habitat utilized by burrowing owls, a buffer distance of 75 meters (approximately 246 feet) shall be required during the nesting season (February 1 though August 31). During the nonnesting season, this distance could be reduced to 50 meters (approximately 164 feet). Avoidance would allow the use of areas currently occupied by burrowing owls to continue uninterrupted.

-If preconstruction surveys determine that burrowing owls occupy the site, and the Director of PBCE finds that avoiding development of occupied areas is not feasible, then the owls may be evicted outside of the breeding season, with the authorization of the CDFG. The CDFG typically only allows eviction of owls outside of the breeding season [only during the non-breeding season (September 1-January 31)] by a qualified ornithologist, and generally requires habitat compensation on off-site mitigation lands. CDFG guidelines recommend that off-site mitigation lands shall be set-aside at a ratio of 6.5 acres/pair or individual owl (if only an individual is observed). A single, large contiguous mitigation site is preferable to several smaller, separated sites. The mitigation site would preferably support owl nesting and be contiguous with or at least proximal to other lands supporting burrowing owls. Sites in the same region with a long history of burrowing owl use, or that have at least been in a suitable condition for occupancy are preferred. Grazing is compatible with burrowing owl occupancy.

b) **Less Than Significant Impact.** See a) above. The proposed soccer fields will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) **No Impact.** The project site is highly disturbed and does not contain any wetland resources and, therefore, will not adversely affect federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.).

d) **Less Than Significant Impact with Mitigation**. See a) above. If burrowing owls are present on the site at the time of preconstruction surveys, the project could significantly interfere with a migratory wildlife species. Mitigation is identified above for this impact. The project will not otherwise affect established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

e) **No Impact.** The proposed soccer fields will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The City's Tree Ordinance is not applicable since the project site does not contain trees.

f) **Less Than Significant Impact**. The project site is located within the boundaries of the Santa Clara Valley HCP/NCCP. The HCP/NCCP Planning Agreement requires that the agencies comment on reportable interim projects and recommend mitigation measures or project alternatives that would help achieve the preliminary conservation objectives. Since the project lies within the interim referral area and may affect natural communities, a referral is required. The project would be consistent with the HCP through the referral process. The project, therefore, would not conflict with the provisions of the HCP/NCCP.

E. CULTURAL RESOURCES

Setting

The project site does not contain any structures, with the exception of pavement and various utility structures. The property does not contain any historic structures. The site was previously occupied by FMC and used for a variety of manufacturing uses from about 1948 to 2002, more recently the development and testing of armored military vehicles.

An archaeological study was completed by Basin Research and Associates for the larger 90+ acre FMC site, which included the project property, in May 1997. The study included an archival search and reconnaissance level surface survey. The purpose of the surface reconnaissance was to search for surface indicators of potential prehistoric or historic archaeological resources. The study is on file with the City of San Jose. No evidence of archaeological resources was found during the archaeological study, although the site is about one mile southwest of the Guadalupe River and would have provided a favorable environment for aboriginal populations. In addition, numerous prehistoric sites have been recorded within several miles of the site. Based on the archaeological study, the project area is considered moderately to highly sensitive for buried cultural resources.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
5. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA 15064.5?				X	1, 2
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA 15064.5?			X		1, 2, 5
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	1, 2
d) Disturb any human remains, including those interred outside of formal cemeteries?			X		1, 2

Discussion

a) **No Impact**. The project site is does not contain any structures besides pavement and utilities. Previous investigation that included the project property did not identify any historic buildings or other structures on the project site.

b) **Less Than Significant Impact**. The project site and area are considered moderately to highly sensitive for buried cultural resources. However, no surface or subsurface evidence of significant prehistoric or historic archaeological resources was observed during the 1997 field survey. It is possible given the sensitivity of site that cultural resources may be encountered during construction activities. Standard measures are identified below to avoid impacts associated with disturbance to buried archaeological resources during construction.

c) **No Impact**. The project site is disturbed and not known to contain any paleontological resources.

d) **Less Than Significant Impact**. Though unlikely, human remains may be encountered during construction activities. Standard measures are identified below to avoid impacts associated with disturbance to human remains.

Standard Measures

The following measures are required by law and/or are City standard conditions of approval that will be incorporated into the project.

- Should evidence of prehistoric cultural resources be discovered during construction, work within 50 feet of the find shall be stopped to allow adequate time for evaluation and mitigation by a qualified professional archaeologist. If evidence of any archaeological, cultural, and/or historical deposits is found, hand excavation and/or mechanical excavation shall proceed to evaluate the deposits for determination of significance as defined by CEQA guidelines. The archaeologist shall submit reports, to the satisfaction of the City's Environmental Principal Planner, describing the testing program and subsequent results. These reports shall identify any program mitigation that the developer shall complete in order to mitigate archaeological impacts (including resource recovery and/or avoidance testing and analysis, removal, reburial, and duration of archaeological resources).

- As required by County ordinance, the project shall incorporate the following guidelines. Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

F. GEOLOGY AND SOILS

Setting

Geotechnical studies completed in the vicinity show that the project area is underlain by highly variable marine and stream deposits that consist of clay and silt that are moderately compressible and will settle as new loads are applied. Interbedded within the marine deposits are discontinuous buried stream deposits that consist of sand and gravel. The soils at the site could exhibit a high or very high potential for expansion. Due to the generally flat topography of the site, there is no erosion or landslide hazard. The groundwater table in the area fluctuates seasonally and ranges in depth from approximately four to nine feet.

The project site is located within the seismically active San Francisco Bay Area. Active fault systems within the project region include the San Andreas, the Calaveras, and the Hayward. In addition, the site is located in an area of high liquefaction potential. Based on soil borings from the adjacent stadium site, the sand beneath the site could liquefy during a strong earthquake, and ground failure could occur based on the site's liquefaction potential. Based on site investigations and the type of soil in the area and the relatively level topography of the site, the hazard of lateral spreading is low.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS		Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
6.	GEOLOGY AND SOILS. Would the project:					
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i)	Rupture of a know earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				X	1, 2, 5
ii)	Strong seismic ground shaking?			X		1, 2, 5
iii)	Seismic-related ground failure, including liquefaction?			X		1, 2, 5
iv)	Landslides?				X	1, 2
b)	Result in substantial soil erosion or the loss of topsoil?			X		1, 2, 5
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X	1, 2
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X		1, 2, 5
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X	1, 2

Discussion

ai) **No Impact**. Surface rupture occurs along lines of previous faulting. The project site is not located on any faults and is not subject to rupture. In addition, the project is not mapped within an Alquist-Priolo Earthquake Fault Zone.

aii) **Less Than Significant Impact**. Due to its location in a seismically active region, the proposed soccer facility may be subject to strong seismic ground shaking during its design life in the event of a major earthquake on any of the region's active faults. The only structures at risk are the proposed buildings and underground infrastructure. Seismic impacts will be minimized by using standard engineering and construction techniques in compliance with the requirements of the California and Uniform Building Codes for Seismic Zone 4, as identified below under standard measures.

aiii) **Less Than Significant Impact**. As described above, the project site may be subject to strong ground shaking in the event of a major earthquake. Because the potential for liquefaction on the site is considered high, liquefaction, ground failure, and differential settlement could occur during an earthquake. Impacts associated with these hazards will be minimized by using standard

engineering and construction techniques in compliance with the requirements of the California and Uniform Building Codes for Seismic Zone 4.

aiv) **No Impact**. The proposed project site has no appreciable vertical relief and will not be subject to landsliding.

b) **Less Than Significant Impact**. Development of the project will require excavation to develop the site and to mitigate for the presence of hazardous materials (refer to H. Hazards and Hazardous Materials of this Initial Study). Construction will require pavement removal and grading activities that could result in a temporary increase in erosion. This increase in erosion is expected to be minimal, due to the flatness of the site. In addition, the project will implement the standard measures identified in Section I. Hydrology and Water Quality of this Initial Study to minimize erosion and water quality impacts.

c) **No Impact**. The project site is not subject to landslide, lateral spreading, subsidence, or collapse.

d) **Less Than Significant Impact**. The project is located in area of expansive soils, which can expand and contract, potentially damaging proposed improvements on the site. Impacts associated with expansive soils will be minimized by using standard engineering and construction techniques for expansive soils in the development of the proposed buildings and infrastructure, in compliance with the requirements of the California and Uniform Building Codes for Seismic Zone 4.

e) **No Impact**. The project does not include any septic systems. The proposed restroom building will tie into the City's existing sanitary sewer system.

Standard Measure

The City will implement the following standard measure as part of the project.

- The proposed soccer facility will be designed and constructed in conformance with the Uniform Building Code Guidelines for Seismic Zone 4 to avoid or minimize potential damage from seismic shaking on the site.

G. GREENHOUSE GAS EMISSIONS

Setting

Various gases in the earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for enhancing the

greenhouse effect. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. A byproduct of fossil fuel combustion is CO_2. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills. CO_2 accounts for approximately 85% of total GHG emissions from human sources, and methane and nitrous oxide account for almost 14%.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are of regional and local concern, respectively. California is the 12th to 16th largest emitter of CO_2 in the world and produced 492 million gross metric tons of carbon dioxide equivalents in 2004. Carbon dioxide equivalents (CO_2e) are a measurement used to account for the fact that various GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Regulatory Environment

Global climate change resulting from greenhouse gas emissions is an emerging environmental concern at the international, national, statewide, and local levels. A summary of the more recent strategies in place is provided below.

Federal

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2002, the U.S. announced a strategy to reduce the greenhouse gas intensity of the American economy by 18 percent over the 10-year period from 2002 to 2012. To date, the U.S. EPA has not regulated GHGs under the Clean Air Plan.

State

AB 1493. California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, required the California Air Resources Board (CARB) to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light-duty trucks. Regulations adopted by CARB apply to 2009 and later-model-year vehicles. However, the regulation was stalled by automaker lawsuits and the EPA's refusal to grant California an implementation waiver. However, the EPA later granted California's waiver June 30, 2009, enabling California to enforce AB 1493.

Executive Order S-3-05. Governor Schwarzenegger signed Executive Order S 3 05 on June 1, 2005, which established the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

Executive Order S-01-07. Executive Order S-01-07 was signed by the Governor on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of

California's transportation fuels by at least 10 percent by 2020. It also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

SB 97. Senate Bill 97 was passed in August 2007 and added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

AB 32. In 2006, the California State Legislature enacted AB 32, the California Global Warming Solutions Act. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by 2020. CARB is the state agency charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases. CARB approved the Climate Change Scoping Plan (Scoping Plan) in December 2008. The Scoping Plan outlines actions to obtain the goal set out in AB 32 of reducing emissions to 1990 levels by 2020. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health". The measures in the Scoping Plan will be in place by 2012. The Scoping Plan's recommendations for reducing greenhouse gas emissions to 1990 levels by 2020 providing for emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, and Voluntary Early Actions and Reductions.

SB 375. California Senate Bill 375 passed on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states that "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Executive Order S-13-08. Pursuant to the requirements in this Executive Order, in December 2009 the California Natural Resources Agency released its 2009 California Climate Adaptation Strategy. The Strategy is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Regional

The BAAQMD recently released its updated CEQA Guidelines that contain methodology and thresholds of significance for evaluating GHG emissions. The BAAQMD thresholds were develop specifically for the Bay Area after considering the latest Bay Area GHG inventory and the effects of AB 32 scoping plan measures that would reduce regional emissions. BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions with AB 32 scoping plan measures and the AB 32 targets. The BAAQMD thresholds apply to projects with emissions of 1,100 metric tons of CO2e (carbon dioxide equivalency) or greater. Additional discussion of the BAAQMD CEQA Guidelines as they apply to GHGs is provided below under "Impacts."

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
7. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		1, 4
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X		1, 4

Discussion

a) **Less Than Significant Impact**. To determine whether or not the proposed project would generate greenhouse gas (GHG) emissions that may have a significant impact on the environment, Denise Duffy & Associates prepared an evaluation of air quality in accordance with the most recent BAAQMD CEQA Guidelines (June 2010). The BAAQMD identifies screening levels based on project size and thresholds of significance for GHG emissions. The project is a 9.5-acre soccer facility with four soccer fields. A "City Park," as designated by the BAAQMD Guidelines, would be anticipated to result in similar operational emissions of GHGs as the project, therefore, that land use was used to apply the screening criteria. The screening criteria project size for a City Park that would trigger the requirement for a quantitative GHG analysis is 67 acres or more, which is seven times the size of the proposed project. In order to determine the annual quantity of GHGs emitted by the project during operation, URBEMIS2007 and the Bay Area Greenhouse Gas Model (BGM) were used and the results compared to the non-stationary source project-level threshold of 1,100 metric tons (MT) of CO_2e/year. Table 3 presents the results of the URBEMIS and BGM model analysis. Assumptions are contained in the technical data provided in Appendix A.

As shown in Table 3 below, the project would not exceed the 1,100 MT of CO_2e/yr GHG threshold of significance applied to this project and, therefore, would result in a less-than-significant impact related to GHG emissions.

Table 3
Project Operation Greenhouse Gas Emissions

Sector[1]	**Unmitigated Project CO_2e (metric tons/year)**
Transportation	322.99
Area Source	0.23
Electricity[2]	55.85
Total	**378.84**
BAAQMD Threshold	*1,100*

[1] Natural gas, water & wastewater, solid waste, agriculture, off-road equipment, and refrigerants are negligible sources of CO_2e relative to the project.
[2] Analysis assumes that lighting of the fields and other electricity demand at the site would require about 153 megawatt-hours of electricity demand annually.

b) **Less Than Significant Impact**. The project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases because the proposed project is well below the BAAQMD thresholds for land development projects and will not conflict with the early action measures applicable to this project.

H. HAZARDS AND HAZARDOUS MATERIALS

Setting

Hazardous Materials Contamination

The following discussion is based on information provided in the 2003 Final EIR for the FMC Coleman PD Rezoning, and by FMC Corporation and Treadwell & Rollo in January 2008, as documented in the Final Environmental Impact Report for the Airport West Stadium and Great Oaks Place Project (January 2010).

The project site is part of a larger area previously owned by FMC. Past use of the site by FMC for manufacturing of military vehicles included the use of hazardous materials and generation of hazardous wastes. Numerous soil and groundwater remediation activities have occurred on the FMC property and groundwater remediation activities are currently ongoing. The property is under the regulatory oversight of the Cal/EPA Department of Toxic Substances Control (DTSC) as part of Corrective Action Consent Agreements entered into by FMC Corporation as part of the Resource Conservation and Recovery Act (RCRA) facility closures.

DTSC has divided the larger FMC site into three remediation areas: the Central Plant, Test Track, and Plant 7 areas. The project site is located within a portion of the Test Track area. The project site is also located within a portion of the 328 West Brokaw Road (BAE) property, which is located north of the Test Track area, and currently under the regulatory oversight of the San Francisco Bay Regional Quality Control Board (RWQCB).

The Test Track area has completed a portion of the RCRA Corrective Measures process including soil remedial measures, has DTSC land use covenants restricting land use activities, and has groundwater extraction and treatment systems operating to control off-site migration of contaminated groundwater. Due to the remaining groundwater extraction and treatment systems, the Test Track Area has attained regulatory closure under the Consent Agreement. The project site currently contains six groundwater monitoring wells associated with the groundwater remediation efforts.

A DTSC land use covenant for the Test Track area that restricts land use to commercial use was entered into by FMC in 2002. The land use covenant covers all of the Test Track area except for the portion north of the Santa Clara/San Jose border (covered under another covenant as described below). A single groundwater extraction well and associated treatment system was identified as the interim measure for groundwater boundary capture. Based on interim measures work, the following applied to the Test Track area:

- Soil – All required soil excavation was completed meet the DTSC-approved risk-based target levels for construction/excavation workers. The maximum known concentrations remaining in the soil have been determined to be within acceptable indoor air health risk concentrations for commercial land use. A large portion of TCE-contaminated soil was previously excavated and aerated under DTSC approval and a BAAQMD permit, then placed back in the ground. Petroleum- and metals-affected soils were excavated and removed from the area.

- Groundwater – Only site-wide groundwater monitoring and the continued operation of the groundwater extraction system located near Coleman Avenue (including the single extraction well, associated pumps, carbon treatment, and discharge to a storm drain under NPDES permit) are required and implemented. The groundwater system is intended to capture the water at the northern boundary of the site (with monitoring to verify the capture) and will likely be operated until site groundwater meets drinking water standards. No other additional groundwater remediation is planned or required. Because the extraction system will operate into the future, it is likely that the single extraction well along Coleman will need to remain on the site and the on-site monitoring wells will need to be accessible for groundwater monitoring.

- Soil Waste Disposal – soil remediation activities have been conducted to the risk-based target levels at the Test Track area. Based on past evaluations, there is a potential that undiscovered contaminated soil exists on the site.

The 328 West Brokaw Road (BAE) property is located north of the Test Track area and is under the regulatory oversight of the San Francisco Bay Regional Quality Control Board (RWQCB) and has undergone remedial activities for volatile organic compounds in soil and groundwater. A land use covenant for 328 West Brokaw Road restricts the use of groundwater (i.e., no water supply wells) and requires that development of the equivalent of a soil management plan. The area included in the covenant includes the Santa Clara portion of the Test Track Area, which contains a portion of the project site.

A Soils Management Plan (SMP) is currently being prepared by the City of San Jose for the Test Track area. This Plan is being developed in consultation with FMC and DTSC to provide specific direction on how to proceed with remediation of soils if concentrations above cleanup levels are encountered during excavation and redevelopment activities. This Plan will include identification of acceptable clean-up levels and directives on proper management of contaminated materials in accordance with state regulatory requirements.

The project site also contains six groundwater monitoring wells that cannot be destroyed while ongoing groundwater monitoring is being conducted on the FMC property. The City may be able to relocate these wells or lower their elevation to accommodate redevelopment efforts, based on consultation and approval by FMC and DTSC.

Airport Hazards

In 1992, the Airport Land Use Commission (ALUC) adopted the Comprehensive Land Use Plan (CLUP) for Santa Clara County, which provides for orderly growth of the areas surrounding the public airports in the county, including the Norman Y. Mineta San Jose International Airport (San Jose Airport). The Plan is intended to minimize the public's exposure to excessive noise and safety hazards and establishes provisions for the regulation of land use, building height, safety, and noise insulation within areas near county airports.

The project site located within the ALUC's project referral boundary for San Jose Airport. Proposals for amendments to general or specific plans and either building or zoning regulations by local agencies must be submitted to the ALUC for a determination of consistency. Recommendations made by the ALUC are advisory to local jurisdictions, not mandatory. The ALUC is in the process of updating their CLUP for Santa Clara County for the San Jose Airport to be adopted later in 2010. The project site is not located within any airport safety zones and is outside the airport's noise contour.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
7. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X		1, 2, 5
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X		1, 2, 5
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?			X		1, 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X		1, 2
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			X		1, 2, 7
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X	1, 2
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X	1, 2
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X	1, 2

Discussion

a) **Less Than Significant Impact**. Construction of the soccer fields on the project site could expose construction workers and/or the public to hazardous materials associated with the removal and/or transport of contaminated soils, if present. The soccer facility will not involve the routine transport, use, or disposal of hazardous materials during regular, post-construction operations. Removal, relocation, and/or transportation of any contaminated soils will be conducted under the direction and approval of DTSC and in accordance with all regulatory requirements. The City will also implement a Soils Management Plan (SMP) during construction, which is currently being developed. Implementation of the SMP and adherence to all regulatory requirements will reduce exposure of hazardous materials to workers and prevent exposure to the public, resulting in a less-than-significant impact.

b) **Less Than Significant Impact**. See a) above.

c) **Less Than Significant Impact**. The project is located about within about ¼ mile of the University of Santa Clara. As described in response a) above, the project will not result in the release of hazardous materials with implementation of the Soils Management Plan to be overseen by DTSC and adherence to all regulatory requirements.

e) **Less Than Significant Impact**. The project is located on a portion of the larger FMC site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese Act). It is identified as a Cleanup Program Site that is currently under remediation. The site is currently under active remediation overseen by DTSC. The City will comply with all remediation requirements, including protection of existing monitoring wells and appropriate management of onsite soils. This represents a less-than-significant impact. Refer also to a) above.

f) **No Impact**. The project site is located within two miles of the San Jose Airport. The project site is located outside off all safety zones for the airport but does lie within the ALUC's project referral boundary for San Jose Airport. The project proposal must be submitted to the ALUC for a determination of consistency. However, the development of the soccer fields will not result in a safety hazard for people residing or working in the project area since the project consists of four at-grade soccer fields with minor appurtenant structures and is located outside the airport's safety zones.

g) **No Impact**. The project is not located within two miles of a private airstrip.

g) **No Impact**. The proposed soccer facility will not interfere with any evacuation plans.

h) **No Impact**. The proposed soccer facility will not expose people or structures to risk from wildland fires as it is not in an area prone to such fires.

I. HYDROLOGY AND WATER QUALITY

Setting

There are no waterways present on the project site or immediate vicinity. The nearest waterway is the Guadalupe River, located approximately one mile to the east. The site overlies the Santa Clara groundwater basin. Depth to groundwater varies seasonally, generally located five to seven feet below ground surface. The site has an on-site drainage system from the previous uses that ties into the City's existing drainage system in Coleman Avenue.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), most of the project site is located within Zone D, defined as an area of undetermined, but possible, flood hazards.

New construction in San Jose is subject to the conditions of the City's National Pollutant Discharge Elimination System (NPDES) Permit, which was reissued by the RWQCB in February 2001. Additional water quality control measures were approved in October 2001 (revised in 2005), when the RWQCB adopted an amendment to the NPDES permit for Santa Clara County. This amendment, which is commonly referred to as "C3" requires all new and redevelopment projects that result in the addition or replacement of impervious surfaces totaling 10,000 square feet or more to 1) include storm water treatment measures; 2) ensure that the treatment measures be designed to treat an optimal volume or flow of storm water runoff from the project site; and 3) ensure that storm water treatment measures are

properly installed, operated and maintained. A new Municipal Regional Stormwater NPDES Permit was recently adopted by the RWQCB on October 14, 2009.

The City has developed a policy that implements Provision C.3 of the NPDES Permit, requiring new development projects to include specific construction and post-construction measures for improving the water quality of urban runoff to the maximum extent feasible. The City's Post-Construction Urban Runoff Management Policy (6-29) established general guidelines and minimum BMPs for specified land uses, and includes the requirement of regular maintenance to ensure their effectiveness. The City has also adopted the Post-Construction Hydromodification Management Policy (8-14) to manage development-related increases in peak runoff flow, volume and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation or other impacts to local rivers, streams and creeks.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
8. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements?				X	1, 2
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (for example, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X	1, 2
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.			X		1, 2
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X	1, 2
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X	1, 2
f) Otherwise substantially degrade water quality?			X		1, 2
g) Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X	1, 2, 8
h) Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?				X	1, 2, 8
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X		1, 2, 5
j) Inundation by seiche, tsunami, or mudflow?				X	1, 2

Discussion

a) **No Impact**. The proposed soccer field facility will not violate any water quality standards or waste discharge requirements as described in the responses below, specifically c) and e).

b) **No Impact**. The proposed artificial turf soccer fields will not deplete or otherwise affect groundwater supplies or recharge, since the project is not located within groundwater recharge area.

c) **Less Than Significant Impact**. Construction of the project will require pavement removal and grading activities that could result in a temporary increase in erosion affecting the quality of storm water runoff. This increase in erosion is expected to be minimal, due to the flatness of the site. The project will also implement the standard measures identified below to minimize erosion and water quality effects. Surface runoff from proposed development may generate urban pollutants from driveway and parking areas that could impact water quality. These pollutants include oil, grease, and trace metals from roadway pavement. Again, these pollutants will be controlled through implementation of a Storm Water Management Plan, to be developed in accordance with the standard measures set forth below.

d) **No Impact**. The project is not expected to substantially increase the amount of impervious surfaces on the site, since the existing property is already highly disturbed, compacted, and/or covered with pavement. The project would not result in any increase in flood potential, since it would not increase peak runoff flows.

e) **No Impact**. The project proposes to connect to the City's existing storm drainage system and is not expected to contribute runoff that will exceed the capacity of existing or planned storm water drainage systems or result in substantial additional sources of polluted runoff.

f) **Less Than Significant Impact**. The project will not substantially degrade water quality, as described above under c) and e).

g) **No Impact**. The project does not propose the development of any housing within a floodplain or flood hazard zone.

h) **No Impact**. The project site is not located within any flood hazard zones, thus it will not impede or redirect flood flows.

i) **Less Than Significant Impact**. The project site is located within the inundation area for Lenihan Dam, at the Lexington Reservoir. Lenihan Dam is operated by the Santa Clara Valley Water District and is designed for seismic safety and adequate freeboard. The District's comprehensive dam safety program further assures public safety. This represents a less-than-significant impact.

j) **No Impact**. The project site is not located in an area subject to significant seiche, tsunami, or mudflow risk.

Standard Measures

The following measures are required by law and/or are City standard conditions of approval that will be incorporated into the project.

Construction Measures

- Obtain and comply with the NPDES General Construction Activity Storm Water Permit. Prior to construction, the developer shall file a Notice of Intent and prepare a Storm Water Pollution Prevention Plan (SWPPP).
- Restrict grading to the dry season or meet City requirements for grading during the rainy season.
- Use BMPs to retain sediment on the project site.
- Place burlap bags filled with drain rock around storm drains to route sediment and other debris away from the drains.
- Provide temporary cover of disturbed surfaces to help control erosion during construction.
- Provide permanent cover to stabilize the disturbed surfaces.

Post-Construction Measures

- Incorporate permanent, post-construction storm water treatment measures in compliance with provision C.3 of the City of San Jose's NPDES Permit in the form of a Storm Water Management Plan. Proposed post-construction BMPs and design features that may be contained in the Storm Water Management Plan include the construction of vegetated swales, installation of underground treatment units, and landscaping features to control and treat runoff.

J. LAND USE

Setting

The majority of the project site is located within the City of San Jose with the very northwest portion located in the City of Santa Clara. The entire site is owned by the City of San Jose. The portion of the site within San Jose is designated Combined Industrial/Commercial (CIC) in the City's General Plan Land Use Transportation Diagram. The CIC land use designation is intended for commercial, office, or industrial uses or a compatible mixture of these uses. The property is zoned A(PD) Planned Development, which allows uses in the CP Pedestrian Commercial Zoning District. Outdoor recreational uses are allowed in the CP district, subject to a Conditional Use permit. In PD zoning districts, this requires a Planned Development permit.

The northwest portion of the project site located within the City of Santa Clara is designated Heavy Industrial in the City of Santa Clara's General Plan. The site is zoned ML Light Manufacturing. Since this project is located on property owned by the City of San Jose and being used for governmental purposes, the City does not have to apply to Santa Clara for a land use approval, provided they inform the Santa Clara Planning Division of the proposed action.

The project site is located southwest of Coleman Avenue and northeast of the active Union Pacific Railroad (UPRR) lines. The site is located near the Mineta San Jose International Airport and the immediate project vicinity is largely comprised of industrial and airport-related uses. Specifically, the site is surrounded by the San Jose Earthquakes practice soccer field directly to the south, an industrial business to the north, a vacant grassy parcel and UPRR tracks to the west, and vacant portions of the former FMC property and airport parking to the east. An 18,000-seat major league soccer stadium is currently planned south of the proposed soccer fields for use primarily for San Jose Earthquakes soccer

games. The closest residential uses to the project site are located southwest of the site and UPRR railroad tracks, east of Campbell Avenue and north of Newhall Street (refer to Appendix B).

The project site is part of a larger 92.5-acre area with an approved general development plan allowing up to 3.0 million square feet of office/research and development (R&D). This development plan also allows an undetermined amount of hotel, retail, and commercial uses provided total development on the 92.5-acre site does not exceed the traffic performance criteria that are equivalent to the traffic that would result from the 3.0 million square feet of new office/R&D development. In October 2008, the City approved a conforming planned development rezoning to clarify development capacity on the property, modify the building setbacks, revise vehicular and pedestrian circulation, and other minor revisions to the development standards of the existing PD zoning district. This conformed PD rezoning clarified that the development of approximately 1.5 million square feet of office/R&D, 75,000 square feet of retail, and 300 rooms of hotel uses would not exceed the traffic performance criteria that would result from the previously approved 2.25 million square feet of new office/R&D development.

The larger 92.5 acre site has historically been used for industrial uses. In 1948, the Food Machinery and Chemical Corporation constructed a machinery plant on this larger site for the manufacture of agricultural and fire fighting equipment. The company was later awarded a government contract to construct armored personnel vehicles. In 1951, the company's corporate offices were moved to the site. In 1960, the Food Machinery and Chemical Corporation changed its name to FMC Corporation (FMC) and was then in the business of manufacturing and modifying armored personnel vehicles, pumps and sprayers, and airline handling equipment on the site, from 1951 to 1998.

Soil and groundwater remediation activities have been completed for the 92.5 acre site and groundwater remediation activities are ongoing. The investigation and remediation activities are under the jurisdiction of the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC). The remediation activities have been conducted in accordance with a Corrective Action Consent Agreement between FMC and DTSC.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
9. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?				X	1, 2
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X	1, 6
c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?				X	1

Discussion

a) **No Impact**. The project is proposed on an infill site in an urban area that that was formerly in industrial uses. Surrounding uses include industrial and commercial development, vacant land, and recreational uses. The development of four soccer fields will not physically divide an established community, since the nearest residential areas are more than 800 feet from the site.

   The proposed recreational use is generally compatible with surrounding industrial and commercial businesses and directly compatible with the existing practice soccer field and planned soccer stadium to the south. The proposed soccer facility is proposed within a 92.5-acre area that is entitled for a mix of office, R&D, hotel, retail, and commercial uses. This recreational use will be compatible with the future entitled uses, especially given the restrictions on operating hours.

b) **No Impact**. The project is consistent with the City's General Plan policies to provide additional soccer and recreational facilities in the area. The project will not conflict with any applicable land use plan, policy, or regulation, since any adverse impacts of the soccer fields will be avoided through standard and mitigation measures identified by the project or in this Initial Study. As described in 2. Project Description, the project is proposed to the meet the following objectives of the City:

   - Construct a voter approved bond funded soccer project.
   - Provide a public outdoor recreation facility suitable for use in tournament soccer in a central location with easy access.
   - Provide a soccer facility for use primarily by local and regional sports leagues with and emphasis on serving the residents of San Jose.
   - Meet the increasing demands for soccer playing fields in the area.
   - Achieve the goals and policies of the "Greenprint for Parks and Community Facilities and Programs" related to recreation opportunities.

c) **No Impact**. The project is located within the boundaries of the draft Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan, and will comply with the requirements of this plan as described in D. Biological Resources of this Initial Study.

K. MINERAL RESOURCES

Setting

Under the Surface Mining and Reclamation Act of 1975 (SMARA), the State Mining and Geology Board has designated only the Communications Hill Area of San Jose as containing mineral deposits of regional significance for aggregate (Sector EE). There are no mineral resources in the project area. Neither the State Geologist nor the State Mining and Geology Board has classified any other areas in San Jose as containing mineral deposits that are of statewide significance or for which the significance requires further evaluation. Other than the Communications Hill area cited above, San Jose does not have mineral deposits subject to SMARA. The project site is outside of the Communications Hill area.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
10. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X	1, 2
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X	1, 2

Discussion

a-b) **No Impact**. The project site is located outside the Communications Hill area, the only area in San Jose containing mineral deposits subject to SMARA; therefore, the project will not result in a significant impact from the loss of availability of a known mineral resource.

L. NOISE

Setting

The following discussion is based on a noise analysis prepared for the project by Illingworth & Rodkin, Inc. (July 2010). This study is contained in Appendix B. This analysis evaluates the potential noise impacts of the project.

Noise is measured in decibels (dB), and is typically characterized using the A-weighted sound level or dBA. This scale gives greater weight to the frequencies to which the human ear is most sensitive. Ground vibration is generally correlated with the velocity of the ground, which is also expressed in decibels.

Regulatory Setting

The Cities of Santa Clara and San Jose have established guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. These plans and policies are contained in the following documents: 1) City of Santa Clara General Plan, 2) the City of Santa Clara Municipal Code, 3) the City of San Jose General Plan Noise Element, and 4) the City of San Jose Municipal Code, as summarized below. Those requirements that apply to the proposed project are discussed below.

City of Santa Clara General Plan: The City of Santa Clara is currently updating the General Plan and anticipates adopting the new General plan in mid-2010. The Environmental Quality Element of the current General Plan establishes policies to control noise within the community. Applicable policies are as follows:

Policy 20. Protect to the extent possible existing developed areas of the City of Santa Clara from unacceptable noise levels.

Policy 21. Reduce transportation generated noise within the City of Santa Clara where feasible.

Policy 22. Comply with City, State, and Federal guidelines for the compatibility of land uses with their noise environments, except where the City determines that there are prevailing circumstances of a unique or special nature.

Policy 24. Reduce noise from fixed sources, construction, and special events.

City of Santa Clara Municipal Code. The City's Municipal Code establishes noise level performance standards for fixed sources of noise. Noise levels generated by a fixed source of noise, defined as, "…a stationary device which creates sound or vibration while operating in a fixed or stationary position, including, but not limited to, residential, agricultural, industrial, and commercial machinery and equipment, pumps, fans, compressors, air conditioners, and refrigeration equipment…" would be limited to 55 dBA during daytime hours (7 AM to 10 PM) and to 50 dBA at night (10 PM to 7 AM) at nearby single-family or multiple-family residential land uses. These limits are reduced by 5 dBA if the alleged offensive sound or noise contains music or speech conveying informational content. The City's Municipal Code does not regulate mobile sources of noise. A mobile noise source is defined as, "…any noise, sound, or vibration source other than a fixed noise, sound, or vibration source, including but not limited to vehicles, hand-held power equipment, and portable music amplifiers…"

City of San Jose General Plan: The Noise Element of the City of San Jose's 2020 Plan identifies noise and land use compatibility standards for various land uses. The City's goal is to, "...minimize the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies." Residential land uses are considered "satisfactory" up to 60 dBA DNL as the short-range exterior noise quality level, and 55 dBA DNL as the long-range exterior noise quality level. The guidelines state that where the exterior DNL is above the "satisfactory" limit (between 60 and 70 dBA DNL), and the project requires a full EIR, an acoustical analysis should be made indicating the amount of attenuation necessary to maintain an indoor level of a DNL less than or equal to 45 dBA. Noise levels exceeding 70 dBA DNL require that new development would only be permitted if uses are entirely indoors and building design limits interior levels to less than or equal to 45 dBA DNL. Outside activity areas should be permitted if site planning and noise barriers result in levels of 60 dBA DNL or less. Applicable policies in the Noise Element are as follows:

Policy 1. The City's acceptable noise level objectives are 55 dBA Ldn as the long-range exterior noise quality level, 60 dBA Ldn as the short-range exterior noise quality level, 45 dBA Ldn as the interior noise quality level, and 76 dBA Ldn as the maximum exterior noise level necessary to avoid significant adverse health effects. These objectives are established for the City, recognizing that the attainment of exterior noise quality levels in the environs of the San Jose International Airport, the Downtown Core Area, and along major roadways may not be achieved in the time frame of this Plan. To achieve the noise objectives, the City requires appropriate site and building design, building construction and noise attenuation techniques in new residential development.

Policy 11. When located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses, non-residential land uses should mitigate noise generation to meet the 55 dBA Ldn guideline at the property line.

Policy 12. Noise studies should be required for land use proposals where known or suspected peak event noise sources occur which may impact adjacent or planned land uses.

City of San Jose Zoning Ordinance: The City's Municipal Code contains a Zoning Ordinance that limits noise levels at any residential property to 55 dBA. The code is not explicit in terms of the acoustical descriptor associated with the noise level limit. A reasonable interpretation of this standard has been made based on similar codes of other Bay Area communities. This analysis assumes that the intent of the code is to limit noise levels at any residential property to 55 dBA Leq.

Existing Noise Environment

The project site is located within both the Cities of Santa Clara and San Jose, southwest of Coleman Avenue and northeast of the active Union Pacific Railroad lines. The project vicinity is largely comprised of industrial and airport related uses. While the project includes recreational uses, the soccer activities on the site are not considered noise-sensitive. Sensitive receptors in the project area consist of planned and existing residential uses. The closest residential uses to the project site are located southwest of the railroad tracks off of Campbell Avenue (refer to Appendix B). The primary noise sources in these residential areas consist of rail, freeway, roadway and aircraft generated noise.

Illingworth & Rodkin conducted noise-monitoring surveys in the closest residential areas for other projects between 2004 and 2009. The locations of these surveys are shown in Appendix B and summarized in Table 4 below. The noise measurement results indicate that noise levels at the residential uses in the project vicinity currently exceed an Ldn of 60 dBA and are exposed to average daytime levels above the 55 dBA municipal code limits of both San Jose and Santa Clara.

Table 4
Summary of Existing Noise Measurement Data

	Average Measured Noise Levels, dBA						
Location & Date (Month/Year)	Daytime L_{max}	Daytime L_{eq}	Daytime L_{min}	Nighttime L_{max}	Nighttime L_{eq}	Nighttime L_{min}	**L_{dn}**
LT-1: Newhall at Waco Street (Feb. '08)	76	62	54	65	56	49	**66**
LT-2: East corner Dahlia Loop: 30 ft to track. (Jan. '04)	82	64	59	76	60	56	**68**
LT-3: West Corner 1270 Campbell: 65 ft to track. (May '09)	91	66	48	88	62	44	**69**
LT-4: 1270 Campbell at 2nd level: 140 ft to track. (May '09)	86	64	50	84	60	47	**67**

The noise consultant has conducted noise measurements from soccer games at numerous locations throughout the Bay Area. Noise measurements have been made during typical playfield activities such as practice, games, and special events such as playoff games and all-star competitions (representing credible "worst-case" conditions). While there is a range in the noise levels generated, depending upon the number of participants and spectators, noise levels from players and spectators are typically at or below 47 dBA at 500 feet from the center of the playfield, with occasional shouts at or below 58 dBA and referee whistles at between 62 to 64 dBA. Noise measurements of public address (PA) systems for recreational field sports also show that a typical PA system use can produce noise levels between 60 and 67 dBA at 500 feet from the center of the playfield, with an overall average level of 62 dBA at this distance.

An evaluation of noise impacts is presented below under "Impacts." A significant impact would be identified for sensitive land uses near the project if they would be exposed to noise levels exceeding standards set forth in either the City of San Jose or Santa Clara General Plan Noise Element or Noise Ordinance Limits. According to CEQA, a significant noise impact would result if noise levels increase substantially at noise-sensitive land uses. Although CEQA does not define what noise level increase would be considered significant, typically in higher noise environments (i.e. greater than 60 dBA Ldn), an increase of 3 dBA Ldn or more due to the project would be considered significant.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
11. NOISE. Would the project result in					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?			X		9
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?				X	9
c) Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X		9
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X		9
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X		9
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X	9

Discussion

a) **Less Than Significant Impact**. The noise analysis considered the potential noise impacts of the project from operational, construction, and traffic sources, as described below.

Project Operational Noise. A review of the proximity of the proposed soccer field facility to the closest existing and planned residential uses indicates that the center of the playing fields would approximately 800 to 850 feet from the existing residences on Dahila Loop and the future residential use at 1270 Campbell Avenue. The residential area to the south adjacent to Newhall Street would be over 2,300 feet from the closest playfield. Lights at the soccer fields would be extinguished at or before 11 PM, therefore, for the purposes of this noise evaluation, the facility would be considered a daytime use. Under credible worst-case conditions with all four soccer fields and PA systems in use at the same time, average sound levels would be between 48 - 55 dBA at the closest residential uses. With all four soccer fields in use without a PA system, these levels would drop to between 46 - 53 dBA at the closest residences. Under lower, perhaps more typical use conditions with only two fields in concurrent use with and without a PA system

operating, the average noise levels at the closest residential uses would be between 45 - 54 dBA with a PA system, and between 43 - 52 dBA without a PA system. Results of the analysis of noise produced under all of these scenarios at the nearby residential areas are shown in Table 5. This table also presents the existing average daytime maximum (L_{max}), average (L_{eq}), and minimum (L_{min}) sound levels measured in the nearby residential areas.

Table 5
Playfield Usage and Daytime Ambient Noise at Adjacent Residential Areas

Condition	1270 Campbell Residential	Dahlia Loop Residential	Newhall Street Residential
All 4 fields in use with PA	55	54	48
All 4 fields in use without PA	53	52	46
2 fields in use with PA	54	53	45
2 fields in use without PA	52	51	43
Ambient Daytime Levels			
Average L_{max}	91	82	76
Average L_{eq}	**66**	**64**	**62**
Average L_{min}	48	59	54

When the average sound levels for playfield usage are compared with the sound levels measured at the closest residential uses, the average sound levels for the analyzed conditions may exceed *minimum* ambient noise levels (L_{min}) at the 1270 Campbell residences, however the sound levels produced by all use conditions would be below the *average* ambient (L_{eq}) levels at all of the adjacent residential uses, and will not exceed 55 dBA at these residential uses. The average sound levels for playfield usage would be below the daytime ambient average (L_{eq}) levels at all nearby residential uses. Noise from use of the soccer fields would not exceed 55 dBA at nearby residences nor would it result in any measurable increase in hourly average Ldn levels at nearby residential uses. Based on these results, operational noise from the proposed project would result in a less-than-significant noise impact on nearby noise sensitive uses.

Traffic Noise. Based on a review of the traffic report prepared for the project by Hexagon Transportation Consultants, project related traffic would increase existing and background noise levels on all area roadways by less than 1 dBA, with the exception of the noise levels on Aviation Avenue at the site access point. Existing noise levels on Aviation Avenue southwest of Coleman Avenue) would increase by 4 dBA with the addition of project related traffic, but background noise levels on the site access road would increase by less than 1 dBA with the addition of project related traffic. Based on the review of existing, background, project, future without project, and future with project traffic volumes, project generated traffic will result in an increase of less than 1 dBA over existing or background (cumulative) conditions. This noise level increase would not meet the CEQA standard for a substantial or perceptible increase in noise; therefore, noise impacts resulting from project-generated traffic will be less-than-significant.

Construction Noise. Noise will be generated on the site during construction activities. This would temporarily elevate noise levels in the immediate project area from the use of construction equipment. Typical hourly average construction generated noise levels would range from about 77 to 89 dBA L_{eq}, measured at a distance of 50 feet from the center of the construction site, during busy construction periods. At the nearest noise sensitive residential uses, these levels would be between 52 and 64 dBA during busy construction periods. These levels are below the ambient average daytime noise levels and would have a less-than-significant noise impact on the nearest sensitive uses.

b) **No Impact.** The proposed soccer fields are not sensitive to groundborne vibration. In addition, the fields would not introduce any sources of groundborne vibration affecting nearby sensitive receptors.

c) **Less Than Significant Impact.** Temporary noise would occur during construction of the project, which is addressed under item a).

d) **Less Than Significant Impact**. Construction of the project will result in short-term noise increases in the project vicinity. This is addressed under item a) above.

e) **Less Than Significant Impact**. The project is located within an airport land use plan for San Jose International, but is outside the noise impact zone (65 dBA CNEL contour) for the airport. In addition, the proposed soccer field use is not noise sensitive.

f) **No Impact.** The project is not located near any private airstrips.

M. POPULATION AND HOUSING

Setting

The population of the City of San Jose is approximately 1,023,000 (California Department of Finance, January 2010). The project does not include any housing and will not generate demand for additional jobs or housing.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
12. POPULATION AND HOUSING. Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X	1
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X	1
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X	1

Discussion

a) **No Impact**. The project consists of construction of four soccer fields and will not result in substantial population growth in an area.

b) **No Impact**. The proposed soccer fields are located on a vacant infill property and will not displace any housing.

c) **No Impact**. The project will not displace any people, necessitating the construction of replacement housing.

N. PUBLIC SERVICES

Setting

Public services are generally provided to the community as a whole, and financed on a community-wide basis. The proposed soccer fields are located on a previously developed site in an urban area that is served by municipal providers.

Police protection services are provided to the project site by the San Jose Police Department (SJPD).

Fire protection services are provided to the project site by the San Jose Fire Department (SJFD). The nearest fire station to the project site is Station 7 located at 800 Emory Street.

The project does not propose any residential development and, therefore, will not affect school and park services.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
13. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
a) Fire protection?			X		1
b) Police protection?			X		1
c) Schools?				X	1
d) Parks?				X	1
e) Other public facilities?			X		1

Discussion

a) **Less Than Significant Impact**. The project would result in an incremental increase in the demand for fire protection services from development of the soccer fields. The City will consult with the San Jose Fire Department during final project design to assure appropriate fire safety measures are incorporated. The project would not significantly impact fire protection services or require the construction of new or remodeled facilities.

b) **Less Than Significant Impact**. The project would result in an incremental increase in the demand for police protection services from the development of the soccer fields. The City will consult with the San Jose Police Department during final project design to assure appropriate security measures are incorporated. The project would not significantly impact police protection services or require the construction of new or remodeled facilities.

c) **No Impact**. The project consists of soccer fields and appurtenant structures and does not propose any residential uses that will increase demands on school services.

d) **No Impact**. The project consists of soccer fields and appurtenant structures and does not propose any residential uses that will increase demands on park services. The project will offer the community recreational opportunities associated with the new soccer fields.

e) **Less Than Significant Impact**. The proposed soccer fields will be operated and maintained by the City of San Jose Department of Public Works, Parks Recreation and Neighborhood Services Division (PRNS). The increase in operation and maintenance costs would be financed through the City's General Fund. Thus, the project would not adversely impact the overall operations of PRNS.

O. RECREATION

Setting

The project does not propose any residential development and, therefore, will not affect school and park services.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
14. RECREATION. Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X	1
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				X	1

Discussion

a)–b) **No Impact**. The proposed soccer fields are intended to help meet the need for recreational facilities in the form of four soccer fields open to the public. This would not adversely impact recreational services, but would have a positive effect on such facilities by augmenting recreational acreage within the City. The project would not be subject to the City's adopted Parkland Dedication Ordinance and Park Impact Ordinance, since it does not involve any new residential development.

P. TRANSPORTATION

Setting

The following section is based on a traffic impact analysis prepared for the project by Hexagon Transportation Consultants, Inc. and contained in Appendix C of this Initial Study. The project site is located west of Coleman Avenue and north of Newhall Drive, just west of the San Jose International Airport. Local access is provided via Coleman Avenue. Regional access is provided by Interstate 880 (I-880).

Traffic Study

The traffic study evaluated the project in accordance with the standards set forth by the Cities of San Jose and Santa Clara, and included an analysis of weekday PM peak hour conditions for seven signalized intersections on Coleman Avenue, listed below.[3] For informational purposes, the traffic study also included evaluation of Saturday midday peak hour traffic conditions for the two intersections that would provide direct access to the site (Aviation and Newhall). The weekday PM peak hour of traffic generally occurs between 4 PM and 6 PM and the Saturday midday peak typically occurs between 1 PM and 3 PM. The soccer fields are expected to generate a negligible amount of traffic during weekday mornings, therefore the weekday AM peak hour was not analyzed.

1. Coleman Avenue and Hedding Street
2. Coleman Avenue and I-880 Northbound Ramps
3. Coleman Avenue and I-880 Southbound Ramps
4. Coleman Avenue and Airport Boulevard
5. Coleman Avenue and Newhall Drive (access intersection)
6. Coleman Avenue and Aviation Avenue (access intersection)
7. Coleman Avenue and Brokaw Road

The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. The recommended trip generation rates for use in San Jose for most types of development are detailed in the San Jose Impact Analysis Handbook, August 2008. The City, however, has not established trip rates for soccer fields. Therefore, for the purpose of the traffic study, site-generated traffic was estimated using the vehicular trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 8th Edition, 2008. Based on these ITE trip rates, the project would generate 285 daily vehicle trips, with 83 trips occurring during the weekday PM peak and 115 trips occurring during the Saturday midday period.

The peak hour trips generated by the proposed project were assigned to the surrounding roadway network in accordance with the trip distribution pattern. For the purpose of the traffic analysis, it was assumed that 60 percent of project-generated traffic would access the soccer fields via Aviation Avenue, while the remaining 40 percent would access the soccer fields via Newhall Street.

[3] Since the project would generate fewer than 100 PM peak hour vehicle trips, an analysis in accordance with the Santa Clara County Congestion Management Program was not required.

Traffic conditions were evaluated using level of service (LOS) calculations for the peak hours. LOS is a qualitative description of operating conditions ranging from LOS A (free flow conditions with little or no delay) to LOS F (jammed conditions with excessive delays). Traffic conditions were evaluated for 1) existing conditions, 2) background conditions, 3) project conditions, and 4) project conditions plus traffic from Saturday events at the adjacent planned Major League Soccer Stadium.[4]

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts on all seven study intersections are based on City of San Jose and City of Santa Clara Level of Service standards, which are identical. The project is said to create a significant adverse impact on traffic conditions at a signalized intersection if for the weekday PM 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 (4) or more seconds and the volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
16. TRANSPORTATION/TRAFFIC. Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X		10
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X		10
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X	1, 2

[4] This scenario evaluates only the weekday PM peak hour since a Saturday soccer game would be held during the evening hours and outside the mid-day peak. During a simultaneous game at the Stadium, access via Newhall Drive to the project site would not be possible, thus all project traffic was assigned to/from the site via Aviation Avenue.

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
d) Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?				X	1, 2
e) Result in inadequate emergency access?			X		1, 2
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X		1, 2, 10

Discussion

a) **Less Than Significant Impact**. The traffic study considered the potential impacts from project generated trips at seven intersections. The Cities of San Jose and Santa Clara both have a level of service (LOS) standard of D. The results of the intersection level of service analysis are summarized in Table 6 below.

Table 6
Intersection Level of Service Summary

Intersection	Peak Hour	Existing		Background		Project			
		Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS	Incr in Crit Delay	Incr in Crit LOS
Coleman Ave/Hedding	PM	29.5	C	32.7	C	32.8	C	0.1	0.003
Coleman Ave/I-880 NB Ramps	PM	16.9	B	19.8	B	19.9	B	0.2	0.006
Coleman Ave/I-880 SB Ramps	PM	9.1	A	13.5	B	13.9	B	0.6	0.010
Coleman Ave/Airport Blvd	PM	8.5	A	11.7	B	11.7	B	0	0.003
Coleman Ave/Newhall Dr	PM	11.8	B	50.4	D	50.4	D	2.1	0.006
	Sat	23.6	C	15.5	B	15.5	B	0.6	0.015
Coleman Ave/Aviation Ave	PM	7.2	A	36.6	D	36.6	D	4.0	0.026
	Sat	9.1	A	9.1	A	9.1	B	1.7	0.015
Coleman Ave/Brokaw Rd	PM	45.0	D	45.6	D	D	D	0.8	0.003

The results of the analysis in Table 6 show that, based on the City of San Jose and City of Santa Clara level of service criteria, none of the study intersections will be significantly impacted by project generated traffic. The two study intersections that would provide access to the project site will also operate at acceptable levels during the Saturday midday period.

b) **Less Than Significant Impact**. See item a) above. Since the project would generate fewer than 100 PM peak hour vehicle trips, an analysis in accordance with the Santa Clara County Congestion Management Program (CMP) was not required.

c) **No Impact**. The proposed soccer field facility consists of four at-grade soccer fields and will not change or otherwise affect air traffic patterns.

d) **No Impact**. The proposed soccer fields will not substantially increase hazards due to a design feature or incompatible uses.

e) **Less Than Significant Impact**. The proposed project is located in an area with more than one access and will not result in inadequate emergency access.

f) **Less Than Significant Impact**. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities as per the discussion below.

Transit. Based on the very limited transit service currently provided along Coleman Avenue, it can be concluded that, without any improvements, users of the soccer fields would be unable to adequately utilize public transit to get to and from the site. The traffic study prepared for the adjacent stadium project recommends that improvements to transit services in the study area occur in conjunction with construction of the stadium. Improvements could include providing VTA bus service directly to the soccer stadium, providing shuttle service between the soccer stadium and the Santa Clara transit center, constructing a pedestrian connection between the stadium and transit center, and providing shuttle service between the stadium and the Civic Center and Gish LRT stations on North First Street. These improvements would help to encourage the use of public transit and reduce auto usage in the area. Given the available ridership capacities of the existing bus, LRT, Caltrain, and ACE services currently serving the general project area, it is estimated that potential new riders generated by the soccer fields (and the planned soccer stadium) could be accommodated.

Bike Facilities. County-designated bicycle facilities exist on Coleman Avenue but are intermittent. Bike lanes begin just north of Newhall Street and extend south, terminating at Hedding Street. Bike lanes do not exist between Hedding Street and Taylor Street, but pick up again at Taylor Street, terminating once again at Santa Teresa Street near the SR 87 overpass. Due to the sporadic nature of the bike lanes in the area, the number of soccer field facility users arriving by bicycle most likely would be low. According to the Transportation Bicycle Network contained in the City of San Jose 2020 General Plan, future bike lanes are planned along Coleman Avenue between De La Cruz Boulevard and Market Street where they currently do not exist. However, even with a continuous network of bike lanes, usage by soccer players most likely would be low.

Pedestrian Facilities. Pedestrian facilities in the project area consist of sidewalks along Coleman Avenue and Newhall Drive. Some patrons may use the sidewalks to access the site, although there are few residential areas within easy walking distance. The project will not conflict with any pedestrian facility programs or decrease the performance or safety of such facilities

Q. UTILITIES AND SERVICE SYSTEMS

Setting

Utilities and services are furnished to the project site by the following providers:

- Wastewater Treatment: treatment and disposal provided by the San Jose/Santa Clara Water Pollution Control Plant (WPCP); sanitary sewer lines maintained by the City of San Jose
- Water Service: San Jose Water Company
- Storm Drainage: City of San Jose
- Solid Waste: Various
- Natural Gas & Electricity: PG&E

Impacts and Mitigation

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
16. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X	1, 2
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction or which could cause significant environmental effects?			X		1, 2
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X	1, 2
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X	1
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X		1
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X	1
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X	1

Discussion

a) **No Impact**. The project is construction of four soccer fields with one restroom facility and will not exceed or impact wastewater treatment requirements of the applicable Regional Water Quality Control Board.

b) **Less Than Significant Impact**. The proposed soccer fields will consist of artificial turf. The only water use will be for the proposed restroom and landscaping. Construction of the project may require some water for dust suppression Wastewater would be generated by construction of the new restroom facility; however, wastewater demand is not expected to be substantial from the proposed soccer fields. With the exception of line extensions, the project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.

c) **No Impact**. The project proposes to connect to the City's existing storm drainage system and is not expected to contribute runoff that will exceed the capacity of existing or planned storm water drainage systems. A Storm Water Management Plan will be developed and implemented as part of the proposed project.

d) **No Impact**. See b) above.

e) **Less Than Significant Impact**. See items a) and b) above.

f)-g) **No Impact**. The project will not generate substantial solid waste that would adversely affect any landfills.

R. MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL IMPACTS	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
17. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X			1, 2, 5
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.			X		1, 2, 5, 10
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X		1

Discussion

a) **Less Than Significant Impact with Mitigation**. Based on the analysis provided in this Initial Study, the proposed soccer fields will not substantially degrade or reduce wildlife species or habitat, or impact historic or other cultural resources with incorporation of the standard and mitigation measures identified herein.

b)-c) **Less Than Significant Impact**. Based on the analysis provided in this Initial Study, the proposed soccer fields will not have significant cumulative impacts, nor will it cause substantial adverse effects on humans.

Chapter 4. References

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BIBLIOGRAPHY

Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines*, revised June 2010.

Bay Area Air Quality Management District, Draft Clean Air Plan, March 2010.

Bay Area Air Quality Management District, *Bay Area 2005 Ozone Strategy*

California Department of Conservation, *Santa Clara County Important Farmlands Map*, accessed online 2010.

City of San Jose, *Final Environmental Impact Report, Airport West Stadium and Great Oaks Place Project,* January 2010.

City of San Jose, *San Jose 2020 General Plan*, as amended through 2009.

Hexagon Transportation Consultants, Inc., *Coleman Avenue Soccer Complex Draft Transportation Impact Analysis,* July 2010.

Illingworth & Rodkin, Inc., *Coleman Avenue Soccer Complex Project Environmental Noise Assessment San Jose/Santa Clara, California,* July 2010.

Musco Green Generation Lighting, Illumination Summary for the Coleman Soccer Fields, 2010.

Santa Clara County Airport Land Use Commission, *Land Use Plan for Areas Surrounding San Jose International Airport,* adopted September 1992, amended October 2007 and November 19, 2008.

CHECKLIST SOURCES

1. CEQA Guidelines and professional expertise of consultant
2. Project Plan and Site Review
3. Important Farmlands Map, 2008
4. BAAQMD CEQA Guidelines, 2010
5. Final Environmental Impact Report, Airport West Stadium and Great Oaks Place Project, January 2010
6. San Jose 2020 General Plan
7. San Jose International Airport Land Use Plan, 2008
8. FEMA Flood Maps
9. Noise Assessment, 2010
10. Traffic Impact Study, 2010

APPENDIX A
AIR QUALITY DATA

7/30/2010 11:56:41 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\aimamura\Application Data\Urbemis\Version9a\Projects\CSJ Soccer Complex 7_29_10 wc.urb924

Project Name: City of San Jose Soccer Complex

Project Location: Santa Clara County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	3.63	35.56	16.99	0.02	171.71	1.61	173.32	35.87	1.48	37.35	4,346.78
2012 TOTALS (lbs/day unmitigated)	3.42	32.58	16.05	0.02	171.71	1.45	173.17	35.87	1.33	37.20	4,346.84

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.12	0.02	1.55	0.00	0.01	0.01	2.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.44	1.84	20.07	0.02	3.63	0.69	2,007.08

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.56	1.86	21.62	0.02	3.64	0.70	2,009.89

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 11/1/2011-11/2/2011 Active Days: 2	1.13	7.96	5.94	0.00	0.85	0.57	1.42	0.18	0.53	0.71	913.95

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Demolition 11/01/2011-11/02/2011	1.13	7.96	5.94	0.00	0.85	0.57	1.42	0.18	0.53	0.71	913.95
Fugitive Dust	0.00	0.00	0.00	0.00	0.84	0.00	0.84	0.17	0.00	0.17	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.04	0.68	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	111.83
Demo Worker Trips	0.04	0.06	1.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.81
Time Slice 11/3/2011-12/31/2011 Active Days: 51	3.63	35.56	16.99	0.02	171.71	1.61	173.32	35.87	1.48	37.35	4,346.78
Mass Grading 11/03/2011-02/16/2012	3.63	35.56	16.99	0.02	171.71	1.61	173.32	35.87	1.48	37.35	4,346.78
Mass Grading Dust	0.00	0.00	0.00	0.00	171.64	0.00	171.64	35.85	0.00	35.85	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	0.77	12.06	3.89	0.02	0.07	0.43	0.50	0.02	0.40	0.42	1,997.65
Mass Grading Worker Trips	0.04	0.06	1.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.81
Time Slice 1/2/2012-2/16/2012 Active Days: 40	3.42	32.58	16.05	0.02	171.71	1.45	173.17	35.87	1.33	37.20	4,346.84
Mass Grading 11/03/2011-02/16/2012	3.42	32.58	16.05	0.02	171.71	1.45	173.17	35.87	1.33	37.20	4,346.84
Mass Grading Dust	0.00	0.00	0.00	0.00	171.64	0.00	171.64	35.85	0.00	35.85	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.70	10.57	3.48	0.02	0.07	0.38	0.45	0.02	0.35	0.37	1,997.65
Mass Grading Worker Trips	0.03	0.06	1.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.87
Time Slice 2/17/2012-2/28/2012 Active Days: 8	1.84	15.30	9.07	0.00	0.00	0.74	0.74	0.00	0.68	0.68	1,816.51
Trenching 02/17/2012-02/28/2012	1.84	15.30	9.07	0.00	0.00	0.74	0.74	0.00	0.68	0.68	1,816.51
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.03	0.06	1.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.87
Time Slice 3/1/2012-3/30/2012 Active Days: 22	2.72	22.00	12.57	0.00	24.98	1.07	26.06	5.22	0.99	6.21	2,349.19
Fine Grading 03/01/2012-03/31/2012	2.72	22.00	12.57	0.00	24.98	1.07	26.06	5.22	0.99	6.21	2,349.19
Fine Grading Dust	0.00	0.00	0.00	0.00	24.98	0.00	24.98	5.22	0.00	5.22	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.87
Time Slice 4/2/2012-5/15/2012 Active Days: 32	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building 04/01/2012-05/15/2012	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 5/16/2012-5/31/2012 Active Days: 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating 05/16/2012-05/31/2012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 6/1/2012-7/13/2012 Active Days: 31	2.64	14.95	11.27	0.00	0.01	1.26	1.28	0.00	1.16	1.17	1,567.42
Asphalt 06/01/2012-07/13/2012	2.64	14.95	11.27	0.00	0.01	1.26	1.28	0.00	1.16	1.17	1,567.42
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,272.04
Paving On Road Diesel	0.03	0.48	0.16	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.63
Paving Worker Trips	0.07	0.12	2.12	0.00	0.01	0.01	0.02	0.00	0.00	0.01	203.75
Time Slice 7/16/2012-11/9/2012 Active Days: 85	2.72	22.00	12.57	0.00	47.60	1.07	48.68	9.94	0.99	10.93	2,349.19
Fine Grading 07/16/2012-11/09/2012	2.72	22.00	12.57	0.00	47.60	1.07	48.68	9.94	0.99	10.93	2,349.19
Fine Grading Dust	0.00	0.00	0.00	0.00	47.60	0.00	47.60	9.94	0.00	9.94	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.87

Phase Assumptions

Phase: Demolition 11/1/2011 - 11/2/2011 - Minor structures on the site - Phase 1

Building Volume Total (cubic feet): 50000

Building Volume Daily (cubic feet): 2000

On Road Truck Travel (VMT): 27.78

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 3/1/2012 - 3/31/2012 - Laying artificial turf - Phase 2

Total Acres Disturbed: 9.5

Maximum Daily Acreage Disturbed: 2.38

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 10 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Fine Grading 7/16/2012 - 11/9/2012 - Laying artificial turf - Phase 3

Total Acres Disturbed: 9.5

Maximum Daily Acreage Disturbed: 2.38

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/3/2011 - 2/16/2012 - 1 foot under paved areas; 2 feet under fields

Total Acres Disturbed: 9.5

Maximum Daily Acreage Disturbed: 2.38

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 0 cubic yards/day; Offsite Cut/Fill: 336 cubic yards/day

On Road Truck Travel (VMT): 496.19

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 2/17/2012 - 2/28/2012 - utilities - Phase 2

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/1/2012 - 7/13/2012 - All Paving - Phase 2

Acres to be Paved: 2.38

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/1/2012 - 5/15/2012 - 2060 sf concession/restroom/office/locker Phase 2

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 5/16/2012 - 5/31/2012 - coating of above ground structures - Phase2

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.00						
TOTALS (lbs/day, unmitigated)	0.12	0.02	1.55	0.00	0.01	0.01	2.81

Area Source Changes to Defaults

Percent nonresidential using natural gas changed from 100% to 0%

Operational Unmitigated Detail Report:

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OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Soccer Complex	1.44	1.84	20.07	0.02	3.63	0.69	2,007.08
TOTALS (lbs/day, unmitigated)	1.44	1.84	20.07	0.02	3.63	0.69	2,007.08

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Soccer Complex		287.00	unknown	1.00	287.00	2,115.62
					287.00	2,115.62

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.2	0.5	99.3	0.2
Light Truck < 3750 lbs	11.8	1.7	95.8	2.5
Light Truck 3751-5750 lbs	20.6	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.2	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.7	0.0	71.4	28.6
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.8	0.0	25.0	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	2.9	62.1	37.9	0.0
School Bus	0.1	0.0	0.0	100.0

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Motor Home		0.7	0.0		85.7	14.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Soccer Complex				1.0	0.5	98.5

APPENDIX B
NOISE ASSESSMENT

COLEMAN AVENUE SOCCER COMPLEX PROJECT ENVIRONMENTAL NOISE ASSESSMENT SAN JOSE/SANTA CLARA, CALIFORNIA

June 21, 2010

♦ ♦ ♦

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Job No.: 010-068

INTRODUCTION

This report describes potential noise effects resulting from the soccer complex project proposed by the City of San Jose on the Airport West site. This assessment provides a discussion of policies and standards applicable to the project, presents the results of ambient noise measurement surveys conducted in the vicinity of noise sensitive receptors closest to the project and the results of noise measurement surveys conducted near sports playfields, and provides an evaluation of the potential significance of impacts resulting from the project. Conceptual mitigation measures are presented to reduce potentially significant noise impacts to less-than-significant levels. Persons not familiar with environmental noise analysis are referred to Appendix A for additional discussion.

REGULATORY BACKGROUND

The Cities of Santa Clara and San Jose have established guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. These plans and policies are contained in the following documents: (1) the City of Santa Clara General Plan, (2) the City of Santa Clara Municipal Code, (3) the City of San Jose General Plan Noise Element, and (4) the City of San Jose Municipal Code.

(1) City of Santa Clara General Plan: The City of Santa Clara is currently updating the General Plan and anticipates adopting the new General plan in mid-2010. The Environmental Quality Element of the City of Santa Clara's current General Plan establishes policies to control noise within the community. Applicable policies presented in the General Plan are as follows:

20. Protect to the extent possible existing developed areas of the City of Santa Clara from unacceptable noise levels.

21. Reduce transportation generated noise within the City of Santa Clara where feasible.

22. Comply with City, State and Federal guidelines for the compatibility of land uses with their noise environments, except where the City determines that there are prevailing circumstances of a unique or special nature.

24. Reduce noise from fixed sources, construction, and special events.

(2) City of Santa Clara Municipal Code. The City's Municipal Code establishes noise level performance standards for fixed sources of noise. Noise levels generated by a fixed source of noise, defined as, "…a stationary device which creates sound or vibration while operating in a fixed or stationary position, including, but not limited to, residential, agricultural, industrial, and commercial machinery and equipment, pumps, fans, compressors, air conditioners, and refrigeration equipment…" would be limited to 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and to 50 dBA at night (10:00 p.m. to 7:00 a.m.) at nearby single-family or multiple-family residential land uses. These limits are reduced by 5 dBA if the alleged offensive sound or noise contains music or speech conveying informational content. The City's Municipal Code does not regulate mobile sources of noise. A mobile noise source is defined as, "…any noise,

sound, or vibration source other than a fixed noise, sound, or vibration source, including but not limited to vehicles, hand-held power equipment, and portable music amplifiers…"

(3) <u>City of San Jose General Plan:</u> The Noise Element of the City of San Jose's 2020 Plan identifies noise and land use compatibility standards for various land uses. The City's goal is to, "...minimize the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies."

Residential land uses are considered "satisfactory" up to 60 dBA L_{dn} as the short-range exterior noise quality level, and 55 dBA L_{dn} as the long-range exterior noise quality level. The guidelines state that where the exterior L_{dn} is above the "satisfactory" limit (between 60 and 70 dBA L_{dn}), and the project requires a full EIR, an acoustical analysis should be made indicating the amount of attenuation necessary to maintain an indoor level less than or equal to 45 dBA L_{dn}. Exterior noise levels exceeding 70 dBA L_{dn} require that new development would only be permitted if uses are entirely indoors and building design limits interior levels to less than or equal to 45 dBA L_{dn}. Outside activity areas should be permitted if site planning and noise barriers result in levels of 60 dBA L_{dn} or less. Policies presented in the Noise Element applicable to this project are as follows:

Policy 1. The City's acceptable noise level objectives are 55 dBA L_{dn} as the long-range exterior noise quality level, 60 dBA L_{dn} as the short-range exterior noise quality level, 45 dBA L_{dn} as the interior noise quality level, and 76 dBA L_{dn} as the maximum exterior noise level necessary to avoid significant adverse health effects. These objectives are established for the City, recognizing that the attainment of exterior noise quality levels in the environs of the San José International Airport, the Downtown Core Area, and along major roadways may not be achieved in the time frame of this Plan. To achieve the noise objectives, the City should require appropriate site and building design, building construction and noise attenuation techniques in new residential development.

Policy 11. When located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses, non-residential land uses should mitigate noise generation to meet the 55 dBA L_{dn} guideline at the property line.

Policy 12. Noise studies should be required for land use proposals where known or suspected peak event noise sources occur which may impact adjacent or planned land uses.

<u>(4) City of San Jose Zoning Ordinance:</u> The City's Municipal Code contains a Zoning Ordinance that limits noise levels at any residential property to 55 dBA. The code is not explicit in terms of the acoustical descriptor associated with the noise level limit. A reasonable interpretation of this standard has been made based on similar codes of other Bay Area communities. This analysis assumes that the intent of the code is to limit noise levels at any residential property to 55 dBA L_{eq}.

EXISTING NOISE ENVIRONMENT IN THE PROJECT VICINITY

The project site is located within both the Cities of Santa Clara and San Jose, south west of Coleman Avenue and northeast of the active Union Pacific Railroad lines. The project vicinity is largely comprised of industrial and airport related uses. The closest residential uses to the project site are located southwest of the railroad tracks off of Campbell Avenue and east of Newhall Street. The ambient noise environments in these residential areas results primarily from rail, freeway, roadway and aircraft generated noise. Illingworth & Rodkin has conducted noise-monitoring surveys in these areas for other projects between 2004 and 2009. The locations of these surveys are shown on Figure 1, and the measurement results are summarized in Table 1.

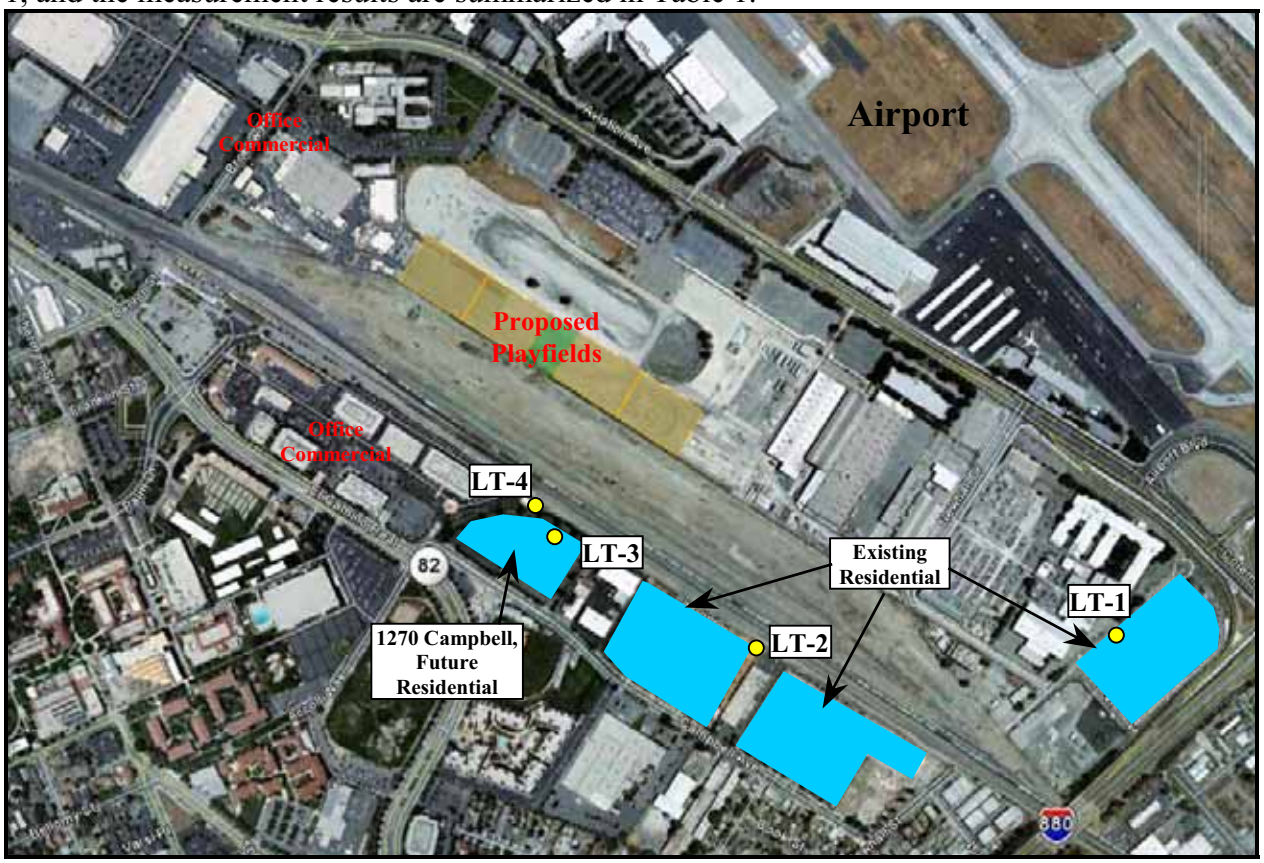

Figure 1: Project Vicinity and Noise Measurement Locations

Table 1: Summary of Existing Noise Measurement Data

Location & Date (Month/Year)	**Average Measured Noise Levels, dBA**						
	Daytime L_{max}	Daytime L_{eq}	Daytime L_{min}	Nighttime L_{max}	Nighttime L_{eq}	Nighttime L_{min}	L_{dn}
LT-1: Newhall at Waco Street (Feb. '08)	76	62	54	65	56	49	**66**
LT-2: East corner Dahlia Loop: 30 ft to track. (Jan. '04)	82	64	59	76	60	56	**68**
LT-3: West Corner 1270 Campbell: 65 ft to track. (May '09)	91	66	48	88	62	44	**69**
LT-4: 1270 Campbell at 2nd level: 140 ft to track. (May '09)	86	64	50	84	60	47	**67**

The noise measurement results indicate that noise levels at the residential uses in the project vicinity currently exceed an L_{dn} of 60 dBA and are exposed to average daytime levels above the 55 dBA municipal code limits of both San Jose and Santa Clara.

PROJECT GENERATED NOISE

Playfield Noise

Illingworth & Rodkin, Inc. has made measurements of the noise generated by soccer games at numerous locations throughout the Bay Area. Noise measurements have been conducted during typical playfield activities such as practice and games and at special events such as playoff games and all-star competitions (credible "worst-case" conditions). While there is a range in the noise levels generated, depending upon the number of participants and spectators, noise levels from players and spectators are typically at or below 47 dBA at 500 feet from the center of the playfield, with occasional shouts at or below 58 dBA and referee whistles at between 62 to 64 dBA. Noise measurements of Public Address (PA) systems for recreational field sports also show that typical PA system use can produce sound levels of between 60 and 67 dBA at 500 feet from the center of the playfield, with an overall average level of 62 dBA at this distance.

A review of the proximity of the proposed soccer complex to the closest existing and planned residential uses indicates that the center of the playing fields would be as close as 800 to 850 feet from the existing residences on Dahila Loop and the future residential use of the 1270 Campbell Avenue site. The residential area to the east adjacent to Newhall Street would be over 2,300 feet from the closest playfield. Under credible worst-case conditions with all four soccer fields and PA systems in use at the same time, average sound levels would be between 60 and 62 dBA at the closest residential uses. With all four soccer fields in use without a PA system in use, these levels would drop to between 57 and 58 dBA at the closest residences. Under lower, perhaps more typical, use conditions of only two fields in concurrent use with and without a PA system operating, the average sound levels at the closest residential uses would be between 60 and 59 dBA with a PA system and between 55 and 57 dBA without a PA system. The result of an analysis of noise produced by all of these field use scenarios at the adjacent residential areas is shown in Table 2. This table also presents the existing average daytime maximum (L_{max}), average (L_{eq}), and minimum (L_{min}) sound levels measured in the adjacent residential areas.

Table 2: Playfield Usage and Daytime Ambient Noise at Adjacent Residential Areas

	1270 Campbell Res.	Dahlia Loop Res.	Newhall Street Res.
All 4 fields in use with PA	55	54	48
All 4 fields in use without PA	53	52	46
2 fields in use with PA	54	53	45
2 fields in use without PA	52	51	43
Ambient Daytime Levels			
Average L_{max}	91	82	76
Average L_{eq}	**66**	**64**	**62**
Average L_{min}	48	59	54

When the average sound levels for playfield usage are compared with the sound levels measured at the closest residential uses, it can be seen that while the average sound levels for the analyzed conditions may exceed minimum ambient noise levels at the1270 Campbell residences, however the sound levels produced by all use conditions would be below the ambient average (L_{eq}) levels at all of the adjacent residential uses, and will not exceed 55 dBA at the adjacent residential uses.

Traffic Noise

Based on a review of existing, background (cumulative), and project traffic volumes for the area roadways shown in the Hexagon Transportation Consultants traffic study for the project, it may be concluded that, with the exception of the noise levels on Aviation Avenue southwest of Coleman Avenue (which is the site access point), project related traffic would increase existing and background noise levels at on all area roadways by less than 1 dBA. Existing noise levels on the site access road (Aviation Avenue southwest of Coleman Avenue) would increase by 4 dBA with the addition of project related traffic, but background noise levels on the site access road would increase by less than 1 dBA with the addition of project related traffic.

PROJECT IMPACT AND MITIGATION MEASURES

Significance Criteria

A significant impact would be identified for existing uses at land uses adjacent to the project if they would be exposed to noise levels exceeding either the City of San Jose's or Santa Clara's General Plan Noise Element or Noise Ordinance Limits. According to CEQA, significant noise impact would result if noise levels increase substantially at noise-sensitive land uses (e.g., residences). Though CEQA does not define what noise level increase would be considered significant, typically in higher noise environments (i.e. greater than 60 dBA, Ldn), a Ldn increase of 3 dBA or more due to the project would be considered significant.

Impact 1: Project-generated traffic noise impacts

Based on the review of existing, background, project, future without project, and future with project traffic volumes, project generated traffic will result in an increase of less than 1 dBA over existing or background (cumulative) conditions without the project on area roadways. This noise level increase would not meet the CEQA standard for a substantial increase in noise or cause noise levels and would not result in a perceptible increase in noise. This impact is considered to be less-than-significant.

Mitigation 1: None Required

Noise impacts resulting from project-generated vehicular traffic are considered to be less-than-significant and no mitigation is required.

Impact 2: Project operational noise impacts

The average sound levels for playfield usage would be below the daytime ambient average (L_{eq}) levels at all of the adjacent residential uses. Playfield usage noise would not exceed 55 dBA at the adjacent residences nor would it result in any measurable increase in hourly average of L_{dn} levels at the adjacent residential uses. Based on this result, operational noise from the proposed project would not result in a significant noise impact on the adjacent noise sensitive uses.

Mitigation 2: None Required

Noise impacts resulting from project operational noise are considered to be less-than-significant and no mitigation is required.

APPENDIX A:
FUNDAMENTALS OF ENVIRONMENTAL NOISE

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Decibels and other technical terms are defined in Table A1.

Table A1: Definitions of Acoustical Terms Used in this Report

Term	Definitions
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{05}, L_{10}, L_{90}	The A-weighted noise levels that are exceeded 1%, 5%, 10%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Most of the sounds we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the facts that human hearing is less sensitive at low frequencies and extreme high

frequencies than in the frequency mid-range. This is called "A" weighting, and the decibel level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. Typical A-weighted levels measured in the environment and in industry are shown in Table A2 for different types of noise.

Table A2: Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
Most quiet remote areas	10 dBA	Quiet recording studio
Threshold of human hearing	0 dBA	Threshold of human hearing

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources, which create a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{01}, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 1%, 10%, 50%, and 90% of a stated time period. A single number descriptor called the L_{eq} is also widely used. The L_{eq} is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, Ldn (average day/night sound level), was developed. The Ldn divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average, which includes both an evening and nighttime weighting.

Effects of Noise

Sleep and Speech Interference: The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity; above 35 dBA, and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA Ldn. Typically, the highest steady traffic noise level during the daytime is about equal to the Ldn and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA Ldn with open windows and 65-70 dBA Ldn if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Annoyance: Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The Ldn as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge

the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA Ldn. At an Ldn of about 60 dBA, approximately 2 percent of the population is highly annoyed. When the Ldn increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent of the population. There is, therefore, an increase of about 1 percent per dBA between an Ldn of 60-70 dBA. Between an Ldn of 70-80 dBA, each decibel increase increases by about 2 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the Ldn is 60 dBA, approximately 10 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 2 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 3 percent increase in the percentage of the population highly annoyed.

APPENDIX C
TRAFFIC IMPACT ANALYSIS

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Coleman Avenue Soccer Complex

Draft Transportation Impact Analysis

Prepared for:

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July 12, 2010

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Executive Summary

This report presents the results of the traffic impact analysis (TIA) conducted for a proposed soccer complex on Coleman Avenue in San Jose, California. The approximately 12.5-acre project site is situated between the Union Pacific Railroad (UPRR) tracks and the FMC property (Airport West site). Four soccer fields next to the existing San Jose Earthquakes practice field would make up the soccer complex. The main access to the soccer fields would be provided via Aviation Avenue, with minor access proved via Newhall Drive. Parking would be provided at the fields. A Major League Soccer (MLS) stadium may be built on the FMC property adjacent to the proposed soccer complex. For this reason, the TIA includes an analysis for simultaneous events, since the soccer complex might be used during MLS games held at the soccer stadium.

Scope of Study

This study was conducted for the purpose of identifying the potential traffic impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of San Jose and Santa Clara. The traffic study includes an analysis of weekday PM peak hour traffic conditions for seven signalized intersections on Coleman Avenue. For informational purposes, the traffic study also includes an analysis of Saturday midday peak hour traffic conditions for the two signalized intersections that would provide direct access to the site. The soccer fields are expected to generate a negligible amount of traffic (if any) during weekday mornings, so the weekday AM peak hour was not analyzed. The study also includes an operations analysis based on vehicle storage requirements at the two intersections providing access to the site. Since the project would generate fewer than 100 PM peak hour vehicle trips, an analysis in accordance with the Santa Clara County Congestion Management Program (CMP) is not required.

Project Trip Generation

The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. The recommended trip generation rates for use in San Jose for most types of developments are detailed in the *San Jose Impact Analysis Handbook*, August 2008. However, the City has not established trip rates for soccer fields / soccer complexes. Therefore, for the purpose of this study site-generated traffic was estimated using the vehicular trip generation rates published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, 8th Edition,* 2008.

Based on the ITE trip rates, the project would generate 285 daily vehicle trips, with 83 trips occurring during the weekday PM peak hour of traffic and 115 trips occurring during the Saturday midday period of traffic.

Project Trip Distribution and Assignment

The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the relative locations of complementary land uses.

The peak hour trips generated by the proposed project were assigned to the surrounding roadway network in accordance with the trip distribution pattern. For the purpose of the traffic analysis, it was assumed that 60 percent of project-generated traffic would access the soccer complex via Aviation Avenue, while the remaining 40 percent would access the soccer complex via Newhall Street.

Intersection Levels of Service

The results of the intersection level of service analysis are summarized in Table ES 1. The results show that, based on the City of San Jose and City of Santa Clara weekday PM peak hour level of service impact criteria, none of the signalized study intersections would be significantly impacted by the project.

The two study intersections that would provide access to the project site would operate well during the Saturday midday period of traffic.

Other Transportation Issues

The proposed project would not have an adverse effect on existing bicycle, pedestrian or transit facilities in the study area.

Table ES 1
Intersection Level of Service Summary

Study Number	Intersection	Peak Hour	Count Date	Existing Avg Delay	Existing LOS	Background Avg Delay	Background LOS	Project Avg Delay	Project LOS	Project Incr. In Crit. Delay	Project Incr. In Crit. V/C
1	Coleman Av and Hedding St	PM	10/23/08	29.5	C	32.7	C	32.8	C	0.2	0.003
2	Coleman Av and I-880 NB Ramps	PM	09/16/08	16.9	B	19.8	B	19.9	B	0.1	0.006
3	Coleman Av and I-880 SB Ramps	PM	09/16/08	9.1	A	13.5	B	13.9	B	0.6	0.010
4	Coleman Av and Airport Blvd	PM	05/26/10	8.5	A	11.7	B	11.7	B	0.0	0.003
5	Coleman Av and Newhall Dr	PM	05/26/10	11.8	B	50.4	D	52.0	D	2.1	0.006
		SAT	06/05/10	23.6	C	15.5	B	15.9	B	0.6	0.015
6	Coleman Av and Aviation Av	PM	05/26/10	7.2	A	36.6	D	39.2	D	4.0	0.026
		SAT	06/05/10	9.1	A	9.1	A	10.7	B	1.7	0.015
7	Coleman Av and Brokaw Rd	PM	05/26/10	45.0	D	45.6	D	46.0	D	0.8	0.003

1. Introduction

This report presents the results of the traffic impact analysis (TIA) conducted for a proposed soccer complex on Coleman Avenue in San Jose, California. The approximately 12.5-acre project site is situated between the Union Pacific Railroad (UPRR) tracks and the FMC property (Airport West site). Four soccer fields next to the existing San Jose Earthquakes practice field would make up the soccer complex. The main access to the soccer fields would be provided via Aviation Avenue, with minor access proved via Newhall Drive. Parking would be provided at the fields. A Major League Soccer (MLS) stadium may be built on the FMC property adjacent to the proposed soccer complex. For this reason, the TIA includes an analysis for simultaneous events, since the soccer complex might be used during MLS games held at the soccer stadium. The project site location and study intersections are shown graphically on Figure 1. Figure 2 shows the conceptual site plan.

Scope of Study

This study was conducted for the purpose of identifying potential traffic impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of San Jose and Santa Clara. The traffic study includes an analysis of weekday PM peak hour traffic conditions for seven signalized intersections on Coleman Avenue. For informational purposes, the traffic study also includes an analysis of Saturday midday peak hour traffic conditions for the two signalized intersections that would provide direct access to the site. The soccer fields are expected to generate a negligible amount of traffic (if any) during weekday mornings, so the weekday AM peak hour was not analyzed. The study also includes an operations analysis based on vehicle storage requirements at the two intersections providing access to the site. Since the project would generate fewer than 100 PM peak hour vehicle trips, an analysis in accordance with the Santa Clara County Congestion Management Program (CMP) is not required.

Study Intersections

1. Coleman Avenue and Hedding Street
2. Coleman Avenue and I-880 Northbound Ramps (CMP intersection)
3. Coleman Avenue and I-880 Southbound Ramps (CMP intersection)
4. Coleman Avenue and Airport Boulevard
5. Coleman Avenue and Newhall Drive
6. Coleman Avenue and Aviation Avenue
7. Coleman Avenue and Brokaw Road (City of Santa Clara intersection)

Traffic conditions at the study intersections were analyzed for the weekday PM and Saturday midday peak hour time periods for traffic on Coleman Avenue. The weekday PM peak hour of traffic generally falls within the 4:00 PM to 6:00 PM period. The Saturday midday peak hour typically occurs between 1:00 PM and 3:00 PM. On average, it is during these times that the most congested traffic conditions occur on weekdays and Saturday on most major roadways in San Jose, including Coleman Avenue.

Figure 1

Site Location and Study Intersections

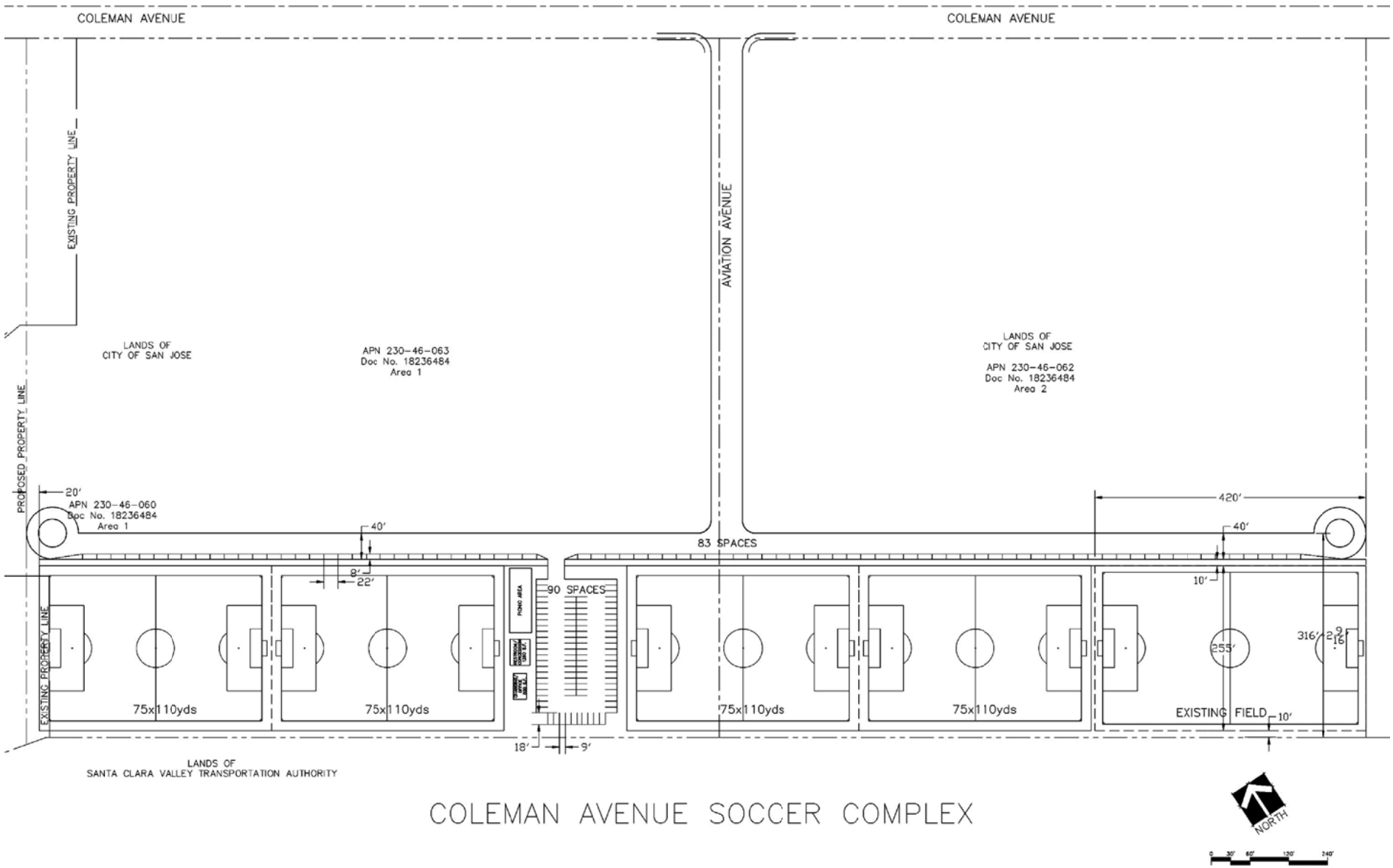


Figure 2

Conceptual Site Plan

NORTH
Not to Scale

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes were obtained from new traffic counts conducted in May and June of 2010.

Scenario 2: *Background Conditions*. Background traffic volumes were estimated by adding to existing peak hour volumes the projected volumes from approved but not yet completed developments. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI).

Scenario 3: *Project Conditions.* Projected peak hour 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: *Project + MLS Game Conditions.* At the request of the City of San Jose, project conditions also were analyzed based on the potential for a simultaneous Major League Soccer (MLS) game held at the proposed future adjacent MLS stadium. This project scenario includes a weekday PM peak hour analysis only, since a Saturday soccer game would be held during the evening and not during the midday period, which is the time period that was analyzed in this traffic study.

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 for the study locations were obtained from field observations, City of San Jose staff, and new traffic counts (see appendix A). The following data were collected from these sources:

- existing traffic volumes
- intersection lane configurations
- intersection signal timing and phasing
- left-turn pocket lengths
- planned roadway improvements

Level of Service Standards and Analysis Methodologies

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

Signalized Intersections

All but one of the study intersections are located in San Jose and, therefore, are subject to the City of San Jose Level of Service Policy standards. The City of San Jose level of service methodology for signalized intersections is the 2000 *Highway Capacity Manual* (HCM) method. This method is applied using TRAFFIX software. The 2000 HCM operations method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. *Control delay* is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Since TRAFFIX is also the CMP-designated intersection level of service 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. One of the study intersections is located within the City of Santa Clara. The City of Santa Clara uses the same LOS methodology and definitions as San Jose.

Two of the study intersections are CMP intersections and, therefore, were analyzed according to the CMP requirements. The CMP level of service methodology is the same as that used by the Cities of San Jose and Santa Clara, except that the CMP level of service standard for signalized intersections is LOS E or better.

The correlation between average control delay and level of service is shown in Table 1.

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

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lenghts, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16.

Intersection Operations

The analysis of project intersection levels of service was supplemented with an analysis of intersection operations for selected intersections. The operations analysis is based on vehicle queuing for high-demand turning movements at intersections. The basis of the analysis is as follows: (1) the 95th percentile maximum number of queued vehicles per signal cycle is estimated for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet

per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

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

Freeways

Because it is estimated that the project would generate fewer than 100 peak hour trips, a typical CMP freeway analysis is not necessary. According to CMP guidelines, an analysis of freeway segment levels of service is required only if a project is estimated to add project trips to any freeway segment equal to or greater than one percent of the capacity of that segment. As shown in Table 2 below, the estimated project trips on freeway segments are well below the one-percent threshold. Therefore, an analysis of freeway levels of service was not performed.

Table 2
Freeway Segment Capacity Evaluation

Freeway	Segment	Direction	# of Mixed Flow Lanes	Capacity[1] (vphpl)	1% of Capacity	Peak Hour	Project Trips
SR 87	Coleman Av to Taylor St	NB	2	4400	44	PM	11
SR 87	Taylor St to Coleman Av	SB	2	4400	44	PM	5
I-880	The Alameda to Coleman Av	NB	3	6900	69	PM	11
I-880	Coleman Av to The Alameda	SB	3	6900	69	PM	5
I-880	Coleman Av to SR 87	NB	3	6900	69	PM	5
I-880	SR 87 to Coleman Av	SB	3	6900	69	PM	11

Notes:
[1] Capacity was based on the ideal capacity cited in the *2000 Highway Capacity Manual.*

Report Organization

The remainder of this report is divided into six chapters. Chapter 2 describes the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the intersection levels of service under background conditions with the addition of traffic from approved development projects. Chapter 4 describes the method used to estimate project traffic and its impact on the transportation system. Chapter 5 contains an evaluation of other transportation-related issues, such as site access and circulation. Chapter 6 presents the intersection operations for the project + MLS game conditions scenario. Chapter 7 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 area is provided by US 101, SR 87 and I-880. These facilities are described below.

US 101 is a north/south freeway with six mixed-flow lanes and two high-occupancy-vehicle (HOV) lanes through most of San Jose. US 101 extends northward through San Francisco and southward through Gilroy. Access to and from the site is provided via interchanges at I-880 and De La Cruz Boulevard.

SR 87 is a six-lane freeway that is aligned in a north-south orientation. SR 87 begins at its interchange with SR 85 and extends northward, terminating at its junction with US 101. SR 87 has two mixed-flow lanes and a HOV lane in each direction. Access to the site is provided via an interchange at Taylor Street.

I-880 is a north/south freeway providing regional access from East Bay cities to San Jose, where it ultimately becomes SR 17 and extends into Santa Cruz. Within the City of San Jose, I-880 primarily is a six-lane freeway. Access to the project site from I-880 is provided via an interchange at Coleman Avenue.

Local access to the project site is provided by Coleman Avenue.

Coleman Avenue is a four- to six-lane arterial that begins at its intersection with De La Cruz Boulevard in Santa Clara and terminates where it becomes North Market Street. Adjacent to the project site, Coleman Avenue is a five- to six-lane facility. Coleman Avenue narrows from three lanes to two lanes in the northbound direction midway between Newhall Drive and Aviation Avenue, and then widens back to three lanes just north of Aviation Avenue. In the southbound direction, Coleman Avenue narrows from three lanes to two lanes at Brokaw Road and then widens back to three lanes just north of Aviation Avenue. Coleman Avenue provides direct access to the project site.

Existing Bicycle and Pedestrian Facilities

County-designated bicycle facilities exist on Coleman Avenue but are intermittent. Bike lanes begin just north of Newhall Street and extend south, terminating at Hedding Street. Bike lanes do not exist between Hedding Street and Taylor Street, but pick up again at Taylor Street, terminating once again at Santa Teresa Street near the SR 87 overpass.

Pedestrian facilities near the project site consist of sidewalks along Coleman Avenue. Crosswalks with pedestrian signal heads are located at all signalized intersections in the study area, but not for all

intersection approaches. Currently there is no pedestrian connection between the project site and the areas west of the Union Pacific Railroad (UPRR) tracks, which is the location of the Santa Clara Transit Center.

Existing Transit Service

Existing transit service to the study area is provided by the Santa Clara Valley Transportation Authority (VTA). The VTA provides limited bus service along Coleman Avenue. The bus lines that operate on Coleman Avenue are described below.

The 10 Local bus route is the Airport Flyer Service between the Metro/Airport LRT station and the Santa Clara Transit Center. On weekdays, Saturdays and Sundays, it operates along El Camino Real, De La Cruz Boulevard, and Coleman Avenue from 5:00am to 11:30pm with 15-minute headways during most of the hours of operation. During the early morning and late evening time periods, Route 10 operates on 30-minute headways.

The 304 Limited Stop bus route runs between south San Jose and Mountain View. It provides service on weekdays only from 5:55am to 8:40am in the northbound direction, and from 3:30pm to 6:50pm in the southbound direction, with 30- to 40-minute headways during the hours of operation. Route 304 operates along De la Cruz Boulevard and Coleman Avenue near the project site. Its nearest observed stop is at Coleman Avenue and Taylor Street, south of the project site.

Santa Clara Transit Center

The project site is located just east of the Santa Clara Transit Center. The transit center provides extensive bus service and rail service; however, currently there is no way for pedestrians to get from the site to the transit center because of the UPRR/Caltrain tracks. A future BART station is planned adjacent to the Santa Clara Transit Center as part of the planned BART extension from Fremont, through San Jose, to Santa Clara. A pedestrian overcrossing is planned as part of the BART project, to connect the BART station to the Santa Clara Caltrain Station in the same alignment as Brokaw Road. Until the BART station is built, a pedestrian connection will not exist.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were obtained by observations in the field. The existing intersection lane configurations are shown on Figure 3.

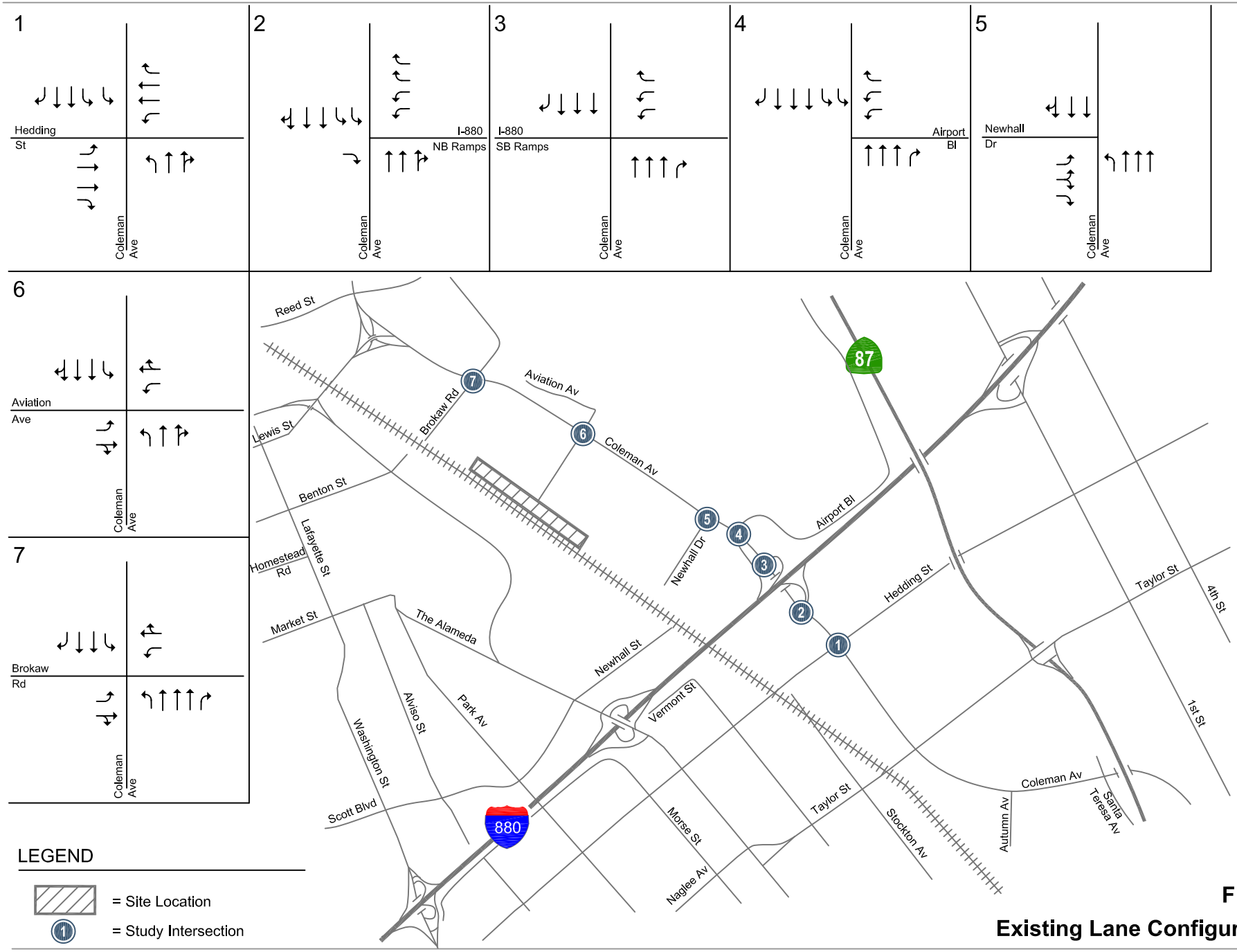
Existing Traffic Volumes

Existing traffic volumes were obtained from the City of San Jose and supplemented with new manual turning-movement counts conducted in May and June of 2010. The existing weekday PM peak hour and Saturday midday traffic volumes are shown on Figure 4. New traffic count data are included in Appendix A.

Existing Intersection Levels of Service

The existing level of service results for the signalized study intersections are summarized in Table 3. The results show that, measured against the Cities of San Jose and Santa Clara level of service standards, all of the study intersections currently operate at acceptable levels during the weekday PM peak hour of traffic.

The two study intersections that would provide access to the project site also operate well during the Saturday midday period of traffic, as shown in Table 3. The level of service calculation sheets are included in Appendix B.



LEGEND

= Site Location

= Study Intersection

Figure 3

Existing Lane Configurations

NORTH
Not to Scale

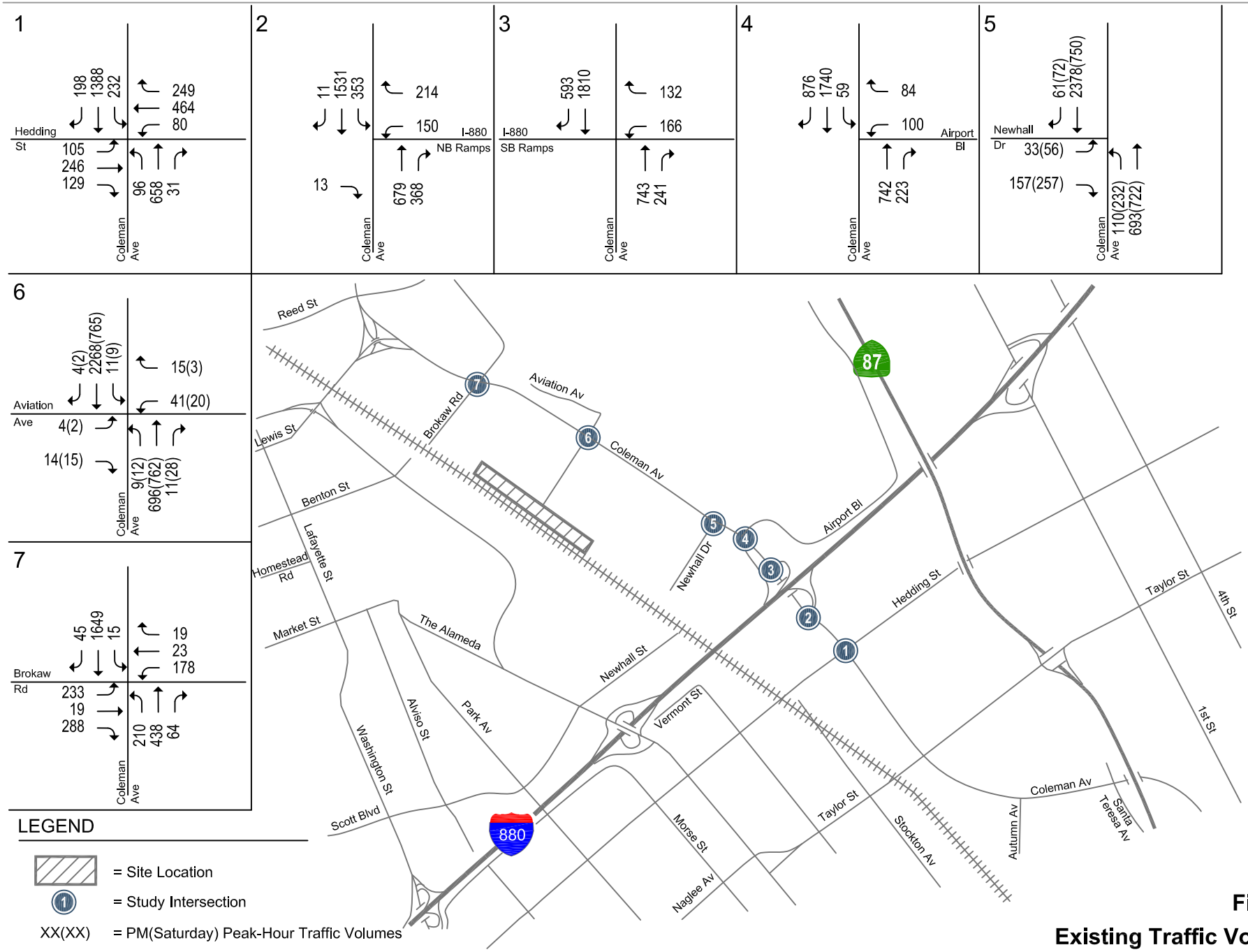


Figure 4
Existing Traffic Volumes

NORTH
Not to Scale

Table 3
Existing Intersection Levels of Service

Study Number	Intersection	Peak Hour	Count Date	Avg Delay	LOS
1	Coleman Av and Hedding St	PM	10/23/08	29.5	C
2	Coleman Av and I-880 NB Ramps	PM	09/16/08	16.9	B
3	Coleman Av and I-880 SB Ramps	PM	09/16/08	9.1	A
4	Coleman Av and Airport Blvd	PM	05/26/10	8.5	A
5	Coleman Av and Newhall Dr	PM SAT	05/26/10 06/05/10	11.8 23.6	B C
6	Coleman Av and Aviation Av	PM SAT	05/26/10 06/05/10	7.2 9.1	A A
7	Coleman Av and Brokaw Rd	PM	05/26/10	45.0	D

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 LOS calculation does not accurately reflect level of service in the field.

Overall the study intersections operated well during both the weekday PM peak hour of traffic and the Saturday midday period of traffic, and the level of service analysis appears to accurately reflect actual existing traffic conditions. However, field observations revealed that during the weekday PM peak hour of traffic, some minor operational problems did occur.

Coleman Avenue and Brokaw Street – During the PM peak hour, the southbound vehicle queue extended back to the El Camino Real overpass. As a result, southbound traffic was unable to clear the intersection in one signal cycle.

Coleman Avenue and Hedding Street – During the PM peak hour, southbound traffic queues originating from the intersection of Coleman Avenue and Taylor Street blocked access to the southbound leg of the intersection temporarily. The eastbound right turn movement developed a queue as drivers waited for traffic to clear ahead of them. Vehicles were observed blocking cross traffic due to delays at the intersection of Coleman Avenue and Taylor Street.

No operational problems were observed in the field during the Saturday midday period of traffic, which is considered the busiest period of the day on a weekend for the adjacent Lowe's shopping center on Newhall Drive.

3. Background Conditions

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 that have not yet been built. 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 improvements:

I-880 HOV Lane Project – The I-880 HOV lane project, which extends from Old Bayshore Highway in San Jose to Route 237 in Milpitas, will add 4.3 miles of HOV lanes in both the northbound and southbound directions. The improvement from a 6-lane to an 8-lane facility will mainly consist of outside widening and includes modifications of various existing on- and off-ramps within the project limits.

Coleman Avenue and Hedding Street – The improvement at this location includes adding a second eastbound left-turn lane on Hedding Street within the existing right-of-way.

Coleman Avenue and Newhall Drive – The improvements at this location include adding a second northbound left-turn lane on Coleman Avenue within the existing right-of-way and including an eastbound right-turn overlap phase from Newhall Drive to southbound Coleman Avenue.

Bicycle, transit, and pedestrian facilities under background conditions were assumed to remain unchanged from existing conditions.

Background Traffic Volumes

Background weekday PM peak hour traffic volumes were calculated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The added traffic from approved but not yet constructed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). Since ATI is not available for the Saturday time period, the Saturday midday traffic volumes under background conditions were assumed to be the same as under existing conditions. The ATI for the PM peak hour is shown on the level of service calculation sheets in Appendix B.

Background weekday PM peak hour and Saturday midday traffic volumes are shown graphically on Figure 5.

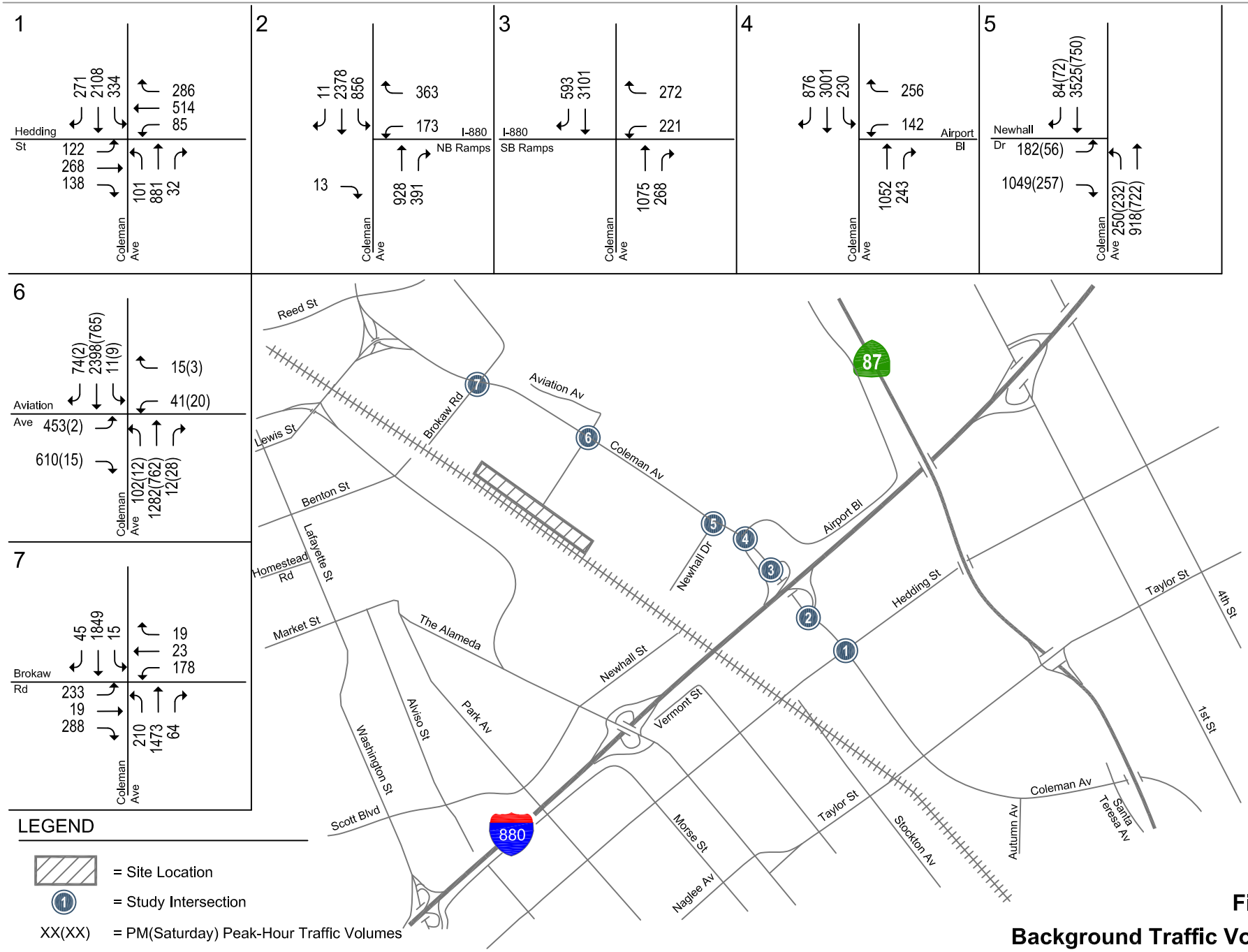


Figure 5
Background Traffic Volumes

Background Intersection Levels of Service

The results of the intersection level of service analysis under background conditions are summarized in Table 4. The results show that, measured against the Cities of San Jose and Santa Clara level of service standards, all of the study intersections would operate at acceptable levels during the weekday PM peak hour of traffic under background conditions.

The two study intersections that would provide access to the project site also would operate well during the Saturday midday period of traffic, as shown in Table 4.

The level of service calculation sheets are included in Appendix B.

Table 4
Background Intersection Levels of Service

Study Number	Intersection	Peak Hour	Existing Avg Delay	Existing LOS	Background Avg Delay	Background LOS
1	Coleman Av and Hedding St	PM	29.5	C	32.7	C
2	Coleman Av and I-880 NB Ramps	PM	16.9	B	19.8	B
3	Coleman Av and I-880 SB Ramps	PM	9.1	A	13.5	B
4	Coleman Av and Airport Blvd	PM	8.5	A	11.7	B
5	Coleman Av and Newhall Dr	PM	11.8	B	50.4	D
		SAT	23.6	C	15.5	B
6	Coleman Av and Aviation Av	PM	7.2	A	36.6	D
		SAT	9.1	A	9.1	A
7	Coleman Av and Brokaw Rd	PM	45.0	D	45.6	D

4. Project Conditions

This chapter describes traffic conditions with the project, including a description of the significance criteria used to establish what constitutes a project impact, a description of the transportation system under project conditions and the method by which project traffic is estimated, and any impacts caused by the project. Traffic conditions with the project were estimated by adding to background traffic volumes the additional traffic generated by the project.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts on all seven study intersections are based on City of San Jose and City of Santa Clara Level of Service standards, which are identical.

Cities of San Jose and Santa Clara 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 and the City of Santa Clara if for the weekday PM 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, <u>or</u>
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 (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e. the change in average 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 is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

Transportation Network under Project Conditions

It is assumed in this analysis that the transportation network under project conditions, including roadways and intersection lane configurations, would be the same as that 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 selected periods of the day. 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 below.

Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by common land uses. 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 added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. The recommended trip generation rates for use in San Jose for most types of developments are detailed in the *San Jose Impact Analysis Handbook*, August 2008. However, the City has not published trip rates for soccer fields and/or soccer complexes. Therefore, for the purpose of this study site-generated traffic was estimated using the vehicular trip generation rates published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, 8th Edition,* 2008.

Based on the ITE trip rates, the project would generate 285 daily vehicle trips, with 83 trips occurring during the weekday PM peak hour of traffic and 115 trips occurring during the Saturday midday period of traffic. The project trip generation estimates are presented below in Table 5.

Table 5
Project Trip Generation Estimates

		Weekday		Weekday PM (peak hr of adjacent street)				Saturday Midday (peak hr of generator)			
	Size (Fields)	Daily Rate /a/	Daily Trips	Rate /a/	In	Out	Total Trips	Rate /a/	In	Out	Total Trips
Soccer Complex	4	71.33	285	20.67	57	26	83	28.73	55	60	115

/a/ Rates based on ITE manual entitled *Trip Generation, 8th Edition*, 2008. (Land Use Code 488)

Trip Distribution and Assignment

The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the relative locations of complementary land uses.

The peak hour trips generated by the proposed project were assigned to the surrounding roadway network in accordance with the trip distribution pattern. For the purpose of the traffic analysis, it was assumed that 60 percent of project-generated traffic would access the soccer complex via Aviation Avenue, while the remaining 40 percent would access the soccer complex via Newhall Street. The project trips are shown on the level of service calculation sheets in Appendix B.

The project trip distribution pattern and trip assignment are shown graphically on Figure 6.

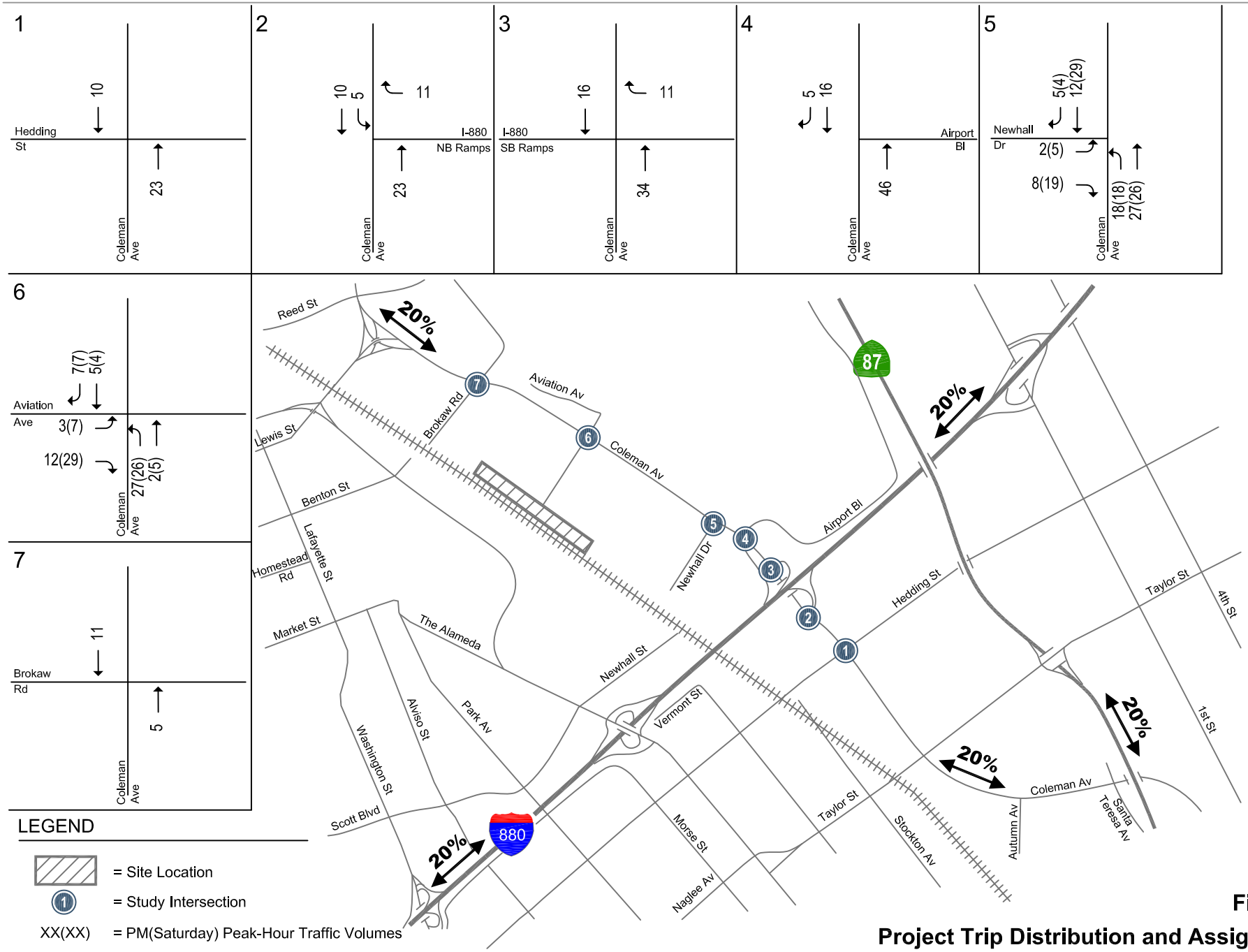


Figure 6

Project Trip Distribution and Assignment

NORTH
Not to Scale

Project Traffic Volumes

Project trips were added to background traffic volumes to obtain project traffic volumes for the study intersections. The project weekday PM peak hour and Saturday midday traffic volumes are shown graphically on Figure 7.

Project Intersection Levels of Service

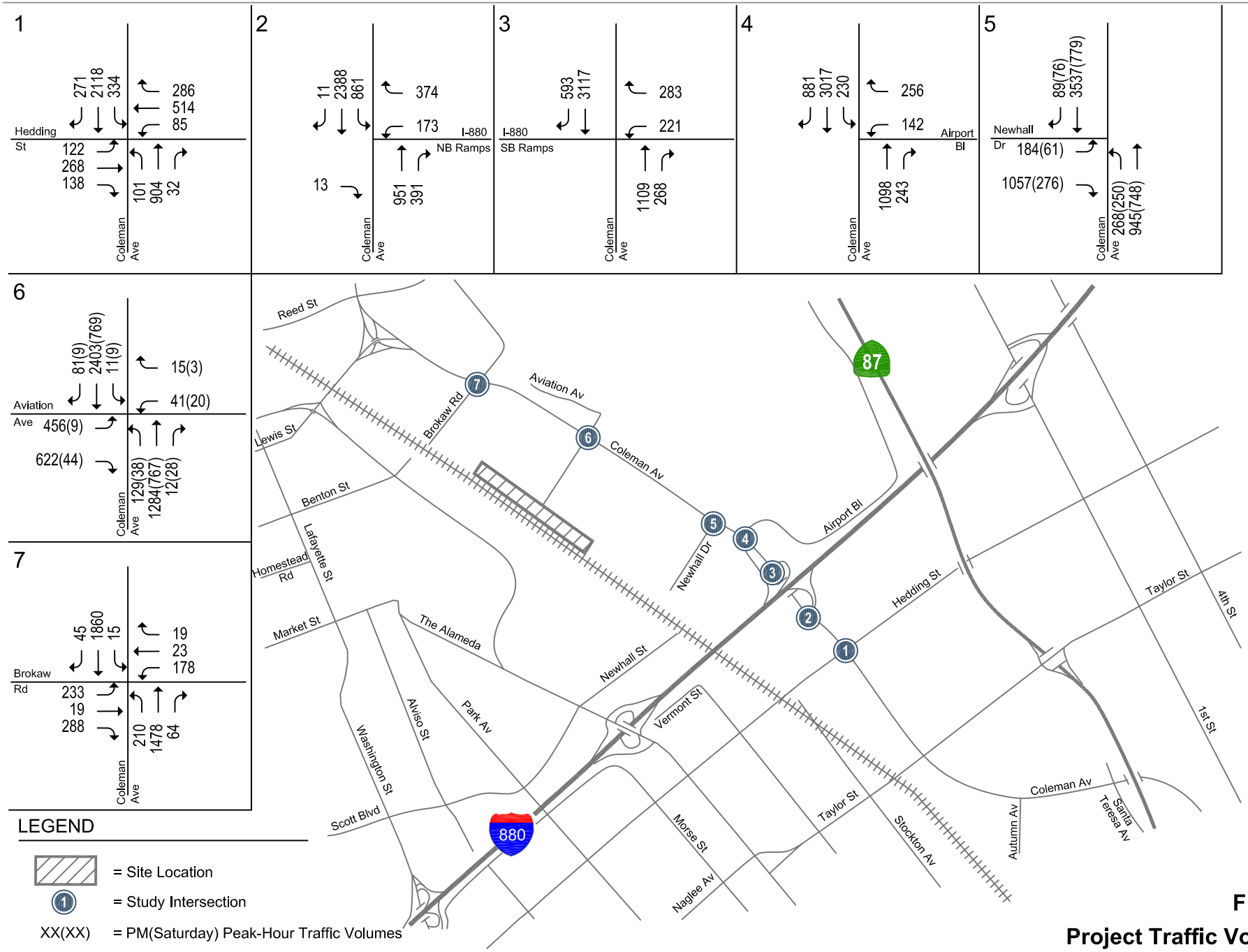
The results of the intersection level of service analysis under project conditions are summarized in Table 6. The results show that, based on the Cities of San Jose and Santa Clara weekday PM peak hour level of service impact criteria, none of the signalized study intersections would be significantly impacted by the project.

The two study intersections that would provide access to the project site would operate well during the Saturday midday period of traffic, as shown in Table 6.

The level of service calculation sheets are included in Appendix B.

Table 6
Project Intersection Levels of Service

			Existing		Background		Project Conditions			
Study Number	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Coleman Av and Hedding St	PM	29.5	C	32.7	C	32.8	C	0.2	0.003
2	Coleman Av and I-880 NB Ramps	PM	16.9	B	19.8	B	19.9	B	0.1	0.006
3	Coleman Av and I-880 SB Ramps	PM	9.1	A	13.5	B	13.9	B	0.6	0.010
4	Coleman Av and Airport Blvd	PM	8.5	A	11.7	B	11.7	B	0.0	0.003
5	Coleman Av and Newhall Dr	PM	11.8	B	50.4	D	52.0	D	2.1	0.006
		SAT	23.6	C	15.5	B	15.9	B	0.6	0.015
6	Coleman Av and Aviation Av	PM	7.2	A	36.6	D	39.2	D	4.0	0.026
		SAT	9.1	A	9.1	A	10.7	B	1.7	0.015
7	Coleman Av and Brokaw Rd	PM	45.0	D	45.6	D	46.0	D	0.8	0.003



LEGEND

= Site Location

= Study Intersection

XX(XX) = PM(Saturday) Peak-Hour Traffic Volumes

Figure 7

Project Traffic Volumes

NORTH
Not to Scale

5.
Project + MLS Game Conditions

At the request of the City of San Jose, project conditions were analyzed based on the potential for a simultaneous event held at the proposed future adjacent Major League Soccer (MLS) stadium. This project scenario includes a weekday PM peak hour analysis only, since a Saturday soccer game would be held during the evening and not during the midday period, which is the Saturday time period that was analyzed in this traffic study.

Soccer Complex Project + MLS Game Traffic Volumes

Weekday PM peak hour project traffic volumes with a simultaneous MLS game were estimated by taking project (soccer complex) traffic volumes and adding the weekday PM peak hour trips that would be generated by a MLS game. The estimated trips generated by a MLS game were taken directly from the traffic impact analysis prepared for the Soccer Stadium project in June of 2009.

Under project conditions, it was assumed that 60 percent of project-generated traffic would access the soccer complex via Aviation Avenue, while the remaining 40 percent would access the soccer complex via Newhall Street. However, with a simultaneous MLS game, access via Newhall Drive would not be possible. Therefore, for the Project + MLS Game scenario, all project-generated traffic was assigned to and from the site via Aviation Avenue.

Weekday PM peak hour project traffic volumes with a simultaneous MLS game are shown on Figure 8.

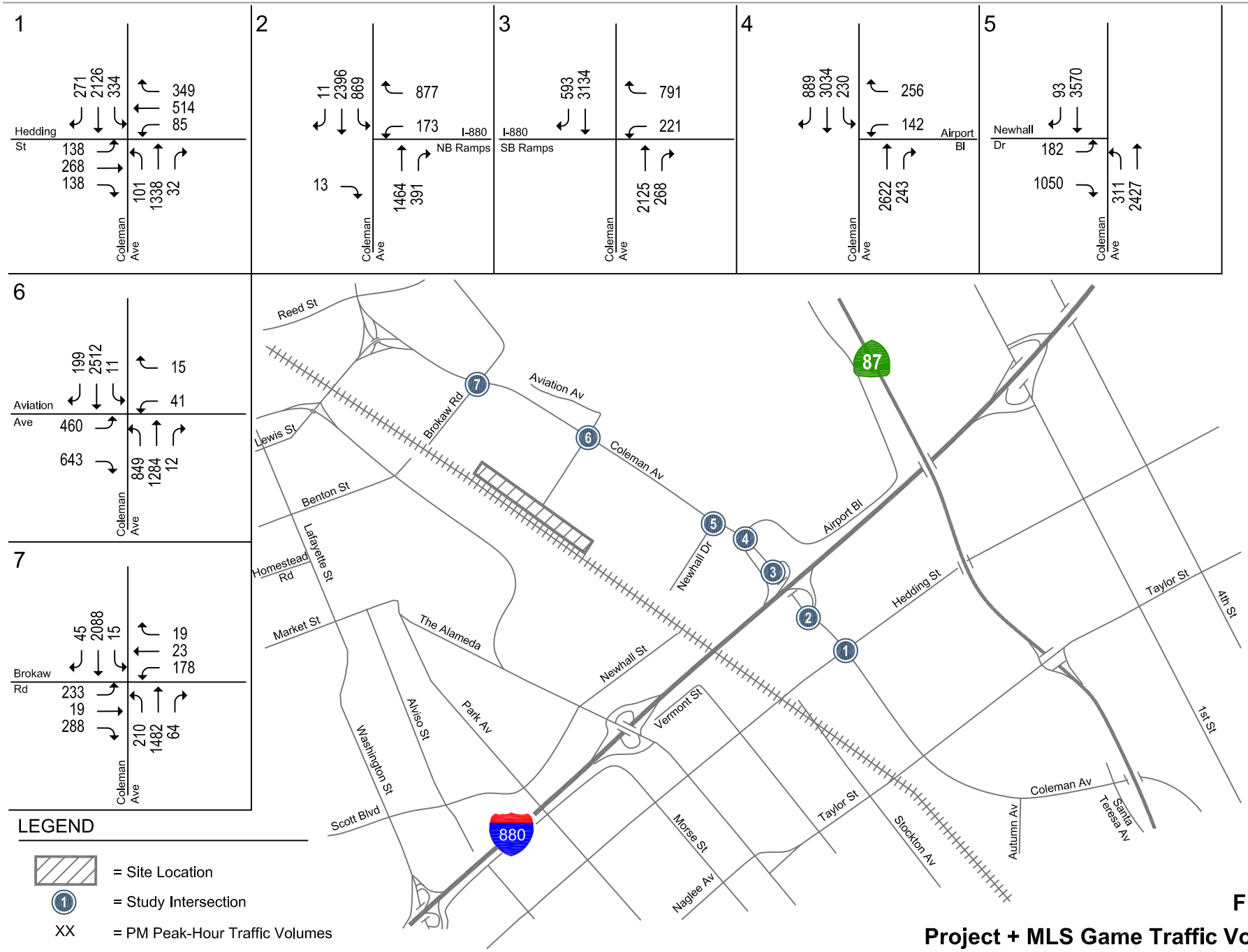
Project + MLS Game Intersection Levels of Service

The results of the intersection level of service analysis under Project + MLS Game conditions are summarized in Table 7. The results show that the signalized study intersection of Coleman Avenue/I-880 SB Ramps would operate at an unacceptable LOS E. All of the other study intersections would operate at an acceptable LOS D or better under Project + MLS Game conditions.

The level of service calculation sheets are included in Appendix B.

Coleman Avenue and I-880 Southbound Ramps

The level of service at this study intersection would be LOS E under Project + MLS Game traffic conditions during the weekday PM peak hour of traffic. Based on the traffic impact analysis prepared for the Soccer Stadium project in June of 2009, this same intersection was shown to have operational problems during the weekday 6:00 PM to 7:00 PM time period as a result of a weekday 7:00 PM MLS game. Based on the Soccer Stadium TIA, it was determined that the level of service could be improved considerably by temporarily converting the middle lane on the I-880 southbound off-ramp from a left-turn



LEGEND

= Site Location

= Study Intersection

XX = PM Peak-Hour Traffic Volumes

Figure 8

Project + MLS Game Traffic Volumes

NORTH
Not to Scale

lane to a right-turn lane during the period prior to a MLS soccer game. Changeable message signs (CMS) would need to be installed at the freeway off-ramp to notify drivers in real-time how the middle lane is operating at any given moment. With this temporary improvement, this intersection would operate at an acceptable LOS C during the PM peak hour under Project + MLS Game conditions (see Appendix B).

Another way to improve the operation of the Coleman Avenue/I-880 southbound ramps intersection would be to create a temporary free right-turn lane on the I-880 southbound off-ramp by providing a receiving lane on northbound Coleman Avenue for traffic exiting the freeway. This temporary improvement option would require reducing the number of through lanes on northbound Coleman Avenue from three lanes to two lanes by means of temporary traffic control devices, such as traffic cones and signage. It should be noted that all traffic improvements proposed on State-controlled facilities, such as freeway off-ramps, require review and approval by Caltrans and may require encroachment permits. With this temporary improvement, this intersection also would operate at an acceptable level of service.

One of the two improvements described above should be incorporated into the Traffic and Parking Management Plan (TPMP) that would be prepared in conjunction with the MLS Stadium project.

Table 7
Project + MLS Game Intersection Levels of Service

			Existing		Background		Project Conditions				Project + MLS Game	
Study Number	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Coleman Av and Hedding St	PM	29.5	C	32.7	C	32.8	C	0.2	0.003	33.3	C
2	Coleman Av and I-880 NB Ramps	PM	16.9	B	19.8	B	19.9	B	0.1	0.006	23.3	C
3	Coleman Av and I-880 SB Ramps	PM	9.1	A	13.5	B	13.9	B	0.6	0.010	57.5	E
4	Coleman Av and Airport Blvd	PM	8.5	A	11.7	B	11.7	B	0.0	0.003	12.3	B
5	Coleman Av and Newhall Dr	PM	11.8	B	50.4	D	52.0	D	2.1	0.006	45.2	D
6	Coleman Av and Aviation Av	PM	7.2	A	36.6	D	39.2	D	4.0	0.026	51.2	D
7	Coleman Av and Brokaw Rd	PM	45.0	D	45.6	D	46.0	D	0.8	0.003	49.7	D

6. Other Transportation Issues

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

- Intersection operations analysis – vehicle queuing and storage at selected intersections
- Potential impacts to bicycle facilities and transit services
- Parking Supply

Unlike the level of service impact methodology, which is adopted by the San Jose City Council, the analyses contained in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Intersection Operations Analysis

The analysis of intersection level of service was supplemented with a vehicle queuing analysis for high demand left-turn movements at signalized intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

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

Where:

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

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

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

Coleman Avenue and Newhall Drive

The left-turn queuing analysis (see Table 8) indicates that the northbound left-turn pocket at the Coleman Avenue and Newhall Drive intersection currently provides adequate vehicle storage, and would continue to do so under both background and project conditions during the PM peak hour. The northbound left-turn pocket also would provide adequate storage under Project + MLS Game conditions.

Coleman Avenue and Aviation Avenue

The left-turn queuing analysis indicates that the northbound left-turn pocket at the Coleman Avenue and Aviation Avenue intersection currently provides adequate vehicle storage, and would continue to do so under both background and project conditions during the PM peak hour. The analysis indicates that the estimated maximum vehicle queues for the northbound left-turn movement could exceed the planned vehicle storage capacity under Project + MLS Game conditions during the PM peak hour.

The City plans to require the soccer stadium project to reconstruct this intersection and provide a dual northbound left-turn pocket. It also would be necessary to control traffic, including the use of officers, at this location prior to a soccer game in order to clear the long northbound left-turn vehicle queues estimated to occur at this location. Additional details will be included in a final Traffic and Parking Management Plan (TPMP) that will be prepared in conjunction with the soccer stadium project.

Transit Services

Based on the very limited transit service currently provided along Coleman Avenue, it can be concluded that, without any improvements, users of the soccer complex would be unable to adequately utilize public transit to get to and from the site.

The traffic study prepared for the adjacent soccer stadium project recommends that improvements to transit services in the study area occur in conjunction with construction of the stadium. Improvements could include providing VTA bus service directly to the soccer stadium, providing shuttle service between the soccer stadium and the Santa Clara transit center, constructing a pedestrian connection between the stadium and transit center, and providing shuttle service between the stadium and the Civic Center and Gish LRT stations on North First Street. These improvements would help to encourage the use of public transit and reduce auto usage in the area. Given the available ridership capacities of the existing bus, LRT, Caltrain, and ACE services currently serving the general project area, it is estimated that potential new riders generated by both the soccer complex and the soccer stadium could be accommodated.

It is important to note that according to the site plan for the soccer stadium, that project is proposing to construct two new bus stops on Coleman Avenue adjacent to the soccer stadium site. It should also be noted that a future BART station is planned adjacent to the Santa Clara transit station as part of the planned BART extension from Fremont to San Jose to Santa Clara. A pedestrian connection overcrossing is planned to be constructed at Brokaw Road as part of the BART project, to connect the BART station to the Santa Clara Caltrain Station Area Plan in the same alignment as Brokaw Road.

Bicycle Facilities

County-designated bicycle facilities exist on Coleman Avenue but are intermittent. Bike lanes begin just north of Newhall Street and extend south, terminating at Hedding Street. Bike lanes do not exist between Hedding Street and Taylor Street, but pick up again at Taylor Street, terminating once again at Santa Teresa Street near the SR 87 overpass. Due to the sporadic nature of the bike lanes in the area, the number of soccer complex users arriving by bicycle most likely would be low.

According to the Transportation Bicycle Network contained in the City of San Jose 2020 General Plan, future bike lanes are planned along Coleman Avenue between De La Cruz Boulevard and Market Street where they currently do not exist. However, even with a continuous network of bike lanes, usage by soccer players most likely would be low.

Table 8
Left-Turn Pocket Storage and Queuing Analysis

	Coleman Av & Newhall Dr	Coleman Av & Aviation Av
	NBL	NBL
	PM	PM
Existing		
Cycle/Delay[1] (sec)	110	126
Volume (vphpl)	145	9
Avg. Queue (veh/ln.)	4.4	0.3
Avg. Queue[2] (ft./ln)	111	8
95th %. Queue (veh/ln.)	8	1
95th %. Queue (ft./ln)	200	25
Storage (ft./ ln.)	850	325
Adequate (Y/N)	Y	Y
Background		
Cycle/Delay[1] (sec)	126	126
Volume (vphpl)	125	102
Avg. Queue (veh/ln.)	4.4	3.6
Avg. Queue[2] (ft./ln)	109	89
95th %. Queue (veh/ln.)	8	7
95th %. Queue (ft./ln)	200	175
Storage (ft./ ln.)	550	325
Adequate (Y/N)	Y	Y
Project		
Cycle/Delay[1] (sec)	126	126
Volume (vphpl)	134	129
Avg. Queue (veh/ln.)	4.7	4.5
Avg. Queue[2] (ft./ln)	117	113
95th %. Queue (veh/ln.)	8	8
95th %. Queue (ft./ln)	200	200
Storage (ft./ ln.)	550	325
Adequate (Y/N)	Y	Y
Project + MLS Game		
Cycle/Delay[1] (sec)	126	126
Volume (vphpl)	156	425
Avg. Queue (veh/ln.)	5.5	14.9
Avg. Queue[2] (ft./ln)	137	372
95th %. Queue (veh/ln.)	10	21
95th %. Queue (ft./ln)	250	525
Storage (ft./ ln.)	550	250
Adequate (Y/N)	Y	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued.

7. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of San Jose and Santa Clara. The traffic study includes an analysis of weekday PM peak hour traffic conditions for seven signalized intersections on Coleman Avenue. For informational purposes, the traffic study also includes an analysis of Saturday midday peak hour traffic conditions for the two signalized intersections that would provide direct access to the site. The soccer fields are expected to generate a negligible amount of traffic (if any) during weekday mornings, so the weekday AM peak hour was not analyzed. The study also includes an operations analysis based on vehicle storage requirements at the two intersections providing access to the site. Since the project would generate fewer than 100 PM peak hour vehicle trips, an analysis in accordance with the Santa Clara County Congestion Management Program (CMP) was not required.

Intersection Levels of Service

The results of the intersection level of service analysis show that, based on the City of San Jose and City of Santa Clara weekday PM peak hour level of service impact criteria, none of the signalized study intersections would be significantly impacted by the project.

The two study intersections that would provide access to the project site would operate well during the Saturday midday period of traffic.

Other Transportation Issues

The proposed project would not have an adverse effect on existing bicycle, pedestrian or transit facilities in the study area

Coleman Avenue Soccer Complex

Draft Transportation Impact Analysis

Technical Appendices

Appendix A

New Traffic Counts

PM Peak-Hour Volume Count Worksheet

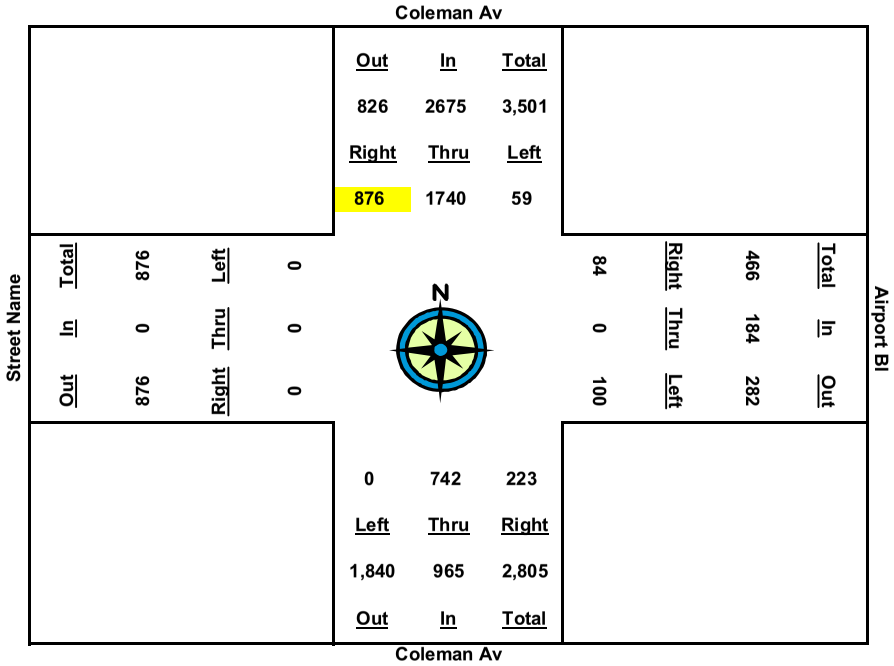
HEXAGON TRANSPORTATION CONSULTANTS
40 S. Market Street, Suite 600
San Jose, CA 95113
Phone 408-971-6100 Fax 408-971-6102

Date: 5/26/10
Counter: Huy & Gary
Intersection Name: Coleman / Airport
Weather:
City/Project: San Jose / Coleman Av Soccer Complex

	Coleman Av				Airport Bl				Coleman Av				Street Name			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	209	378	31	618	24	0	35	59	80	203	0	283	0	0	0	0
4:30	353	802	53	1,208	44	0	63	107	144	396	0	540	0	0	0	0
4:45	519	1,280	91	1,890	60	0	94	154	223	604	0	827	0	0	0	0
5:00	722	1,564	117	2,403	73	0	120	193	286	782	0	1,068	0	0	0	0
5:15	910	2,036	131	3,077	93	0	152	245	334	946	0	1,280	0	0	0	0
5:30	1,142	2,465	146	3,753	110	0	170	280	384	1,172	0	1,556	0	0	0	0
5:45	1,387	2,939	164	4,490	134	0	192	326	448	1,347	0	1,795	0	0	0	0
6:00	1,598	3,304	176	5,078	157	0	220	377	509	1,524	0	2,033	0	0	0	0

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	722	1,564	117	2,403	73	0	120	193	286	782	0	1,068	0	0	0	0	3,664
4:15 - 5:15	701	1,658	100	2,459	69	0	117	186	254	743	0	997	0	0	0	0	3,642
4:30 - 5:30	789	1,663	93	2,545	66	0	107	173	240	776	0	1,016	0	0	0	0	3,734
4:45 - 5:45	868	1,659	73	2,600	74	0	98	172	225	743	0	968	0	0	0	0	3,740
5:00 - 6:00	876	1,740	59	2,675	84	0	100	184	223	742	0	965	0	0	0	0	3,824
Peak Volumes:	**876**	**1,740**	**59**	**2,675**	**84**	**0**	**100**	**184**	**223**	**742**	**0**	**965**	**0**	**0**	**0**	**0**	**3,824**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	742	223	59	1,740	876	0	0	0	100	0	84



SB RT volume of 876 getting on SB 880.

PM Peak-Hour Volume Count Worksheet

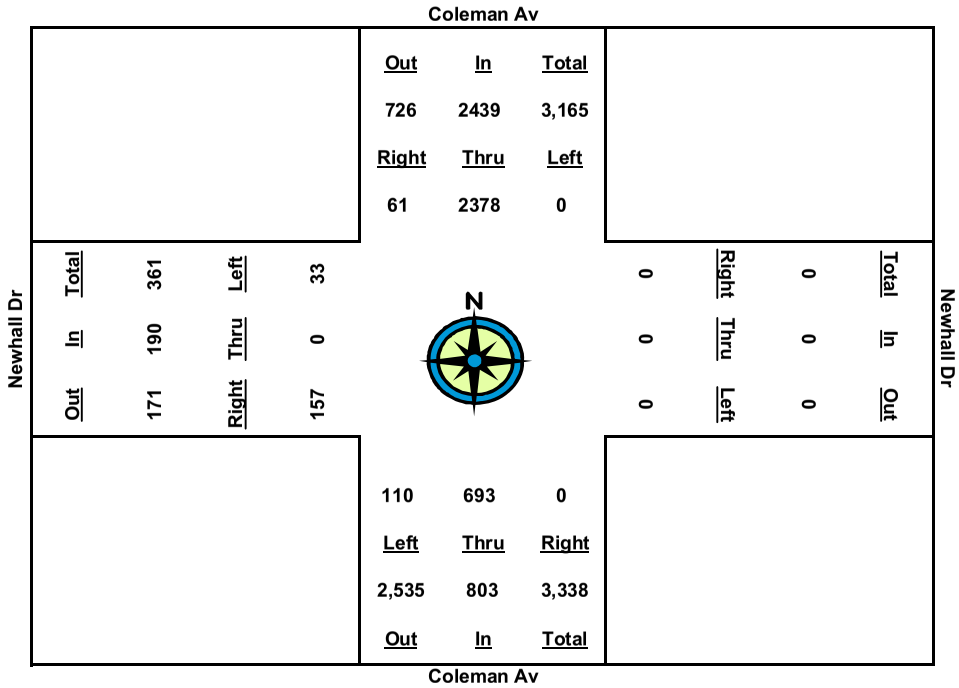
HEXAGON TRANSPORTATION CONSULTANTS
40 S. Market Street, Suite 600
San Jose, CA 95113
Phone 408-971-6100 Fax 408-971-6102

Date: 5/26/10
Counter: Michelle & Sandi
Intersection Name: Coleman / Newhall
Weather:
City/Project: San Jose / Coleman Av Soccer Complex

	Coleman Av				Newhall Dr				Coleman Av				Newhall Dr			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	9	505	1	515	0	0	0	0	0	176	29	205	36	0	9	45
4:30	21	1,049	2	1,072	0	0	0	0	0	354	71	425	74	0	14	88
4:45	31	1,606	2	1,639	0	0	0	0	0	542	110	652	103	0	18	121
5:00	43	2,102	3	2,148	0	0	0	0	0	706	142	848	151	0	26	177
5:15	62	2,741	3	2,806	0	0	0	0	0	875	169	1,044	198	0	36	234
5:30	73	3,297	3	3,373	0	0	0	0	0	1,076	198	1,274	248	0	49	297
5:45	85	3,917	3	4,005	0	0	0	0	0	1,230	225	1,455	277	0	56	333
6:00	104	4,480	3	4,587	0	0	0	0	0	1,399	252	1,651	308	0	59	367

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	43	2,102	3	2,148	0	0	0	0	0	706	142	848	151	0	26	177	3,173
4:15 - 5:15	53	2,236	2	2,291	0	0	0	0	0	699	140	839	162	0	27	189	3,319
4:30 - 5:30	52	2,248	1	2,301	0	0	0	0	0	722	127	849	174	0	35	209	3,359
4:45 - 5:45	54	2,311	1	2,366	0	0	0	0	0	688	115	803	174	0	38	212	3,381
5:00 - 6:00	61	2,378	0	2,439	0	0	0	0	0	693	110	803	157	0	33	190	3,432
Peak Volumes:	**61**	**2,378**	**0**	**2,439**	**0**	**0**	**0**	**0**	**0**	**693**	**110**	**803**	**157**	**0**	**33**	**190**	**3,432**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	110	693	0	0	2,378	61	33	0	157	0	0	0



Mid-day Peak-Hour Volume Count Worksheet

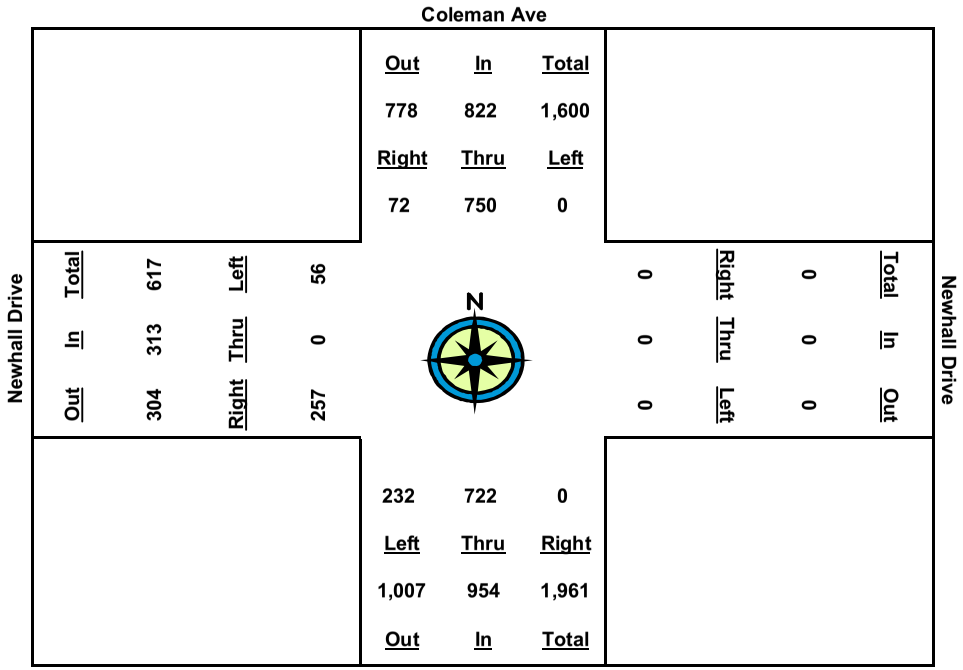
HEXAGON TRANSPORTATION CONSULTANTS
40 S. Market Street, Suite 600
San Jose, CA 95113
Phone 408-971-6100 Fax 408-971-6102

Date: 6/5/10
Counter: Trisha & Ryan
Intersection Name: Coleman Ave & Newhall Drive
Weather: Clear
City/Project: San Jose

	Coleman Ave				Newhall Drive				Coleman Ave				Newhall Drive			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
1:00	0	0	0	0				0	0	0	0	0	0	0	0	0
1:15	16	195	0	211				0	0	162	51	213	53	0	21	74
1:30	37	358	0	395				0	0	339	118	457	119	0	37	156
1:45	55	546	0	601				0	0	501	174	675	177	0	55	232
2:00	65	746	0	811				0	0	681	224	905	243	0	66	309
2:15	88	945	0	1,033				0	0	884	283	1,167	310	0	77	387
2:30	104	1,152	0	1,256				0	0	1,028	337	1,365	373	0	89	462
2:45	120	1,342	1	1,463				0	0	1,172	388	1,560	441	0	95	536
3:00	136	1,503	1	1,640				0	0	1,317	447	1,764	498	0	109	607

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
1:00 - 2:00	65	746	0	811	0	0	0	0	0	681	224	905	243	0	66	309	2,025
1:15 - 2:15	72	750	0	822	0	0	0	0	0	722	232	954	257	0	56	313	2,089
1:30 - 2:30	67	794	0	861	0	0	0	0	0	689	219	908	254	0	52	306	2,075
1:45 - 2:45	65	796	1	862	0	0	0	0	0	671	214	885	264	0	40	304	2,051
2:00 - 3:00	71	757	1	829	0	0	0	0	0	636	223	859	255	0	43	298	1,986
Peak Volumes:	**72**	**750**	**0**	**822**	**0**	**0**	**0**	**0**	**0**	**722**	**232**	**954**	**257**	**0**	**56**	**313**	**2,089**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	232	722	0	0	750	72	56	0	257	0	0	0



PM Peak-Hour Volume Count Worksheet

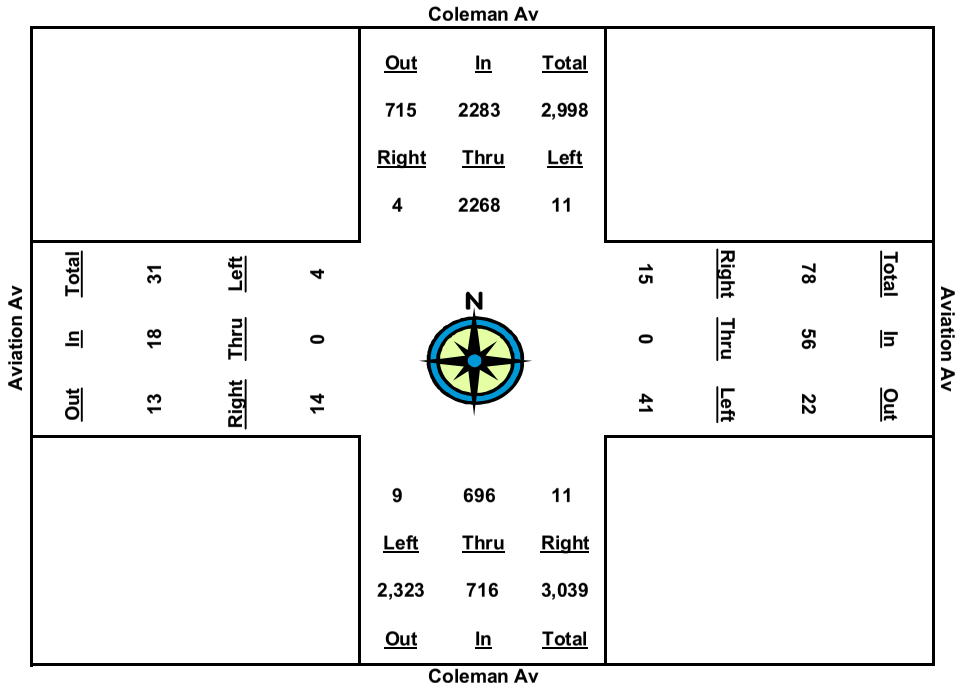
HEXAGON TRANSPORTATION CONSULTANTS
40 S. Market Street, Suite 600
San Jose, CA 95113
Phone 408-971-6100 Fax 408-971-6102

Date: 5/26/10
Counter: Ryan & Yesenia
Intersection Name: Coleman / Aviation
Weather:
City/Project: San Jose / Coleman Av Soccer Complex

	Coleman Av				Aviation Av				Coleman Av				Aviation Av			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	467	4	471	11	0	14	25	2	187	8	197	5	0	2	7
4:30	0	998	8	1,006	13	0	23	36	5	348	15	368	12	1	2	15
4:45	0	1,492	12	1,504	16	0	45	61	8	535	20	563	27	1	2	30
5:00	2	2,008	17	2,027	18	0	51	69	11	711	22	744	35	1	4	40
5:15	3	2,589	19	2,611	20	0	66	86	12	872	24	908	38	1	6	45
5:30	4	3,176	22	3,202	22	0	73	95	18	1,084	25	1,127	38	1	6	45
5:45	4	3,760	23	3,787	31	0	86	117	19	1,231	29	1,279	41	1	6	48
6:00	4	4,240	25	4,269	33	0	93	126	23	1,395	31	1,449	42	1	6	49

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	2	2,008	17	2,027	18	0	51	69	11	711	22	744	35	1	4	40	2,880
4:15 - 5:15	3	2,122	15	2,140	9	0	52	61	10	685	16	711	33	1	4	38	2,950
4:30 - 5:30	4	2,178	14	2,196	9	0	50	59	13	736	10	759	26	0	4	30	3,044
4:45 - 5:45	4	2,268	11	2,283	15	0	41	56	11	696	9	716	14	0	4	18	3,073
5:00 - 6:00	2	2,232	8	2,242	15	0	42	57	12	684	9	705	7	0	2	9	3,013
Peak Volumes:	**4**	**2,268**	**11**	**2,283**	**15**	**0**	**41**	**56**	**11**	**696**	**9**	**716**	**14**	**0**	**4**	**18**	**3,073**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	9	696	11	11	2,268	4	4	0	14	41	0	15



Mid-day Peak-Hour Volume Count Worksheet

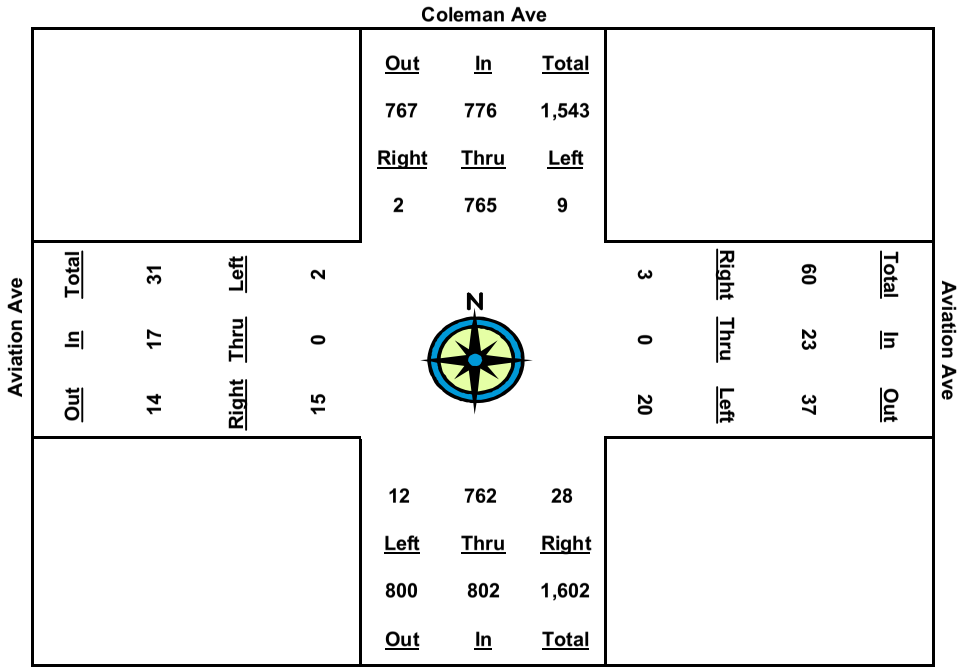
HEXAGON TRANSPORTATION CONSULTANTS
40 S. Market Street, Suite 600
San Jose, CA 95113
Phone 408-971-6100 Fax 408-971-6102

Date: 6/5/10
Counter: Ralph & Huy
Intersection Name: coleman Ave & Aviation Ave
Weather: Clear
City/Project: San Jose

	Coleman Ave				Aviation Ave				Coleman Ave				Aviation Ave			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	1	230	1	232	1	0	7	8	8	202	4	214	1	0	1	2
1:30	1	405	5	411	2	0	11	13	12	379	8	399	3	0	2	5
1:45	2	593	5	600	2	0	14	16	16	583	11	610	11	0	2	13
2:00	2	765	9	776	3	0	20	23	28	762	12	802	15	0	2	17
2:15	2	960	10	972	3	0	21	24	29	954	18	1,001	23	0	2	25
2:30	2	1,151	12	1,165	4	0	24	28	32	1,125	21	1,178	27	0	2	29
2:45	2	1,364	13	1,379	5	0	28	33	33	1,295	26	1,354	32	0	2	34
3:00	2	1,527	14	1,543	7	0	31	38	39	1,465	29	1,533	34	0	2	36

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
1:00 - 2:00	2	765	9	776	3	0	20	23	28	762	12	802	15	0	2	17	1,618
1:15 - 2:15	1	730	9	740	2	0	14	16	21	752	14	787	22	0	1	23	1,566
1:30 - 2:30	1	746	7	754	2	0	13	15	20	746	13	779	24	0	0	24	1,572
1:45 - 2:45	0	771	8	779	3	0	14	17	17	712	15	744	21	0	0	21	1,561
2:00 - 3:00	0	762	5	767	4	0	11	15	11	703	17	731	19	0	0	19	1,532
Peak Volumes:	**2**	**765**	**9**	**776**	**3**	**0**	**20**	**23**	**28**	**762**	**12**	**802**	**15**	**0**	**2**	**17**	**1,618**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	12	762	28	9	765	2	2	0	15	20	0	3



PM Peak-Hour Volume Count Worksheet

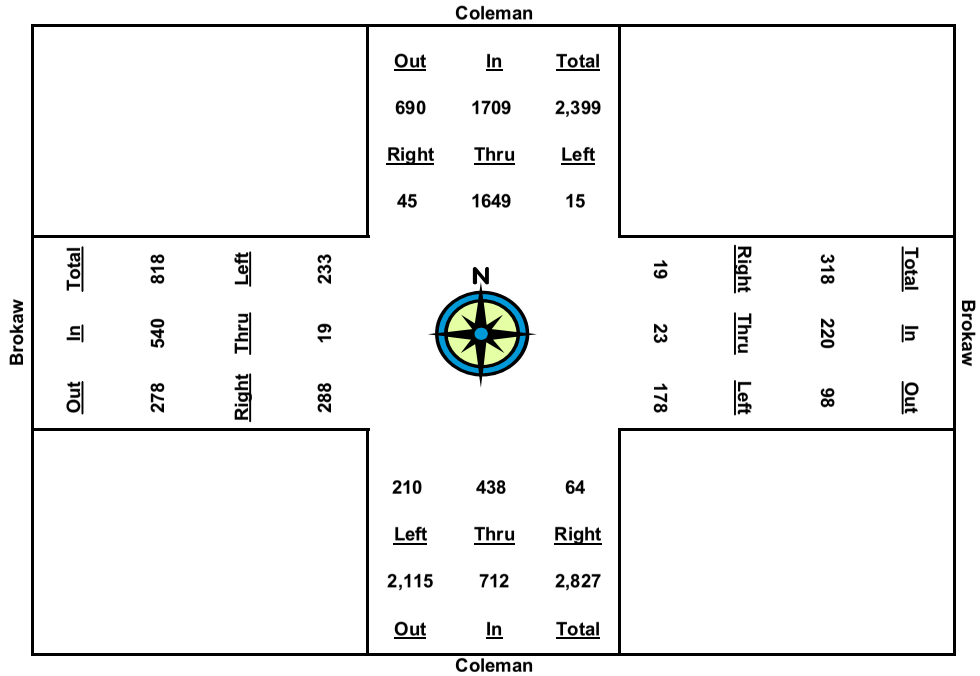
Date: 5/26/10
Counter: Kevin and Byron
Intersection Name: Coleman and Brokaw
Weather: Clear Santa Clara 10BJ06

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Coleman				Brokaw				Coleman				Brokaw			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	15	348	3	366	6	10	42	58	18	116	62	196	79	6	61	146
4:30	29	684	8	721	15	31	68	114	29	220	128	377	165	10	120	295
4:45	38	1,060	10	1,108	18	41	120	179	46	336	199	581	239	18	177	434
5:00	55	1,516	12	1,583	22	45	166	233	66	446	252	764	328	20	248	596
5:15	60	1,871	18	1,949	28	48	208	284	79	535	289	903	380	26	291	697
5:30	74	2,333	23	2,430	34	54	246	334	93	658	338	1,089	453	29	353	835
5:45	82	2,744	24	2,850	42	62	298	402	104	758	401	1,263	525	31	394	950
6:00	91	3,215	28	3,334	47	65	328	440	110	860	460	1,430	588	32	436	1,056

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	55	1,516	12	1,583	22	45	166	233	66	446	252	764	328	20	248	596	3,176
4:15 - 5:15	45	1,523	15	1,583	22	38	166	226	61	419	227	707	301	20	230	551	3,067
4:30 - 5:30	45	1,649	15	1,709	19	23	178	220	64	438	210	712	288	19	233	540	3,181
4:45 - 5:45	44	1,684	14	1,742	24	21	178	223	58	422	202	682	286	13	217	516	3,163
5:00 - 6:00	36	1,699	16	1,751	25	20	162	207	44	414	208	666	260	12	188	460	3,084
Peak Volumes:	**45**	**1,649**	**15**	**1,709**	**19**	**23**	**178**	**220**	**64**	**438**	**210**	**712**	**288**	**19**	**233**	**540**	**3,181**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	210	438	64	15	1,649	45	233	19	288	178	23	19



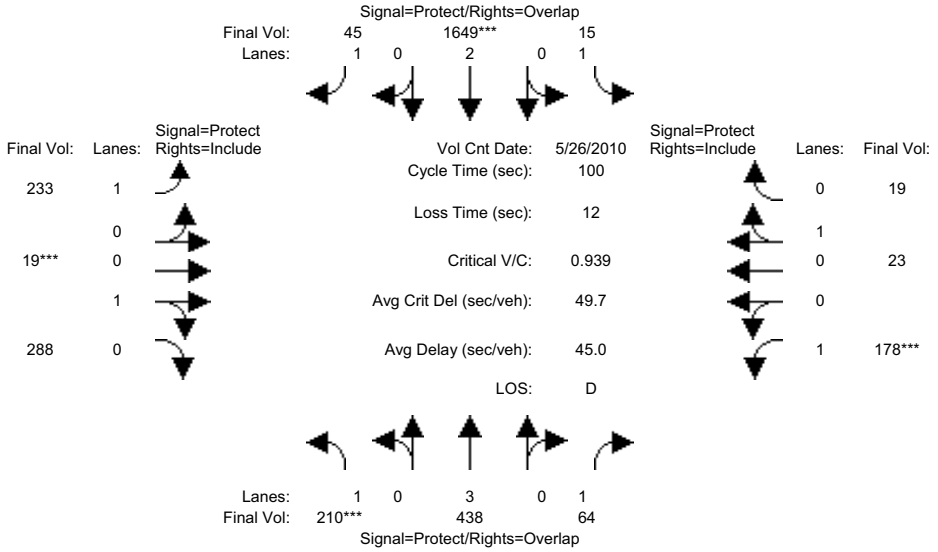
Appendix B

Intersection Level of Service Calculations

Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #110: Coleman Av and Brokaw Rd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 26 May 2010 <<												
Base Vol:	210	438	64	15	1649	45	233	19	288	178	23	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	438	64	15	1649	45	233	19	288	178	23	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	438	64	15	1649	45	233	19	288	178	23	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	438	64	15	1649	45	233	19	288	178	23	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	438	64	15	1649	45	233	19	288	178	23	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	438	64	15	1649	45	233	19	288	178	23	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	0.06	0.94	1.00	0.55	0.45
Final Sat.:	1750	5700	1750	1750	3800	1750	1750	111	1689	1750	986	814
Capacity Analysis Module:												
Vol/Sat:	0.12	0.08	0.04	0.01	0.43	0.03	0.13	0.17	0.17	0.10	0.02	0.02
Crit Moves:	****				****			****		****		
Green Time:	12.8	34.7	45.5	24.3	46.2	62.8	16.6	18.2	18.2	10.8	12.4	12.4
Volume/Cap:	0.94	0.22	0.08	0.04	0.94	0.04	0.80	0.94	0.94	0.94	0.19	0.19
Delay/Veh:	86.5	23.1	15.4	28.9	35.9	7.1	55.1	74.4	74.4	92.2	39.7	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.5	23.1	15.4	28.9	35.9	7.1	55.1	74.4	74.4	92.2	39.7	39.7
LOS by Move:	F	C	B	C	D	A	E	E	E	F	D	D
HCM2k95thQ:	20	6	2	1	47	1	18	25	25	18	3	3

Note: Queue reported is the number of cars per lane.

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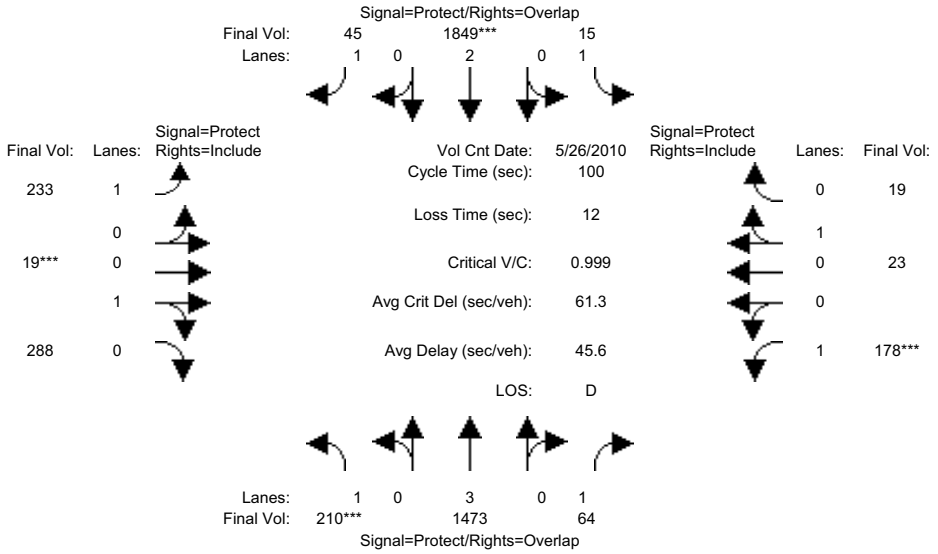
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #110: Coleman Av and Brokaw Rd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 26 May 2010 <<												
Base Vol:	210	438	64	15	1649	45	233	19	288	178	23	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	438	64	15	1649	45	233	19	288	178	23	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	1035	0	0	200	0	0	0	0	0	0	0
Initial Fut:	210	1473	64	15	1849	45	233	19	288	178	23	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	1473	64	15	1849	45	233	19	288	178	23	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	1473	64	15	1849	45	233	19	288	178	23	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	1473	64	15	1849	45	233	19	288	178	23	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	0.06	0.94	1.00	0.55	0.45
Final Sat.:	1750	5700	1750	1750	3800	1750	1750	111	1689	1750	986	814
Capacity Analysis Module:												
Vol/Sat:	0.12	0.26	0.04	0.01	0.49	0.03	0.13	0.17	0.17	0.10	0.02	0.02
Crit Moves:	****				****			****		****		
Green Time:	12.0	47.8	58.0	12.9	48.7	64.3	15.6	17.1	17.1	10.2	11.7	11.7
Volume/Cap:	1.00	0.54	0.06	0.07	1.00	0.04	0.86	1.00	1.00	1.00	0.20	0.20
Delay/Veh:	105.7	18.6	9.2	38.3	46.2	6.6	63.4	92.4	92.4	111.9	40.4	40.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	105.7	18.6	9.2	38.3	46.2	6.6	63.4	92.4	92.4	111.9	40.4	40.4
LOS by Move:	F	B	A	D	D	A	E	F	F	F	D	D
HCM2k95thQ:	21	20	2	1	57	1	19	27	27	19	3	3

Note: Queue reported is the number of cars per lane.

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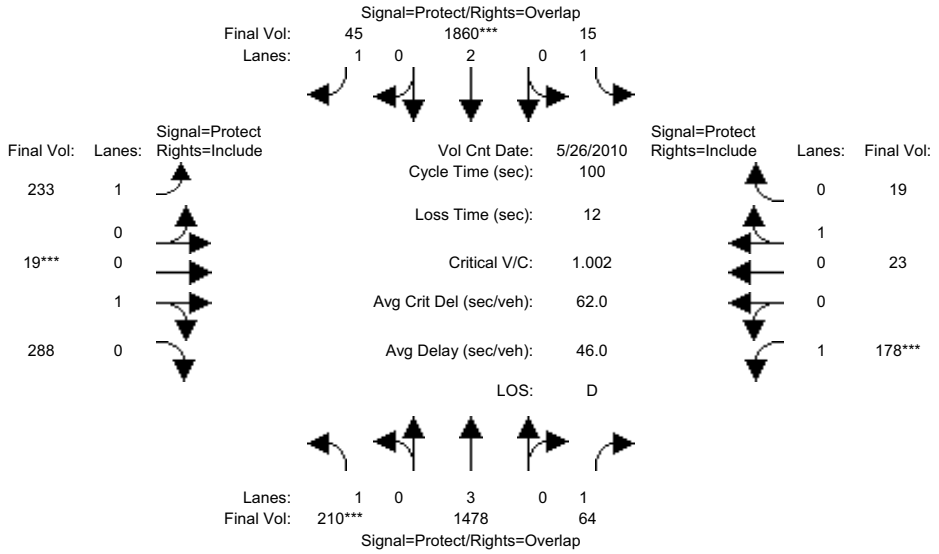
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #110: Coleman Av and Brokaw Rd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 26 May 2010 <<												
Base Vol:	210	438	64	15	1649	45	233	19	288	178	23	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	438	64	15	1649	45	233	19	288	178	23	19
Added Vol:	0	5	0	0	11	0	0	0	0	0	0	0
ATI:	0	1035	0	0	200	0	0	0	0	0	0	0
Initial Fut:	210	1478	64	15	1860	45	233	19	288	178	23	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	1478	64	15	1860	45	233	19	288	178	23	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	1478	64	15	1860	45	233	19	288	178	23	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	1478	64	15	1860	45	233	19	288	178	23	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	0.06	0.94	1.00	0.55	0.45
Final Sat.:	1750	5700	1750	1750	3800	1750	1750	111	1689	1750	986	814
Capacity Analysis Module:												
Vol/Sat:	0.12	0.26	0.04	0.01	0.49	0.03	0.13	0.17	0.17	0.10	0.02	0.02
Crit Moves:	****				****			****		****		
Green Time:	12.0	47.9	58.0	12.9	48.9	64.4	15.5	17.0	17.0	10.2	11.7	11.7
Volume/Cap:	1.00	0.54	0.06	0.07	1.00	0.04	0.86	1.00	1.00	1.00	0.20	0.20
Delay/Veh:	106.7	18.5	9.2	38.4	46.9	6.5	64.0	93.4	93.4	113.0	40.4	40.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	106.7	18.5	9.2	38.4	46.9	6.5	64.0	93.4	93.4	113.0	40.4	40.4
LOS by Move:	F	B	A	D	D	A	E	F	F	F	D	D
HCM2k95thQ:	21	20	2	1	58	1	19	27	27	19	3	3

Note: Queue reported is the number of cars per lane.

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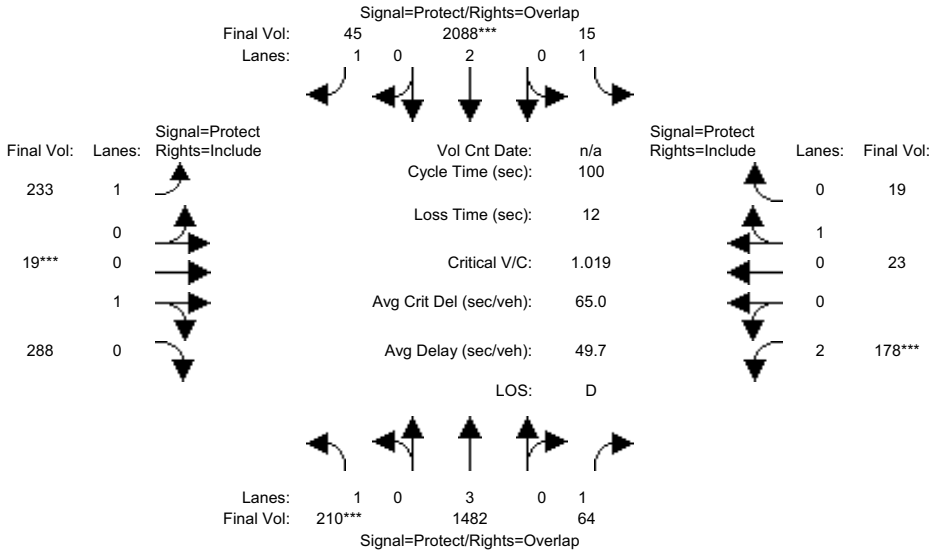
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #110: Coleman Av and Brokaw Rd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	210	1473	64	15	1849	45	233	19	288	178	23	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	1473	64	15	1849	45	233	19	288	178	23	19
Added Vol:	0	5	0	0	11	0	0	0	0	0	0	0
MLStrips:	0	4	0	0	228	0	0	0	0	0	0	0
Initial Fut:	210	1482	64	15	2088	45	233	19	288	178	23	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	1482	64	15	2088	45	233	19	288	178	23	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	1482	64	15	2088	45	233	19	288	178	23	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	1482	64	15	2088	45	233	19	288	178	23	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	0.06	0.94	2.00	0.55	0.45
Final Sat.:	1750	5700	1750	1750	3800	1750	1750	111	1689	3150	986	814
Capacity Analysis Module:												
Vol/Sat:	0.12	0.26	0.04	0.01	0.55	0.03	0.13	0.17	0.17	0.06	0.02	0.02
Crit Moves:	****				****			****		****		
Green Time:	11.6	50.9	57.9	13.7	53.0	66.4	13.4	16.4	16.4	7.0	10.1	10.1
Volume/Cap:	1.04	0.51	0.06	0.06	1.04	0.04	0.99	1.04	1.04	0.81	0.23	0.23
Delay/Veh:	117.5	16.5	9.2	37.7	53.9	5.8	100.4	104	104.0	65.2	42.1	42.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	117.5	16.5	9.2	37.7	53.9	5.8	100.4	104	104.0	65.2	42.1	42.1
LOS by Move:	F	B	A	D	D	A	F	F	F	E	D	D
HCM2k95thQ:	22	19	2	1	67	1	23	28	28	10	3	3

Note: Queue reported is the number of cars per lane.

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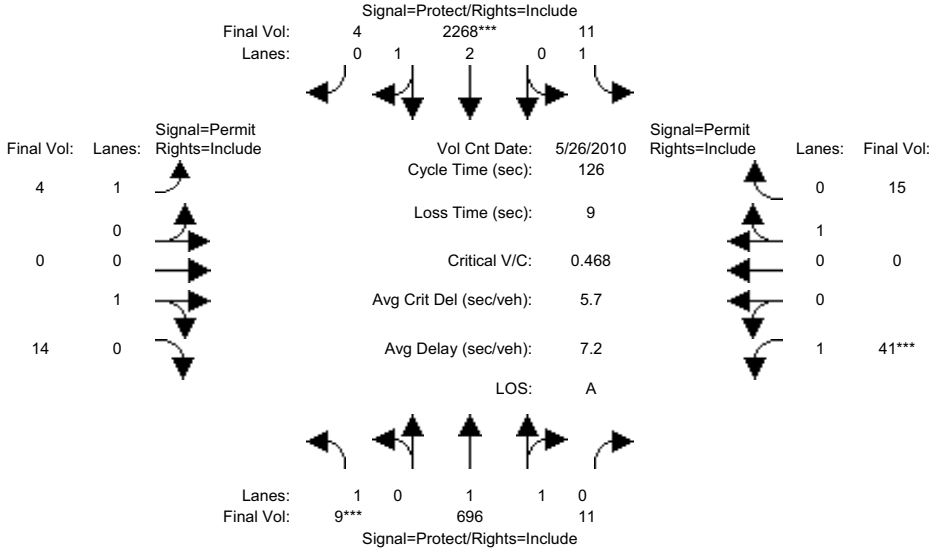
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Min. Green:	7		10		10		7		10		10		10		10		10		10		10		10	
Volume Module: >> Count Date: 26 May 2010 <<																								
Base Vol:	9		696		11		11		2268		4		4		0		14		41		0		15	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	9		696		11		11		2268		4		4		0		14		41		0		15	
Added Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
ATI:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	9		696		11		11		2268		4		4		0		14		41		0		15	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	9		696		11		11		2268		4		4		0		14		41		0		15	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	9		696		11		11		2268		4		4		0		14		41		0		15	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	9		696		11		11		2268		4		4		0		14		41		0		15	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.97		0.95		0.92		0.98		0.95		0.92		1.00		0.95		0.92		1.00		0.95	
Lanes:	1.00		1.97		0.03		1.00		2.99		0.01		1.00		0.00		1.00		1.00		0.00		1.00	
Final Sat.:	1750		3642		58		1750		5590		10		1750		0		1800		1750		0		1800	
Capacity Analysis Module:																								
Vol/Sat:	0.01		0.19		0.19		0.01		0.41		0.41		0.00		0.00		0.01		0.02		0.00		0.01	
Crit Moves:	****								****										****					
Green Time:	7.0		82.9		82.9		24.1		100		100.0		10.0		0.0		10.0		10.0		0.0		10.0	
Volume/Cap:	0.09		0.29		0.29		0.03		0.51		0.51		0.03		0.00		0.10		0.30		0.00		0.11	
Delay/Veh:	56.9		9.2		9.2		41.5		4.6		4.6		53.6		0.0		54.1		55.9		0.0		54.2	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	56.9		9.2		9.2		41.5		4.6		4.6		53.6		0.0		54.1		55.9		0.0		54.2	
LOS by Move:	E		A		A		D		A		A		D		A		D		E		A		D	
HCM2k95thQ:	1		11		11		1		19		19		0		0		1		4		0		1	

Note: Queue reported is the number of cars per lane.

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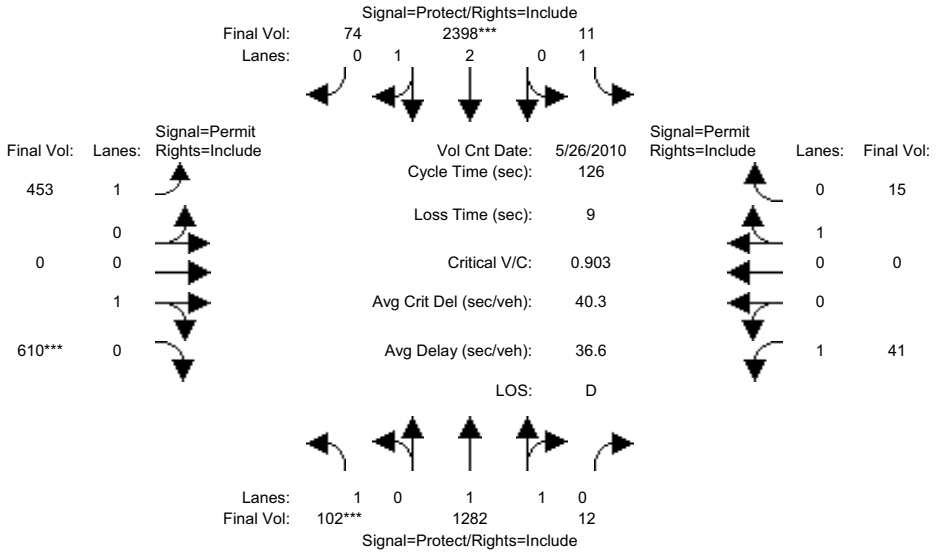
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module: >> Count Date: 26 May 2010 <<												
Base Vol:	9	696	11	11	2268	4	4	0	14	41	0	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	696	11	11	2268	4	4	0	14	41	0	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	93	586	1	0	130	70	449	0	596	0	0	0
Initial Fut:	102	1282	12	11	2398	74	453	0	610	41	0	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	102	1282	12	11	2398	74	453	0	610	41	0	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	1282	12	11	2398	74	453	0	610	41	0	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	102	1282	12	11	2398	74	453	0	610	41	0	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.98	0.95	0.92	1.00	0.95	0.92	1.00	0.95
Lanes:	1.00	1.98	0.02	1.00	2.91	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1750	3666	34	1750	5432	168	1750	0	1800	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.06	0.35	0.35	0.01	0.44	0.44	0.26	0.00	0.34	0.02	0.00	0.01
Crit Moves:	****				****				****			
Green Time:	8.1	60.2	60.2	9.6	61.6	61.6	47.3	0.0	47.3	47.3	0.0	47.3
Volume/Cap:	0.90	0.73	0.73	0.08	0.90	0.90	0.69	0.00	0.90	0.06	0.00	0.02
Delay/Veh:	113.9	28.1	28.1	54.4	34.2	34.2	36.3	0.0	52.7	25.2	0.0	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	113.9	28.1	28.1	54.4	34.2	34.2	36.3	0.0	52.7	25.2	0.0	24.8
LOS by Move:	F	C	C	D	C	C	D	A	D	C	A	C
HCM2k95thQ:	13	36	36	1	53	53	29	0	44	2	0	1

Note: Queue reported is the number of cars per lane.

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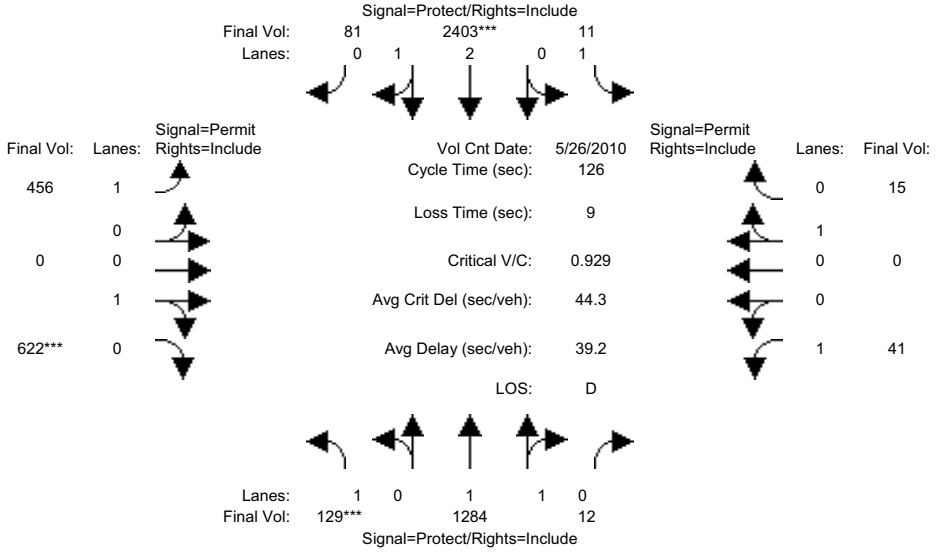
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module: >> Count Date: 26 May 2010 <<												
Base Vol:	9	696	11	11	2268	4	4	0	14	41	0	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	696	11	11	2268	4	4	0	14	41	0	15
Added Vol:	27	2	0	0	5	7	3	0	12	0	0	0
ATI:	93	586	1	0	130	70	449	0	596	0	0	0
Initial Fut:	129	1284	12	11	2403	81	456	0	622	41	0	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	1284	12	11	2403	81	456	0	622	41	0	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	1284	12	11	2403	81	456	0	622	41	0	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	1284	12	11	2403	81	456	0	622	41	0	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.98	0.95	0.92	1.00	0.95	0.92	1.00	0.95
Lanes:	1.00	1.98	0.02	1.00	2.90	0.10	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1750	3666	34	1750	5417	183	1750	0	1800	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.07	0.35	0.35	0.01	0.44	0.44	0.26	0.00	0.35	0.02	0.00	0.01
Crit Moves:	****				****				****			
Green Time:	10.0	60.5	60.5	9.6	60.1	60.1	46.9	0.0	46.9	46.9	0.0	46.9
Volume/Cap:	0.93	0.73	0.73	0.08	0.93	0.93	0.70	0.00	0.93	0.06	0.00	0.02
Delay/Veh:	112.9	27.7	27.7	54.4	37.4	37.4	37.0	0.0	57.4	25.5	0.0	25.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	112.9	27.7	27.7	54.4	37.4	37.4	37.0	0.0	57.4	25.5	0.0	25.1
LOS by Move:	F	C	C	D	D	D	D	A	E	C	A	C
HCM2k95thQ:	16	36	36	1	55	55	29	0	46	2	0	1

Note: Queue reported is the number of cars per lane.

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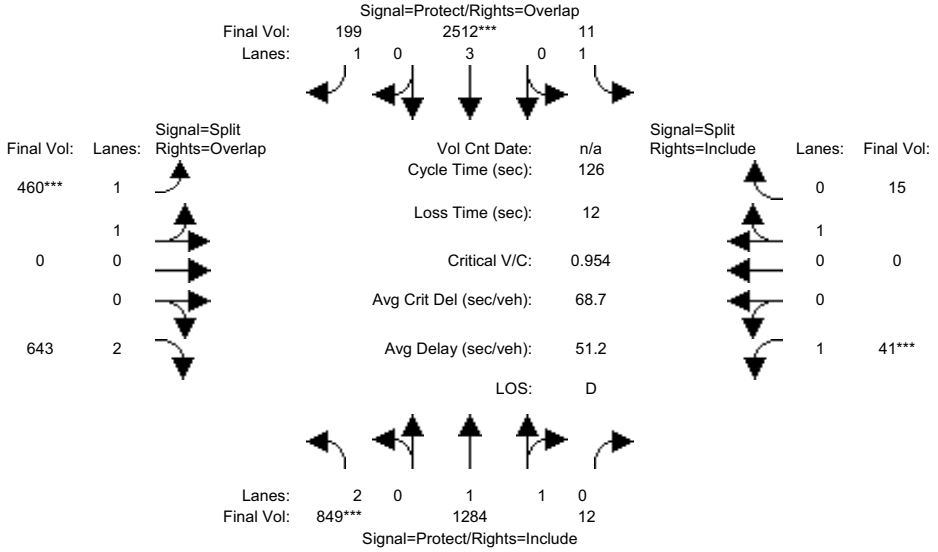
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module:												
Base Vol:	102	1282	12	11	2398	74	453	0	610	41	0	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	1282	12	11	2398	74	453	0	610	41	0	15
Added Vol:	46	0	0	0	0	11	5	0	21	0	0	0
MLStrips:	701	2	0	0	114	114	2	0	12	0	0	0
Initial Fut:	849	1284	12	11	2512	199	460	0	643	41	0	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	849	1284	12	11	2512	199	460	0	643	41	0	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	849	1284	12	11	2512	199	460	0	643	41	0	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	849	1284	12	11	2512	199	460	0	643	41	0	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.97	0.95	0.92	1.00	0.92	0.93	1.00	0.83	0.92	1.00	0.95
Lanes:	2.00	1.98	0.02	1.00	3.00	1.00	2.00	0.00	2.00	1.00	0.00	1.00
Final Sat.:	3150	3666	34	1750	5700	1750	3550	0	3150	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.27	0.35	0.35	0.01	0.44	0.11	0.13	0.00	0.20	0.02	0.00	0.01
Crit Moves:	****				****		****			****		
Green Time:	33.4	75.9	75.9	12.0	54.6	70.6	16.0	0.0	49.4	10.0	0.0	10.0
Volume/Cap:	1.02	0.58	0.58	0.07	1.02	0.20	1.02	0.00	0.52	0.30	0.00	0.11
Delay/Veh:	81.9	15.7	15.7	52.0	58.3	13.8	101.8	0.0	29.6	55.9	0.0	54.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	81.9	15.7	15.7	52.0	58.3	13.8	101.8	0.0	29.6	55.9	0.0	54.2
LOS by Move:	F	B	B	D	E	B	F	A	C	E	A	D
HCM2k95thQ:	43	27	27	1	63	8	26	0	21	4	0	1

Note: Queue reported is the number of cars per lane.

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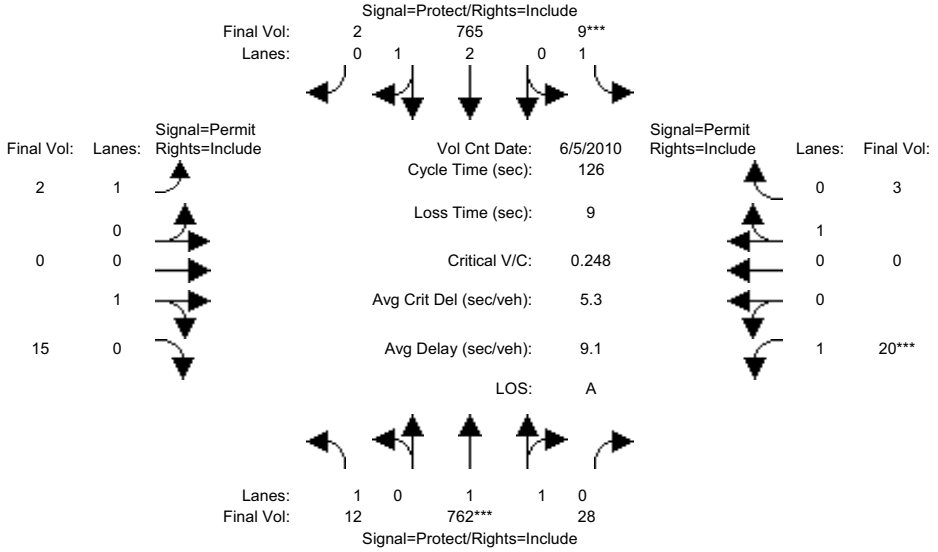
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing SAT

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module: >> Count Date: 5 Jun 2010 <<												
Base Vol:	12	762	28	9	765	2	2	0	15	20	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	762	28	9	765	2	2	0	15	20	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	762	28	9	765	2	2	0	15	20	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	762	28	9	765	2	2	0	15	20	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	762	28	9	765	2	2	0	15	20	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	762	28	9	765	2	2	0	15	20	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.98	0.95	0.92	1.00	0.95	0.92	1.00	0.95
Lanes:	1.00	1.93	0.07	1.00	2.99	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1750	3569	131	1750	5585	15	1750	0	1800	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.21	0.21	0.01	0.14	0.14	0.00	0.00	0.01	0.01	0.00	0.00
Crit Moves:		****		****						****		
Green Time:	30.9	100	100.0	7.0	76.1	76.1	10.0	0.0	10.0	10.0	0.0	10.0
Volume/Cap:	0.03	0.27	0.27	0.09	0.23	0.23	0.01	0.00	0.11	0.14	0.00	0.02
Delay/Veh:	36.2	3.5	3.5	56.9	11.5	11.5	53.5	0.0	54.2	54.5	0.0	53.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	3.5	3.5	56.9	11.5	11.5	53.5	0.0	54.2	54.5	0.0	53.5
LOS by Move:	D	A	A	E	B	B	D	A	D	D	A	D
HCM2k95thQ:	1	8	8	1	9	9	0	0	1	2	0	0

Note: Queue reported is the number of cars per lane.

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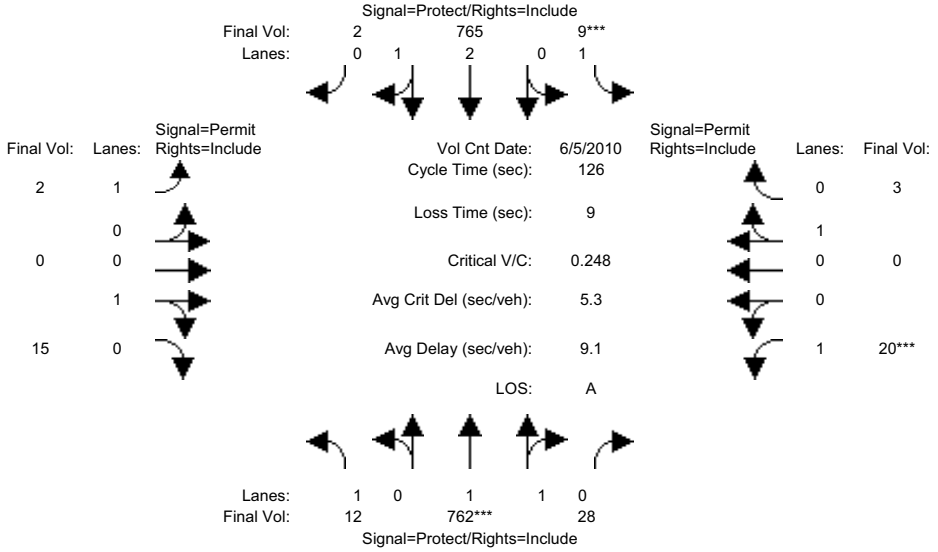
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd SAT

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module: >> Count Date: 5 Jun 2010 <<												
Base Vol:	12	762	28	9	765	2	2	0	15	20	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	762	28	9	765	2	2	0	15	20	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	762	28	9	765	2	2	0	15	20	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	762	28	9	765	2	2	0	15	20	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	762	28	9	765	2	2	0	15	20	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	762	28	9	765	2	2	0	15	20	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.98	0.95	0.92	1.00	0.95	0.92	1.00	0.95
Lanes:	1.00	1.93	0.07	1.00	2.99	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1750	3569	131	1750	5585	15	1750	0	1800	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.21	0.21	0.01	0.14	0.14	0.00	0.00	0.01	0.01	0.00	0.00
Crit Moves:		****		****						****		
Green Time:	30.9	100	100.0	7.0	76.1	76.1	10.0	0.0	10.0	10.0	0.0	10.0
Volume/Cap:	0.03	0.27	0.27	0.09	0.23	0.23	0.01	0.00	0.11	0.14	0.00	0.02
Delay/Veh:	36.2	3.5	3.5	56.9	11.5	11.5	53.5	0.0	54.2	54.5	0.0	53.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	3.5	3.5	56.9	11.5	11.5	53.5	0.0	54.2	54.5	0.0	53.5
LOS by Move:	D	A	A	E	B	B	D	A	D	D	A	D
HCM2k95thQ:	1	8	8	1	9	9	0	0	1	2	0	0

Note: Queue reported is the number of cars per lane.

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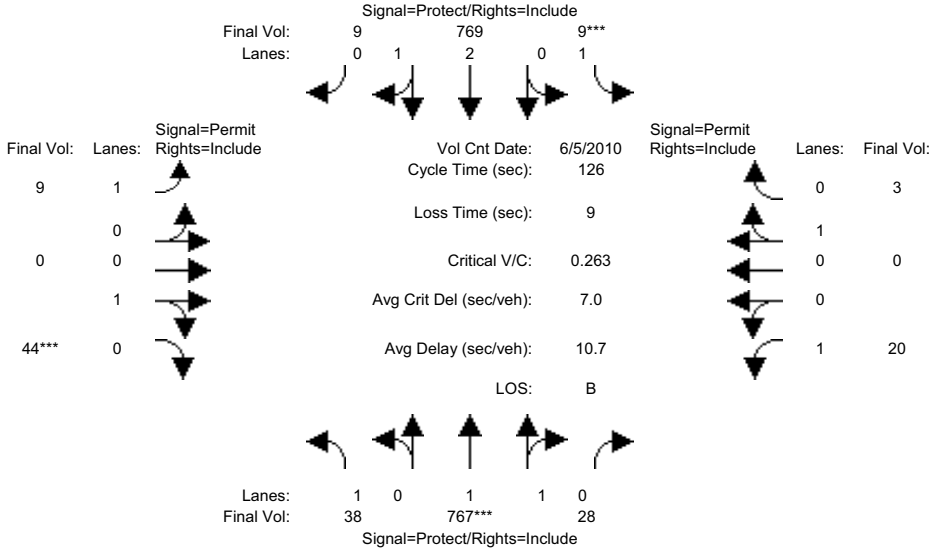
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex SAT Peak

Intersection #111: Coleman Av and Aviation Av



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Volume Module: >> Count Date: 5 Jun 2010 <<												
Base Vol:	12	762	28	9	765	2	2	0	15	20	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	762	28	9	765	2	2	0	15	20	0	3
Added Vol:	26	5	0	0	4	7	7	0	29	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	767	28	9	769	9	9	0	44	20	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	767	28	9	769	9	9	0	44	20	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	767	28	9	769	9	9	0	44	20	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	767	28	9	769	9	9	0	44	20	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.98	0.95	0.92	1.00	0.95	0.92	1.00	0.95
Lanes:	1.00	1.93	0.07	1.00	2.96	0.04	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1750	3570	130	1750	5535	65	1750	0	1800	1750	0	1800
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.21	0.01	0.14	0.14	0.01	0.00	0.02	0.01	0.00	0.00
Crit Moves:		****		****					****			
Green Time:	30.2	98.8	98.8	7.0	75.6	75.6	11.2	0.0	11.2	11.2	0.0	11.2
Volume/Cap:	0.09	0.27	0.27	0.09	0.23	0.23	0.06	0.00	0.27	0.13	0.00	0.02
Delay/Veh:	37.3	3.8	3.8	56.9	11.8	11.8	52.7	0.0	54.5	53.2	0.0	52.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.3	3.8	3.8	56.9	11.8	11.8	52.7	0.0	54.5	53.2	0.0	52.4
LOS by Move:	D	A	A	E	B	B	D	A	D	D	A	D
HCM2k95thQ:	3	9	9	1	9	9	1	0	4	2	0	0

Note: Queue reported is the number of cars per lane.

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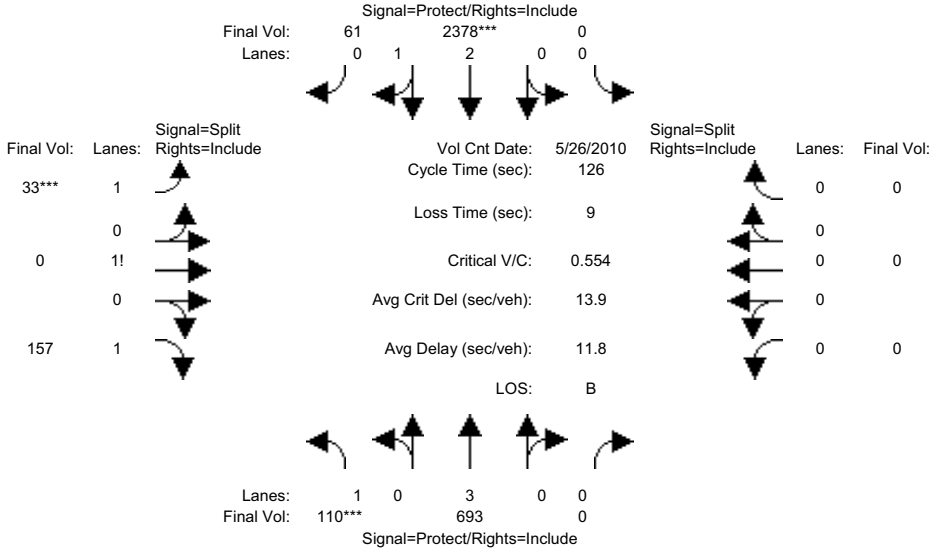
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	10		0	10	0		0	0
Volume Module: >> Count Date: 26 May 2010 <<																
Base Vol:	110		693	0	0		2378	61	33		0	157	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	110		693	0	0		2378	61	33		0	157	0		0	0
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
ATI:	0		0	0	0		0	0	0		0	0	0		0	0
Initial Fut:	110		693	0	0		2378	61	33		0	157	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	110		693	0	0		2378	61	33		0	157	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	110		693	0	0		2378	61	33		0	157	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	110		693	0	0		2378	61	33		0	157	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.92		1.00	0.92	0.92		0.98	0.95	0.92		1.00	0.95	0.92		1.00	0.92
Lanes:	1.00		3.00	0.00	0.00		2.92	0.08	1.18		0.00	1.82	0.00		0.00	0.00
Final Sat.:	1750		5700	0	0		5460	140	2061		0	3280	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.06		0.12	0.00	0.00		0.44	0.44	0.02		0.00	0.05	0.00		0.00	0.00
Crit Moves:	****						****		****							
Green Time:	13.4		106	0.0	0.0		92.7	92.7	10.9		0.0	10.9	0.0		0.0	0.0
Volume/Cap:	0.59		0.14	0.00	0.00		0.59	0.59	0.19		0.00	0.55	0.00		0.00	0.00
Delay/Veh:	66.8		1.8	0.0	0.0		8.4	8.4	53.8		0.0	61.5	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	66.8		1.8	0.0	0.0		8.4	8.4	53.8		0.0	61.5	0.0		0.0	0.0
LOS by Move:	E		A	A	A		A	A	D		A	E	A		A	A
HCM2k95thQ:	10		4	0	0		25	25	3		0	8	0		0	0

Note: Queue reported is the number of cars per lane.

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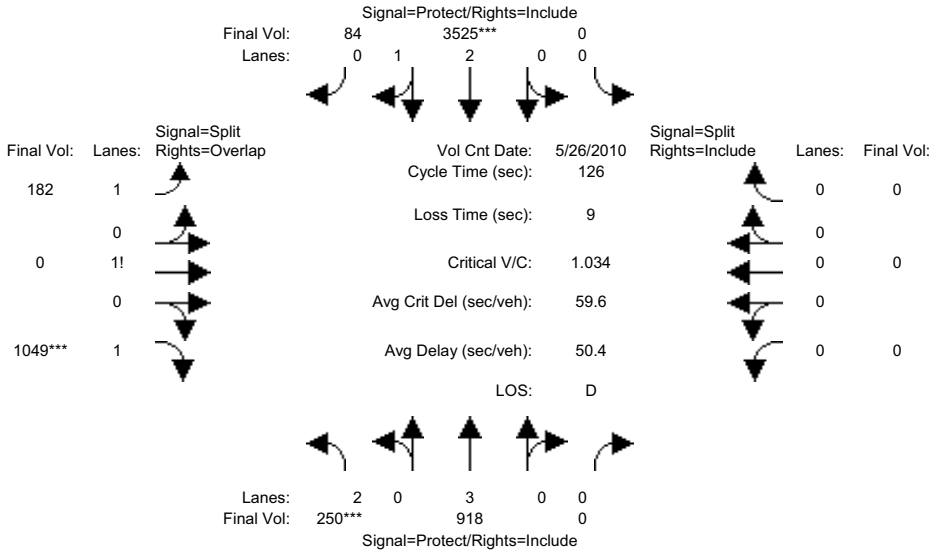
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	10		0	10	0		0	0
Volume Module: >> Count Date: 26 May 2010 <<																
Base Vol:	110		693	0	0		2378	61	33		0	157	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	110		693	0	0		2378	61	33		0	157	0		0	0
Added Vol:	0		0	0	0		0	0	0		0	0	0		0	0
ATI:	140		225	0	0		1147	23	149		0	892	0		0	0
Initial Fut:	250		918	0	0		3525	84	182		0	1049	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	250		918	0	0		3525	84	182		0	1049	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	250		918	0	0		3525	84	182		0	1049	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	250		918	0	0		3525	84	182		0	1049	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.83		1.00	0.92	0.92		0.98	0.95	0.92		1.00	0.95	0.92		1.00	0.92
Lanes:	2.00		3.00	0.00	0.00		2.93	0.07	1.15		0.00	1.85	0.00		0.00	0.00
Final Sat.:	3150		5700	0	0		5469	130	2015		0	3327	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.08		0.16	0.00	0.00		0.64	0.64	0.09		0.00	0.32	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green Time:	9.7		88.2	0.0	0.0		78.6	78.6	28.8		0.0	38.4	0.0		0.0	0.0
Volume/Cap:	1.03		0.23	0.00	0.00		1.03	1.03	0.40		0.00	1.03	0.00		0.00	0.00
Delay/Veh:	125.0		6.9	0.0	0.0		48.5	48.5	41.6		0.0	78.9	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	125.0		6.9	0.0	0.0		48.5	48.5	41.6		0.0	78.9	0.0		0.0	0.0
LOS by Move:	F		A	A	A		D	D	D		A	E	A		A	A
HCM2k95thQ:	17		8	0	0		93	93	11		0	50	0		0	0

Note: Queue reported is the number of cars per lane.

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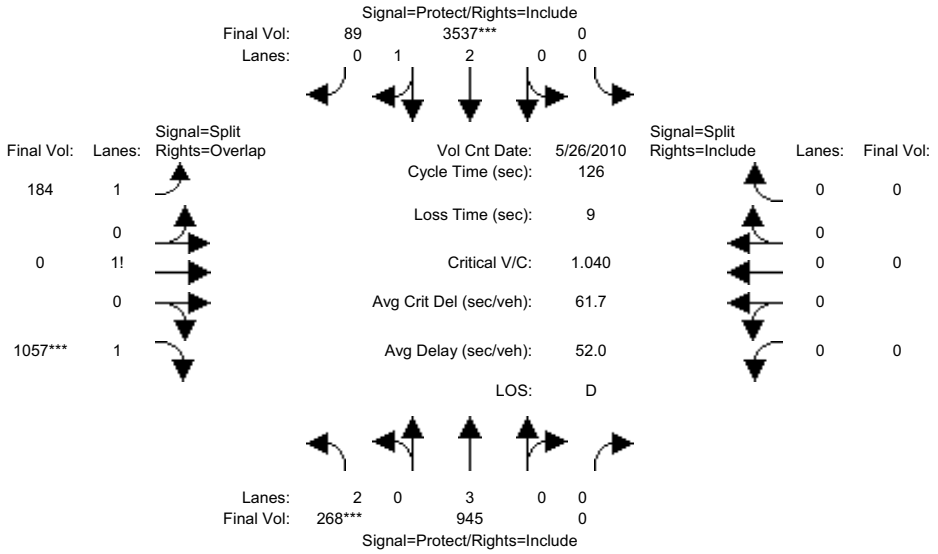
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	10		0	10	0		0	0
Volume Module: >> Count Date: 26 May 2010 <<																
Base Vol:	110		693	0	0		2378	61	33		0	157	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	110		693	0	0		2378	61	33		0	157	0		0	0
Added Vol:	18		27	0	0		12	5	2		0	8	0		0	0
ATI:	140		225	0	0		1147	23	149		0	892	0		0	0
Initial Fut:	268		945	0	0		3537	89	184		0	1057	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	268		945	0	0		3537	89	184		0	1057	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	268		945	0	0		3537	89	184		0	1057	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	268		945	0	0		3537	89	184		0	1057	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.83		1.00	0.92	0.92		0.98	0.95	0.92		1.00	0.95	0.92		1.00	0.92
Lanes:	2.00		3.00	0.00	0.00		2.92	0.08	1.15		0.00	1.85	0.00		0.00	0.00
Final Sat.:	3150		5700	0	0		5462	137	2016		0	3327	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.09		0.17	0.00	0.00		0.65	0.65	0.09		0.00	0.32	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green Time:	10.3		88.8	0.0	0.0		78.5	78.5	28.2		0.0	38.5	0.0		0.0	0.0
Volume/Cap:	1.04		0.24	0.00	0.00		1.04	1.04	0.41		0.00	1.04	0.00		0.00	0.00
Delay/Veh:	124.6		6.7	0.0	0.0		50.5	50.5	42.2		0.0	80.6	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	124.6		6.7	0.0	0.0		50.5	50.5	42.2		0.0	80.6	0.0		0.0	0.0
LOS by Move:	F		A	A	A		D	D	D		A	F	A		A	A
HCM2k95thQ:	18		9	0	0		94	94	11		0	50	0		0	0

Note: Queue reported is the number of cars per lane.

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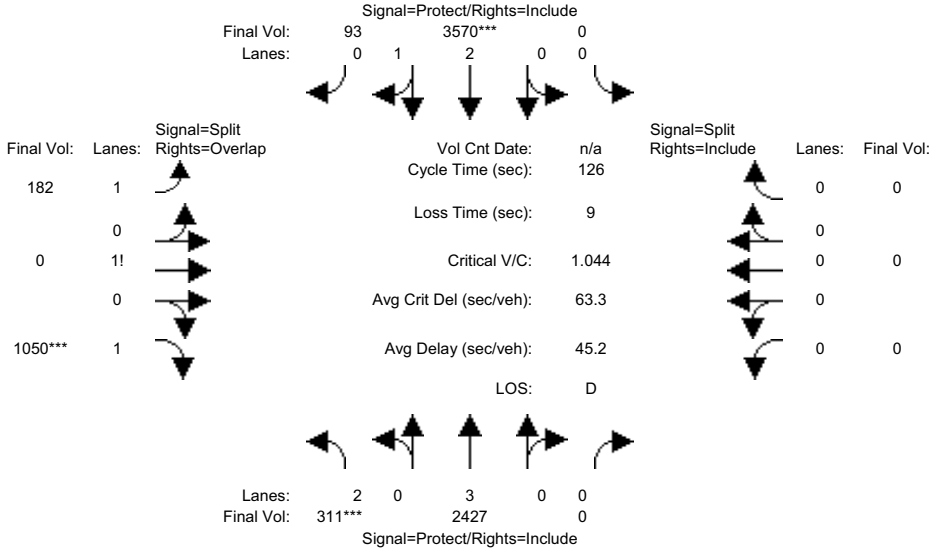
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	7		10	0	0		10	10	10		0	10	0		0	0
Volume Module:																
Base Vol:	250		918	0	0		3525	84	182		0	1049	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	250		918	0	0		3525	84	182		0	1049	0		0	0
Added Vol:	0		46	0	0		21	0	0		0	0	0		0	0
MLStrips:	61		1463	0	0		24	9	0		0	1	0		0	0
Initial Fut:	311		2427	0	0		3570	93	182		0	1050	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	311		2427	0	0		3570	93	182		0	1050	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	311		2427	0	0		3570	93	182		0	1050	0		0	0
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	311		2427	0	0		3570	93	182		0	1050	0		0	0
Saturation Flow Module:																
Sat/Lane:	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900
Adjustment:	0.83		1.00	0.92	0.92		0.98	0.95	0.92		1.00	0.95	0.92		1.00	0.92
Lanes:	2.00		3.00	0.00	0.00		2.92	0.08	1.15		0.00	1.85	0.00		0.00	0.00
Final Sat.:	3150		5700	0	0		5458	142	2015		0	3328	0		0	0
Capacity Analysis Module:																
Vol/Sat:	0.10		0.43	0.00	0.00		0.65	0.65	0.09		0.00	0.32	0.00		0.00	0.00
Crit Moves:	****						****					****				
Green Time:	11.9		90.8	0.0	0.0		78.9	78.9	26.2		0.0	38.1	0.0		0.0	0.0
Volume/Cap:	1.04		0.59	0.00	0.00		1.04	1.04	0.44		0.00	1.04	0.00		0.00	0.00
Delay/Veh:	121.2		9.2	0.0	0.0		51.9	51.9	44.0		0.0	82.5	0.0		0.0	0.0
User DelAdj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	121.2		9.2	0.0	0.0		51.9	51.9	44.0		0.0	82.5	0.0		0.0	0.0
LOS by Move:	F		A	A	A		D	D	D		A	F	A		A	A
HCM2k95thQ:	20		25	0	0		95	95	11		0	50	0		0	0

Note: Queue reported is the number of cars per lane.

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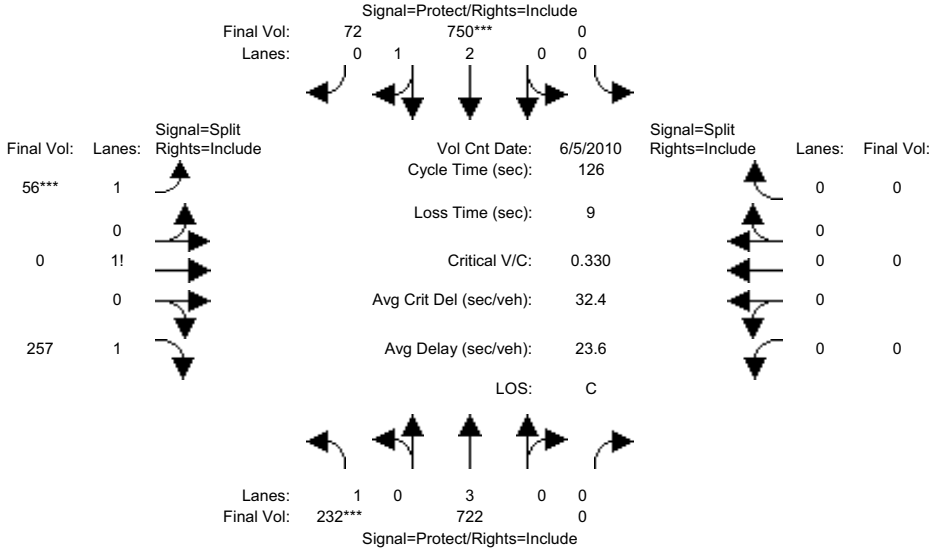
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing SAT

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Min. Green:	7	10		0	0	10		10	10	0		10	0	0		0
Volume Module: >> Count Date: 5 Jun 2010 <<																
Base Vol:	232	722		0	0	750		72	56	0		257	0	0		0
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	232	722		0	0	750		72	56	0		257	0	0		0
Added Vol:	0	0		0	0	0		0	0	0		0	0	0		0
ATI:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	232	722		0	0	750		72	56	0		257	0	0		0
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	232	722		0	0	750		72	56	0		257	0	0		0
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	232	722		0	0	750		72	56	0		257	0	0		0
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	232	722		0	0	750		72	56	0		257	0	0		0
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900		1900
Adjustment:	0.92	1.00		0.92	0.92	0.99		0.95	0.92	1.00		0.95	0.92	1.00		0.92
Lanes:	1.00	3.00		0.00	0.00	2.73		0.27	1.18	0.00		1.82	0.00	0.00		0.00
Final Sat.:	1750	5700		0	0	5109		490	2070	0		3270	0	0		0
Capacity Analysis Module:																
Vol/Sat:	0.13	0.13		0.00	0.00	0.15		0.15	0.03	0.00		0.08	0.00	0.00		0.00
Crit Moves:	****					****			****							
Green Time:	43.3	91.3		0.0	0.0	48.0		48.0	25.7	0.0		25.7	0.0	0.0		0.0
Volume/Cap:	0.39	0.17		0.00	0.00	0.39		0.39	0.13	0.00		0.39	0.00	0.00		0.00
Delay/Veh:	33.1	5.6		0.0	0.0	28.8		28.8	41.2	0.0		44.7	0.0	0.0		0.0
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:	33.1	5.6		0.0	0.0	28.8		28.8	41.2	0.0		44.7	0.0	0.0		0.0
LOS by Move:	C	A		A	A	C		C	D	A		D	A	A		A
HCM2k95thQ:	13	6		0	0	14		14	4	0		10	0	0		0

Note: Queue reported is the number of cars per lane.

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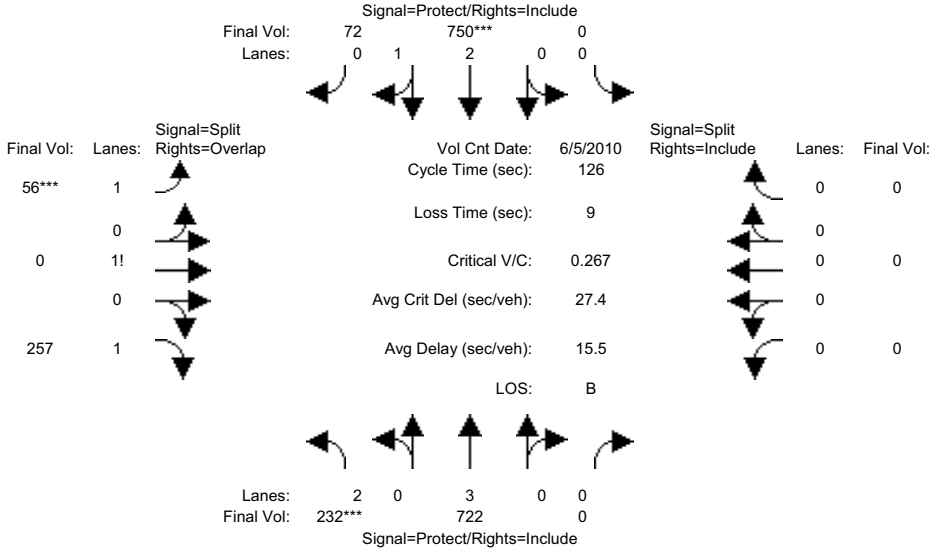
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd SAT

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Volume Module: >> Count Date: 5 Jun 2010 <<												
Base Vol:	232	722	0	0	750	72	56	0	257	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	722	0	0	750	72	56	0	257	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	722	0	0	750	72	56	0	257	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	232	722	0	0	750	72	56	0	257	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	232	722	0	0	750	72	56	0	257	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	232	722	0	0	750	72	56	0	257	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92
Lanes:	2.00	3.00	0.00	0.00	2.73	0.27	1.18	0.00	1.82	0.00	0.00	0.00
Final Sat.:	3150	5700	0	0	5109	490	2070	0	3270	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.00	0.00	0.15	0.15	0.03	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	34.8	104	0.0	0.0	69.4	69.4	12.8	0.0	47.6	0.0	0.0	0.0
Volume/Cap:	0.27	0.15	0.00	0.00	0.27	0.27	0.27	0.00	0.21	0.00	0.00	0.00
Delay/Veh:	36.4	2.2	0.0	0.0	15.1	15.1	52.8	0.0	26.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.4	2.2	0.0	0.0	15.1	15.1	52.8	0.0	26.8	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	B	D	A	C	A	A	A
HCM2k95thQ:	9	4	0	0	11	11	5	0	8	0	0	0

Note: Queue reported is the number of cars per lane.

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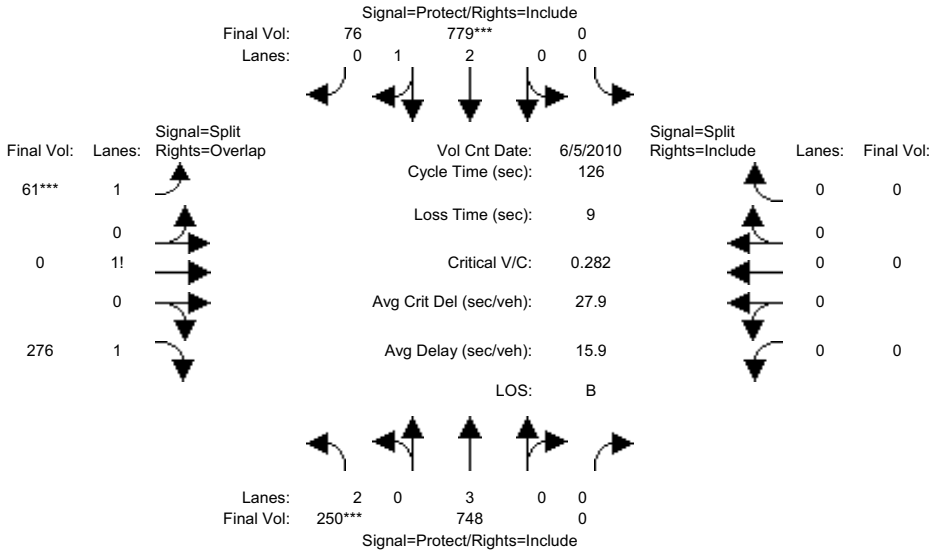
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex SAT Peak

Intersection #112: Coleman Av and Newhall Dr



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Volume Module: >> Count Date: 5 Jun 2010 <<												
Base Vol:	232	722	0	0	750	72	56	0	257	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	722	0	0	750	72	56	0	257	0	0	0
Added Vol:	18	26	0	0	29	4	5	0	19	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	250	748	0	0	779	76	61	0	276	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	250	748	0	0	779	76	61	0	276	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	748	0	0	779	76	61	0	276	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	250	748	0	0	779	76	61	0	276	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.99	0.95	0.92	1.00	0.95	0.92	1.00	0.92
Lanes:	2.00	3.00	0.00	0.00	2.72	0.28	1.19	0.00	1.81	0.00	0.00	0.00
Final Sat.:	3150	5700	0	0	5102	498	2074	0	3267	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.13	0.00	0.00	0.15	0.15	0.03	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	35.5	104	0.0	0.0	68.3	68.3	13.2	0.0	48.7	0.0	0.0	0.0
Volume/Cap:	0.28	0.16	0.00	0.00	0.28	0.28	0.28	0.00	0.22	0.00	0.00	0.00
Delay/Veh:	36.1	2.3	0.0	0.0	15.8	15.8	52.6	0.0	26.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	2.3	0.0	0.0	15.8	15.8	52.6	0.0	26.2	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	B	D	A	C	A	A	A
HCM2k95thQ:	9	4	0	0	11	11	5	0	8	0	0	0

Note: Queue reported is the number of cars per lane.

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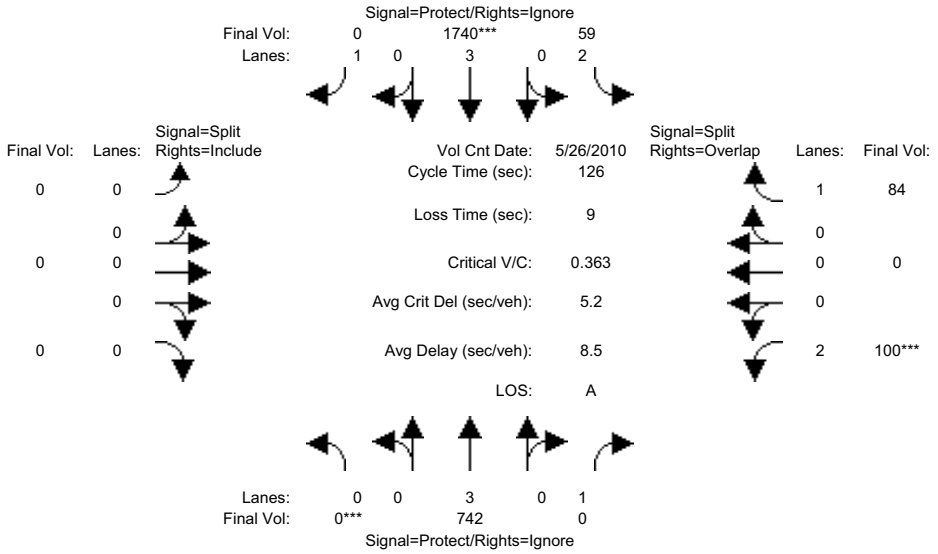
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #113: Coleman Av and Airport Blvd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	10	0	0	0	10	0	10
Volume Module: >> Count Date: 26 May 2010 << 5:00-6:00PM												
Base Vol:	0	742	223	59	1740	876	0	0	0	100	0	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	742	223	59	1740	876	0	0	0	100	0	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	742	223	59	1740	876	0	0	0	100	0	84
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	742	0	59	1740	0	0	0	0	100	0	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	742	0	59	1740	0	0	0	0	100	0	84
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	742	0	59	1740	0	0	0	0	100	0	84
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	2.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	3150	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.00	0.02	0.31	0.00	0.00	0.00	0.00	0.03	0.00	0.05
Crit Moves:	****				****					****		
Green Time:	0.0	74.3	0.0	31.7	106	0.0	0.0	0.0	0.0	11.0	0.0	42.7
Volume/Cap:	0.00	0.22	0.00	0.07	0.36	0.00	0.00	0.00	0.00	0.36	0.00	0.14
Delay/Veh:	0.0	12.2	0.0	36.0	2.3	0.0	0.0	0.0	0.0	55.0	0.0	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.2	0.0	36.0	2.3	0.0	0.0	0.0	0.0	55.0	0.0	29.0
LOS by Move:	A	B	A	D	A	A	A	A	A	D	A	C
HCM2k95thQ:	0	9	0	2	10	0	0	0	0	5	0	5

Note: Queue reported is the number of cars per lane.

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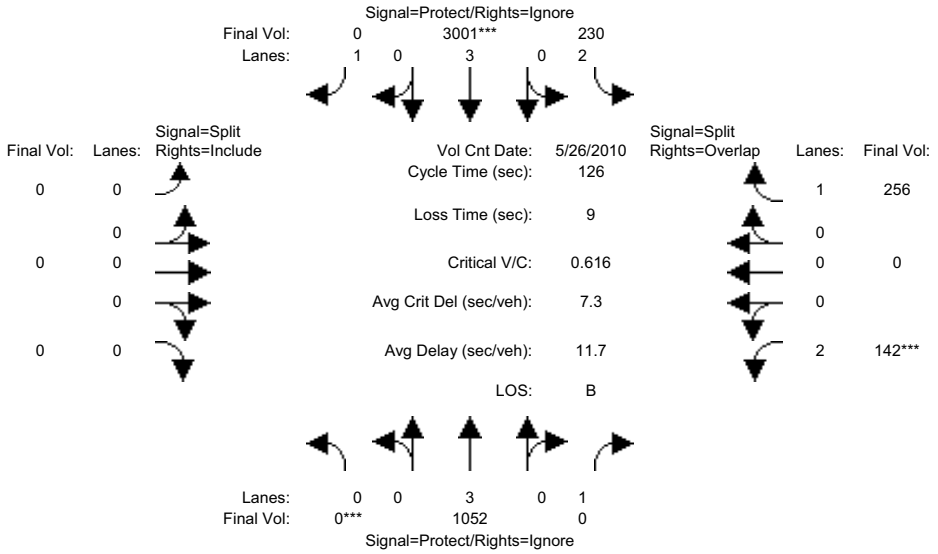
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #113: Coleman Av and Airport Blvd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	10	0	0	0	10	0	10
Volume Module: >> Count Date: 26 May 2010 << 5:00-6:00PM												
Base Vol:	0	742	223	59	1740	876	0	0	0	100	0	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	742	223	59	1740	876	0	0	0	100	0	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	310	20	171	1261	0	0	0	0	42	0	172
Initial Fut:	0	1052	243	230	3001	876	0	0	0	142	0	256
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1052	0	230	3001	0	0	0	0	142	0	256
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1052	0	230	3001	0	0	0	0	142	0	256
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1052	0	230	3001	0	0	0	0	142	0	256
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	2.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	3150	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.07	0.53	0.00	0.00	0.00	0.00	0.05	0.00	0.15
Crit Moves:	****				****					****		
Green Time:	0.0	73.1	0.0	28.9	102	0.0	0.0	0.0	0.0	15.0	0.0	43.9
Volume/Cap:	0.00	0.32	0.00	0.32	0.65	0.00	0.00	0.00	0.00	0.38	0.00	0.42
Delay/Veh:	0.0	13.7	0.0	40.6	5.2	0.0	0.0	0.0	0.0	51.8	0.0	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.7	0.0	40.6	5.2	0.0	0.0	0.0	0.0	51.8	0.0	31.8
LOS by Move:	A	B	A	D	A	A	A	A	A	D	A	C
HCM2k95thQ:	0	13	0	9	28	0	0	0	0	7	0	15

Note: Queue reported is the number of cars per lane.

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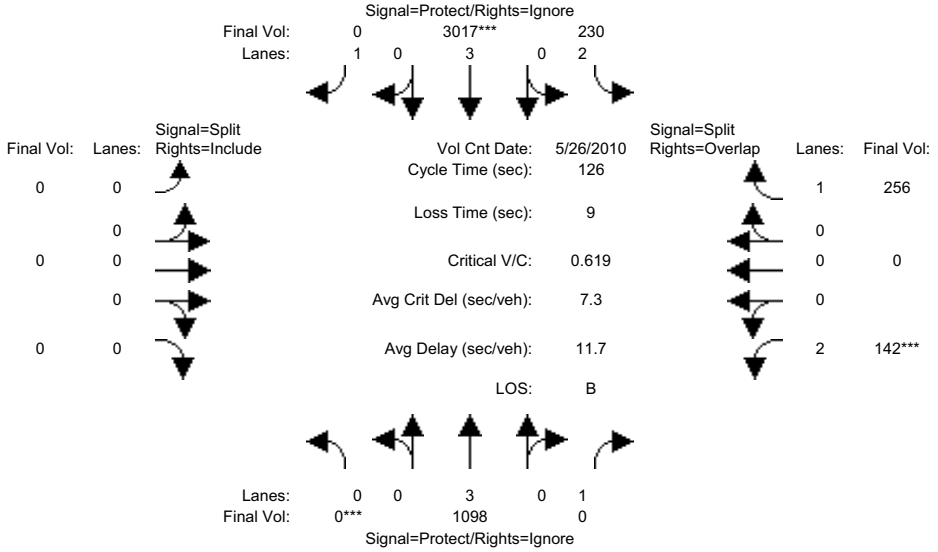
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #113: Coleman Av and Airport Blvd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	10	0	0	0	10	0	10
Volume Module: >> Count Date: 26 May 2010 << 5:00-6:00PM												
Base Vol:	0	742	223	59	1740	876	0	0	0	100	0	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	742	223	59	1740	876	0	0	0	100	0	84
Added Vol:	0	46	0	0	16	5	0	0	0	0	0	0
ATI:	0	310	20	171	1261	0	0	0	0	42	0	172
Initial Fut:	0	1098	243	230	3017	881	0	0	0	142	0	256
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1098	0	230	3017	0	0	0	0	142	0	256
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1098	0	230	3017	0	0	0	0	142	0	256
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1098	0	230	3017	0	0	0	0	142	0	256
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	2.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	3150	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.00	0.07	0.53	0.00	0.00	0.00	0.00	0.05	0.00	0.15
Crit Moves:	****				****					****		
Green Time:	0.0	74.0	0.0	28.1	102	0.0	0.0	0.0	0.0	14.9	0.0	43.0
Volume/Cap:	0.00	0.33	0.00	0.33	0.65	0.00	0.00	0.00	0.00	0.38	0.00	0.43
Delay/Veh:	0.0	13.3	0.0	41.3	5.2	0.0	0.0	0.0	0.0	51.9	0.0	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.3	0.0	41.3	5.2	0.0	0.0	0.0	0.0	51.9	0.0	32.5
LOS by Move:	A	B	A	D	A	A	A	A	A	D	A	C
HCM2k95thQ:	0	13	0	9	28	0	0	0	0	7	0	15

Note: Queue reported is the number of cars per lane.

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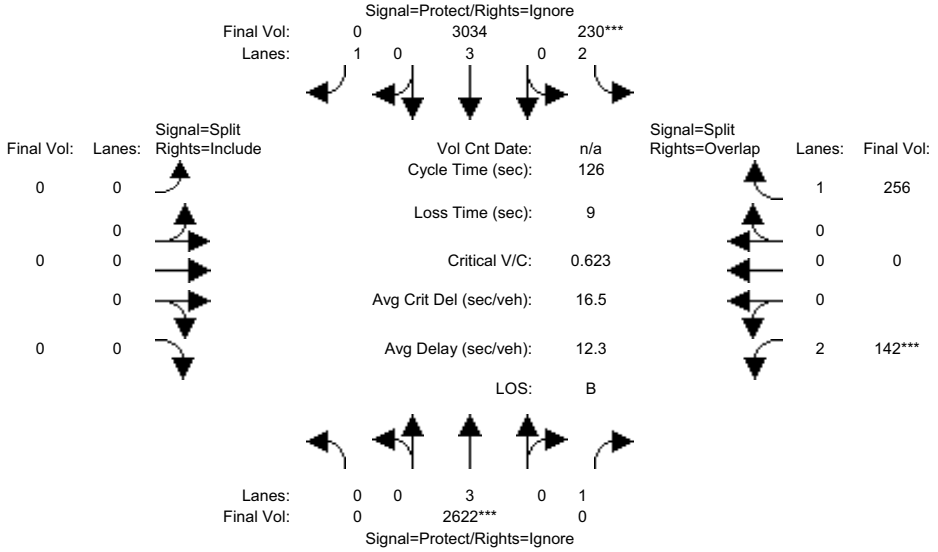
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #113: Coleman Av and Airport Blvd



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	10	0	0	0	10	0	10
Volume Module:5:00-6:00PM												
Base Vol:	0	1052	243	230	3001	876	0	0	0	142	0	256
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1052	243	230	3001	876	0	0	0	142	0	256
Added Vol:	0	46	0	0	16	5	0	0	0	0	0	0
MLStrips:	0	1524	0	0	17	8	0	0	0	0	0	0
Initial Fut:	0	2622	243	230	3034	889	0	0	0	142	0	256
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2622	0	230	3034	0	0	0	0	142	0	256
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2622	0	230	3034	0	0	0	0	142	0	256
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2622	0	230	3034	0	0	0	0	142	0	256
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	2.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	3150	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.46	0.00	0.07	0.53	0.00	0.00	0.00	0.00	0.05	0.00	0.15
Crit Moves:		****		****						****		
Green Time:	0.0	88.2	0.0	14.0	102	0.0	0.0	0.0	0.0	14.8	0.0	28.8
Volume/Cap:	0.00	0.66	0.00	0.66	0.66	0.00	0.00	0.00	0.00	0.38	0.00	0.64
Delay/Veh:	0.0	10.9	0.0	58.2	5.2	0.0	0.0	0.0	0.0	52.0	0.0	47.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.9	0.0	58.2	5.2	0.0	0.0	0.0	0.0	52.0	0.0	47.4
LOS by Move:	A	B	A	E	A	A	A	A	A	D	A	D
HCM2k95thQ:	0	32	0	12	28	0	0	0	0	7	0	19

Note: Queue reported is the number of cars per lane.

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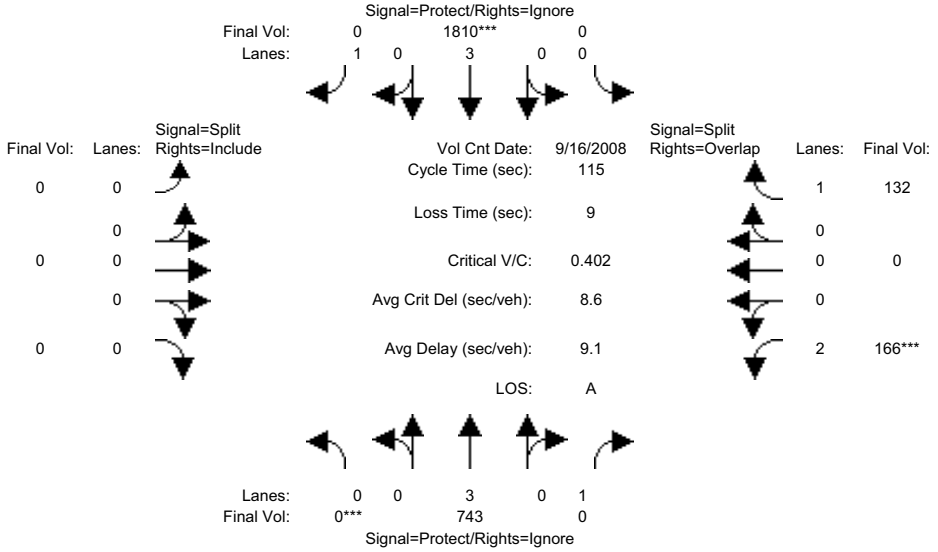
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #114: Coleman Av and I-880 SB Ramps



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	10	10		0	10	10		0	0	0		10	0	10	
Volume Module: >> Count Date: 16 Sep 2008 << 4:15-5:15PM																
Base Vol:	0	743	241		0	1810	593		0	0	0		166	0	132	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	743	241		0	1810	593		0	0	0		166	0	132	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	743	241		0	1810	593		0	0	0		166	0	132	
User Adj:	1.00	1.00	0.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	743	0		0	1810	0		0	0	0		166	0	132	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	743	0		0	1810	0		0	0	0		166	0	132	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	743	0		0	1810	0		0	0	0		166	0	132	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	1.00	0.92		0.92	1.00	0.92		0.92	1.00	0.92		0.83	1.00	0.92	
Lanes:	0.00	3.00	1.00		0.00	3.00	1.00		0.00	0.00	0.00		2.00	0.00	1.00	
Final Sat.:	0	5700	1750		0	5700	1750		0	0	0		3150	0	1750	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.13	0.00		0.00	0.32	0.00		0.00	0.00	0.00		0.05	0.00	0.08	
Crit Moves:	****					****							****			
Green Time:	0.0	85.7	0.0		0.0	85.7	0.0		0.0	0.0	0.0		20.3	0.0	20.3	
Volume/Cap:	0.00	0.18	0.00		0.00	0.43	0.00		0.00	0.00	0.00		0.30	0.00	0.43	
Delay/Veh:	0.0	4.3	0.0		0.0	5.6	0.0		0.0	0.0	0.0		41.4	0.0	43.1	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	4.3	0.0		0.0	5.6	0.0		0.0	0.0	0.0		41.4	0.0	43.1	
LOS by Move:	A	A	A		A	A	A		A	A	A		D	A	D	
HCM2k95thQ:	0	5	0		0	15	0		0	0	0		6	0	9	

Note: Queue reported is the number of cars per lane.

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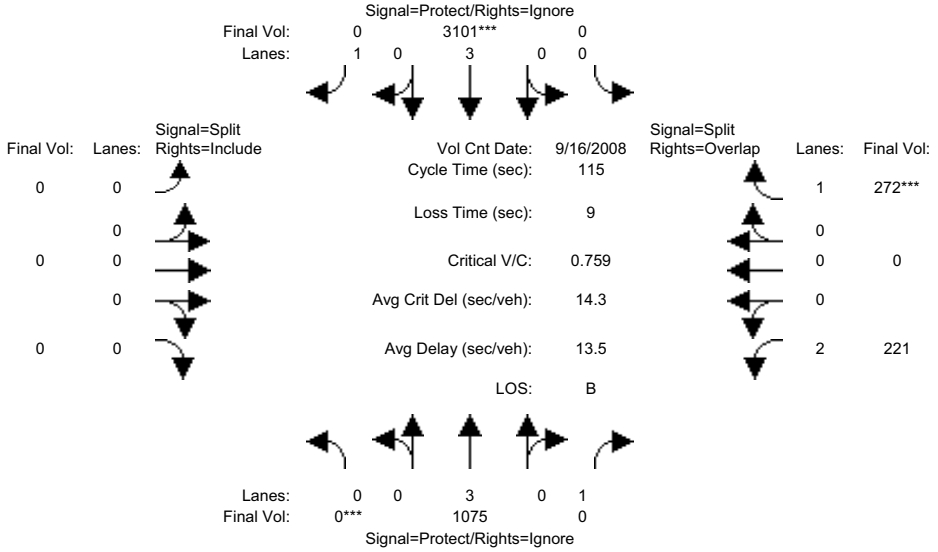
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #114: Coleman Av and I-880 SB Ramps



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Volume Module: >> Count Date: 16 Sep 2008 << 4:15-5:15PM												
Base Vol:	0	743	241	0	1810	593	0	0	0	166	0	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	743	241	0	1810	593	0	0	0	166	0	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	332	27	0	1291	0	0	0	0	55	0	140
Initial Fut:	0	1075	268	0	3101	593	0	0	0	221	0	272
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1075	0	0	3101	0	0	0	0	221	0	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1075	0	0	3101	0	0	0	0	221	0	272
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1075	0	0	3101	0	0	0	0	221	0	272
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.07	0.00	0.16
Crit Moves:	****				****							****
Green Time:	0.0	82.4	0.0	0.0	82.4	0.0	0.0	0.0	0.0	23.6	0.0	23.6
Volume/Cap:	0.00	0.26	0.00	0.00	0.76	0.00	0.00	0.00	0.00	0.34	0.00	0.76
Delay/Veh:	0.0	5.7	0.0	0.0	11.0	0.0	0.0	0.0	0.0	39.4	0.0	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	5.7	0.0	0.0	11.0	0.0	0.0	0.0	0.0	39.4	0.0	52.1
LOS by Move:	A	A	A	A	B	A	A	A	A	D	A	D
HCM2k95thQ:	0	9	0	0	39	0	0	0	0	8	0	21

Note: Queue reported is the number of cars per lane.

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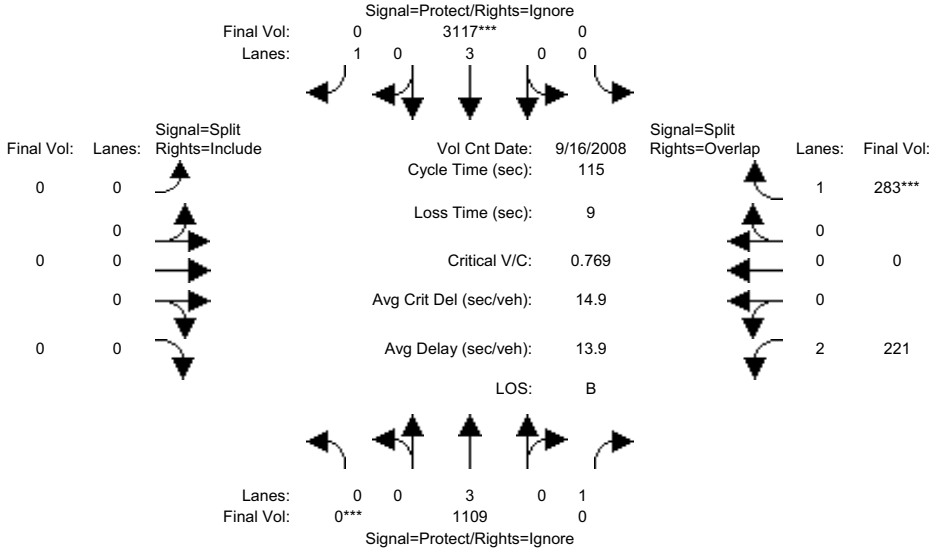
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #114: Coleman Av and I-880 SB Ramps



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Volume Module: >> Count Date: 16 Sep 2008 << 4:15-5:15PM												
Base Vol:	0	743	241	0	1810	593	0	0	0	166	0	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	743	241	0	1810	593	0	0	0	166	0	132
Added Vol:	0	34	0	0	16	0	0	0	0	0	0	11
ATI:	0	332	27	0	1291	0	0	0	0	55	0	140
Initial Fut:	0	1109	268	0	3117	593	0	0	0	221	0	283
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1109	0	0	3117	0	0	0	0	221	0	283
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1109	0	0	3117	0	0	0	0	221	0	283
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1109	0	0	3117	0	0	0	0	221	0	283
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.07	0.00	0.16
Crit Moves:	****				****							****
Green Time:	0.0	81.8	0.0	0.0	81.8	0.0	0.0	0.0	0.0	24.2	0.0	24.2
Volume/Cap:	0.00	0.27	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.33	0.00	0.77
Delay/Veh:	0.0	6.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	38.9	0.0	52.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	38.9	0.0	52.2
LOS by Move:	A	A	A	A	B	A	A	A	A	D	A	D
HCM2k95thQ:	0	9	0	0	40	0	0	0	0	8	0	22

Note: Queue reported is the number of cars per lane.

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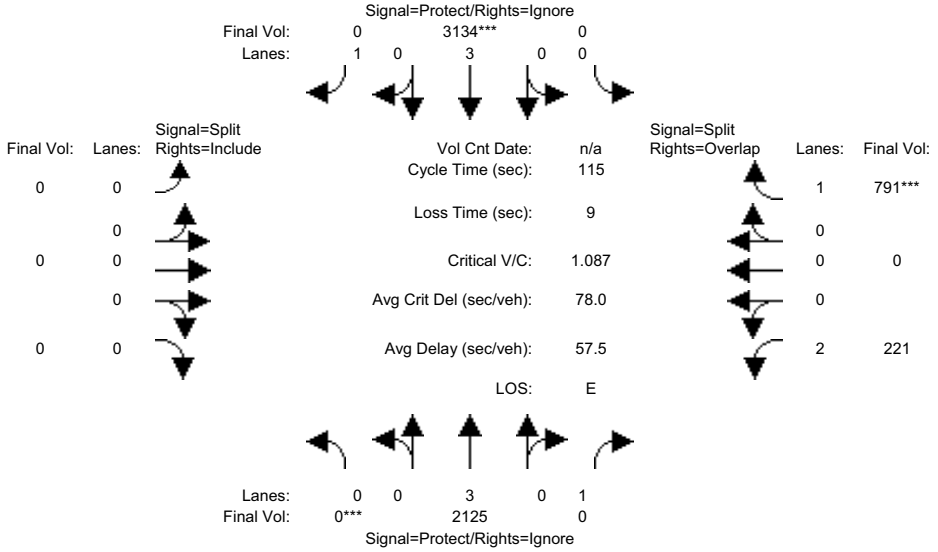
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #114: Coleman Av and I-880 SB Ramps



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Volume Module:												
Base Vol:	0	1075	268	0	3101	593	0	0	0	221	0	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1075	268	0	3101	593	0	0	0	221	0	272
Added Vol:	0	34	0	0	16	0	0	0	0	0	0	11
MLStrips:	0	1016	0	0	17	0	0	0	0	0	0	508
Initial Fut:	0	2125	268	0	3134	593	0	0	0	221	0	791
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2125	0	0	3134	0	0	0	0	221	0	791
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2125	0	0	3134	0	0	0	0	221	0	791
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2125	0	0	3134	0	0	0	0	221	0	791
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.07	0.00	0.45
Crit Moves:	****				****							****
Green Time:	0.0	58.2	0.0	0.0	58.2	0.0	0.0	0.0	0.0	47.8	0.0	47.8
Volume/Cap:	0.00	0.74	0.00	0.00	1.09	0.00	0.00	0.00	0.00	0.17	0.00	1.09
Delay/Veh:	0.0	23.4	0.0	0.0	74.2	0.0	0.0	0.0	0.0	21.2	0.0	93.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	23.4	0.0	0.0	74.2	0.0	0.0	0.0	0.0	21.2	0.0	93.0
LOS by Move:	A	C	A	A	E	A	A	A	A	C	A	F
HCM2k95thQ:	0	35	0	0	79	0	0	0	0	6	0	67

Note: Queue reported is the number of cars per lane.

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Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #114 Coleman Av and I-880 SB Ramps (WITH TEMPORARY IMPROVEMENTS)

Cycle (sec): 115 Critical Vol./Cap.(X): 0.869
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 21.4
Optimal Cycle: 93 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Ovl		
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Lanes:	0 0 3 0 1			0 0 3 0 1			0 0 0 0 0			1 0 0 0 2		
Volume Module:												
Base Vol:	0	1075	268	0	3101	593	0	0	0	221	0	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1075	268	0	3101	593	0	0	0	221	0	272
Added Vol:	0	34	0	0	16	0	0	0	0	0	0	11
MLStrips:	0	1016	0	0	17	0	0	0	0	0	0	508
Initial Fut:	0	2125	268	0	3134	593	0	0	0	221	0	791
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2125	0	0	3134	0	0	0	0	221	0	791
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2125	0	0	3134	0	0	0	0	221	0	791
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2125	0	0	3134	0	0	0	0	221	0	791
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	1.00	0.00	2.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	1750	0	3150
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.13	0.00	0.25
Crit Moves:	****				****							****
Green Time:	0.0	72.8	0.0	0.0	72.8	0.0	0.0	0.0	0.0	33.2	0.0	33.2
Volume/Cap:	0.00	0.59	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.44	0.00	0.87
Delay/Veh:	0.0	12.6	0.0	0.0	19.7	0.0	0.0	0.0	0.0	33.9	0.0	47.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.6	0.0	0.0	19.7	0.0	0.0	0.0	0.0	33.9	0.0	47.8
LOS by Move:	A	B	A	A	B	A	A	A	A	C	A	D
HCM2k95thQ:	0	26	0	0	52	0	0	0	0	13	0	32

Note: Queue reported is the number of cars per lane.

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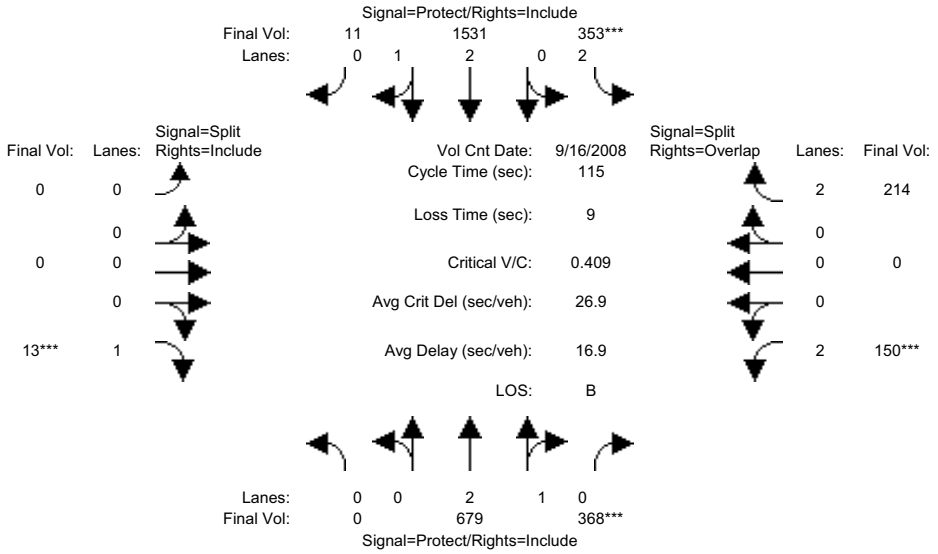
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #115: Coleman Av and I-880 NB Ramps



Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Min. Green:	0		10		10		7		10		10		0		0		10		10		0		10	
Volume Module: >> Count Date: 16 Sep 2008 << 4:45-5:45PM																								
Base Vol:	0		679		368		353		1531		11		0		0		13		150		0		214	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	0		679		368		353		1531		11		0		0		13		150		0		214	
Added Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
ATI:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	0		679		368		353		1531		11		0		0		13		150		0		214	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	0		679		368		353		1531		11		0		0		13		150		0		214	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	0		679		368		353		1531		11		0		0		13		150		0		214	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	0		679		368		353		1531		11		0		0		13		150		0		214	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		1.00		0.92		0.83		0.98		0.95		0.92		1.00		0.92		0.83		1.00		0.83	
Lanes:	0.00		2.00		1.00		2.00		2.98		0.02		0.00		0.00		1.00		2.00		0.00		2.00	
Final Sat.:	0		3800		1750		3150		5560		40		0		0		1750		3150		0		3150	
Capacity Analysis Module:																								
Vol/Sat:	0.00		0.18		0.21		0.11		0.28		0.28		0.00		0.00		0.01		0.05		0.00		0.07	
Crit Moves:					****		****										****		****					
Green Time:	0.0		54.6		54.6		29.1		83.6		83.6		0.0		0.0		10.0		12.4		0.0		41.4	
Volume/Cap:	0.00		0.38		0.44		0.44		0.38		0.38		0.00		0.00		0.09		0.44		0.00		0.19	
Delay/Veh:	0.0		19.4		20.2		36.5		6.0		6.0		0.0		0.0		48.5		49.0		0.0		25.3	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	0.0		19.4		20.2		36.5		6.0		6.0		0.0		0.0		48.5		49.0		0.0		25.3	
LOS by Move:	A		B		C		D		A		A		A		A		D		D		A		C	
HCM2k95thQ:	0		14		17		12		13		13		0		0		1		7		0		6	

Note: Queue reported is the number of cars per lane.

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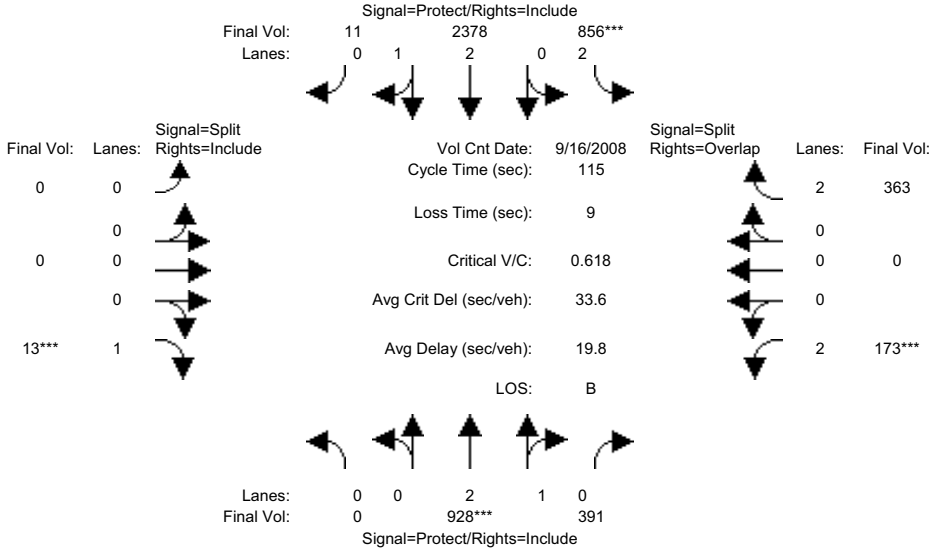
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #115: Coleman Av and I-880 NB Ramps



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	10	10		7	10	10		0	0	10		10	0	10	
Volume Module: >> Count Date: 16 Sep 2008 << 4:45-5:45PM																
Base Vol:	0	679	368		353	1531	11		0	0	13		150	0	214	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	679	368		353	1531	11		0	0	13		150	0	214	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	249	23		503	847	0		0	0	0		23	0	149	
Initial Fut:	0	928	391		856	2378	11		0	0	13		173	0	363	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	928	391		856	2378	11		0	0	13		173	0	363	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	928	391		856	2378	11		0	0	13		173	0	363	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	928	391		856	2378	11		0	0	13		173	0	363	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	1.00	0.95		0.83	0.98	0.95		0.92	1.00	0.92		0.83	1.00	0.83	
Lanes:	0.00	2.08	0.92		2.00	2.99	0.01		0.00	0.00	1.00		2.00	0.00	2.00	
Final Sat.:	0	3938	1659		3150	5574	26		0	0	1750		3150	0	3150	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.24	0.24		0.27	0.43	0.43		0.00	0.00	0.01		0.05	0.00	0.12	
Crit Moves:		****			****						****		****			
Green Time:	0.0	39.9	39.9		46.1	86.0	86.0		0.0	0.0	10.0		10.0	0.0	56.1	
Volume/Cap:	0.00	0.68	0.68		0.68	0.57	0.57		0.00	0.00	0.09		0.63	0.00	0.24	
Delay/Veh:	0.0	33.0	33.0		29.9	6.6	6.6		0.0	0.0	48.5		55.4	0.0	17.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	33.0	33.0		29.9	6.6	6.6		0.0	0.0	48.5		55.4	0.0	17.2	
LOS by Move:	A	C	C		C	A	A		A	A	D		E	A	B	
HCM2k95thQ:	0	25	25		27	23	23		0	0	1		9	0	9	

Note: Queue reported is the number of cars per lane.

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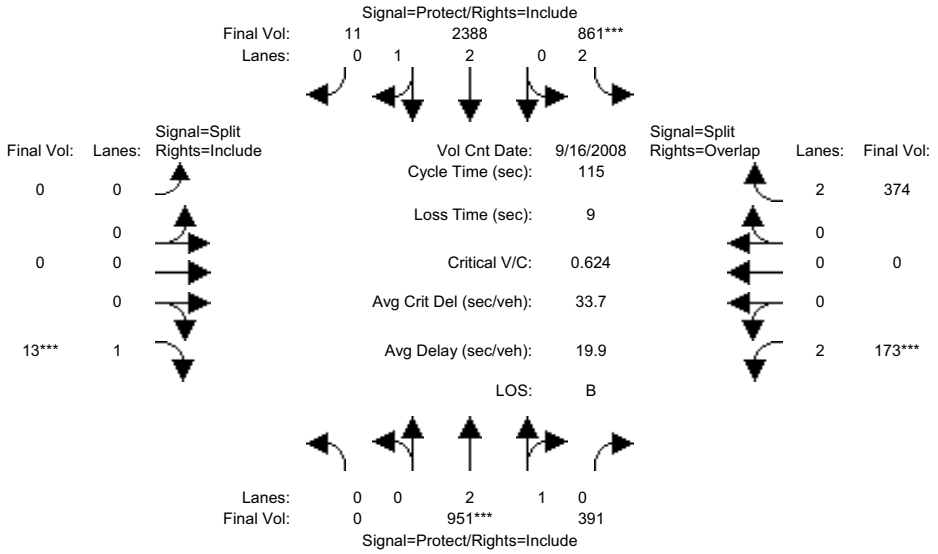
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #115: Coleman Av and I-880 NB Ramps



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	10	10		7	10	10		0	0	10		10	0	10	
Volume Module: >> Count Date: 16 Sep 2008 << 4:45-5:45PM																
Base Vol:	0	679	368		353	1531	11		0	0	13		150	0	214	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	679	368		353	1531	11		0	0	13		150	0	214	
Added Vol:	0	23	0		5	10	0		0	0	0		0	0	11	
ATI:	0	249	23		503	847	0		0	0	0		23	0	149	
Initial Fut:	0	951	391		861	2388	11		0	0	13		173	0	374	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	951	391		861	2388	11		0	0	13		173	0	374	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	951	391		861	2388	11		0	0	13		173	0	374	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	951	391		861	2388	11		0	0	13		173	0	374	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	1.00	0.95		0.83	0.98	0.95		0.92	1.00	0.92		0.83	1.00	0.83	
Lanes:	0.00	2.09	0.91		2.00	2.99	0.01		0.00	0.00	1.00		2.00	0.00	2.00	
Final Sat.:	0	3966	1631		3150	5574	26		0	0	1750		3150	0	3150	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.24	0.24		0.27	0.43	0.43		0.00	0.00	0.01		0.05	0.00	0.12	
Crit Moves:		****			****						****		****			
Green Time:	0.0	40.2	40.2		45.8	86.0	86.0		0.0	0.0	10.0		10.0	0.0	55.8	
Volume/Cap:	0.00	0.69	0.69		0.69	0.57	0.57		0.00	0.00	0.09		0.63	0.00	0.24	
Delay/Veh:	0.0	33.0	33.0		30.2	6.6	6.6		0.0	0.0	48.5		55.4	0.0	17.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	33.0	33.0		30.2	6.6	6.6		0.0	0.0	48.5		55.4	0.0	17.4	
LOS by Move:	A	C	C		C	A	A		A	A	D		E	A	B	
HCM2k95thQ:	0	26	26		28	23	23		0	0	1		9	0	9	

Note: Queue reported is the number of cars per lane.

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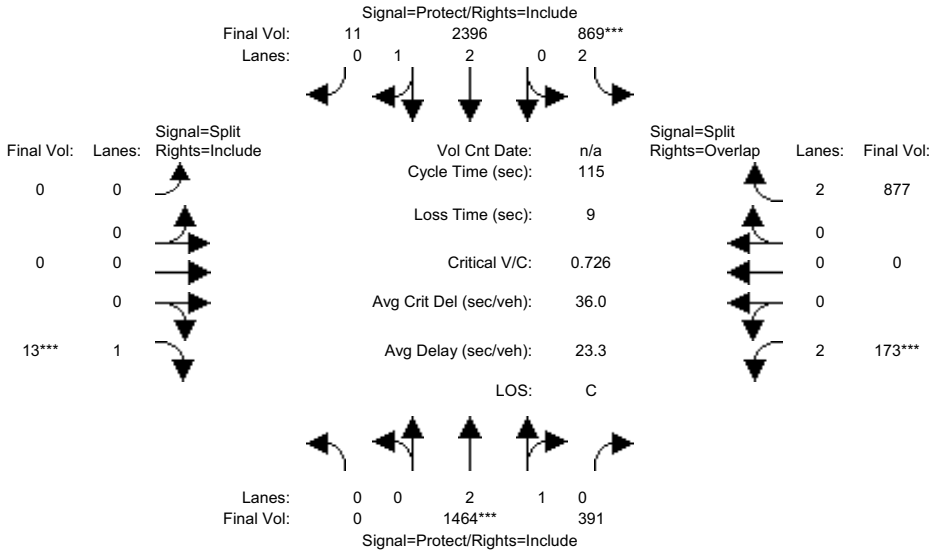
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #115: Coleman Av and I-880 NB Ramps



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	0	10	10		7	10	10		0	0	10		10	0	10	
Volume Module:																
Base Vol:	0	928	391		856	2378	11		0	0	13		173	0	363	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	928	391		856	2378	11		0	0	13		173	0	363	
Added Vol:	0	23	0		5	10	0		0	0	0		0	0	11	
MLStrips:	0	513	0		8	8	0		0	0	0		0	0	503	
Initial Fut:	0	1464	391		869	2396	11		0	0	13		173	0	877	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1464	391		869	2396	11		0	0	13		173	0	877	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1464	391		869	2396	11		0	0	13		173	0	877	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1464	391		869	2396	11		0	0	13		173	0	877	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.99	0.95		0.83	0.98	0.95		0.92	1.00	0.92		0.83	1.00	0.83	
Lanes:	0.00	2.34	0.66		2.00	2.99	0.01		0.00	0.00	1.00		2.00	0.00	2.00	
Final Sat.:	0	4418	1180		3150	5574	26		0	0	1750		3150	0	3150	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.33	0.33		0.28	0.43	0.43		0.00	0.00	0.01		0.05	0.00	0.28	
Crit Moves:		****			****						****		****			
Green Time:	0.0	46.9	46.9		39.1	86.0	86.0		0.0	0.0	10.0		10.0	0.0	49.1	
Volume/Cap:	0.00	0.81	0.81		0.81	0.57	0.57		0.00	0.00	0.09		0.63	0.00	0.65	
Delay/Veh:	0.0	32.4	32.4		39.4	6.6	6.6		0.0	0.0	48.5		55.4	0.0	27.3	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	32.4	32.4		39.4	6.6	6.6		0.0	0.0	48.5		55.4	0.0	27.3	
LOS by Move:	A	C	C		D	A	A		A	A	D		E	A	C	
HCM2k95thQ:	0	36	36		32	23	23		0	0	1		9	0	27	

Note: Queue reported is the number of cars per lane.

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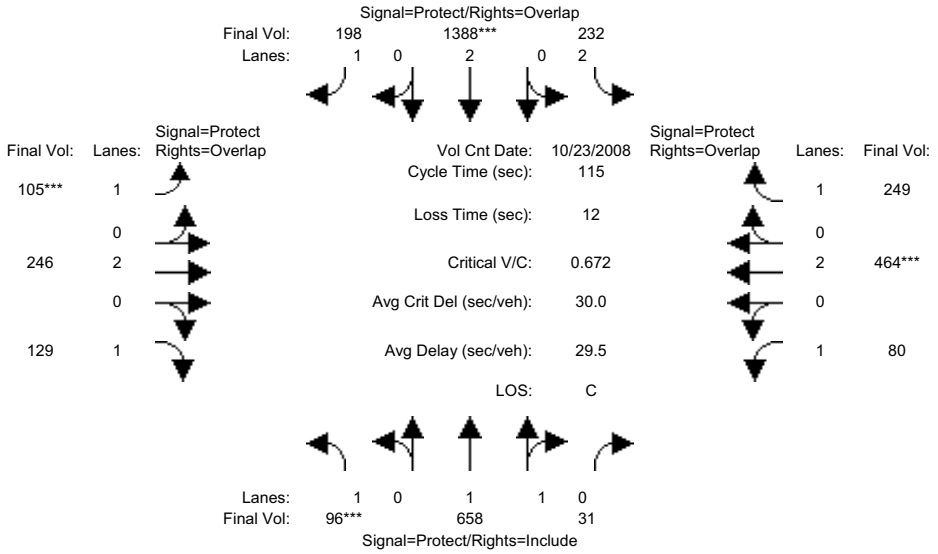
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #117: Coleman Av and Hedding St



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 23 Oct 2008 <<												
Base Vol:	96	658	31	232	1388	198	105	246	129	80	464	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	658	31	232	1388	198	105	246	129	80	464	249
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	658	31	232	1388	198	105	246	129	80	464	249
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	658	31	232	1388	198	105	246	129	80	464	249
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	658	31	232	1388	198	105	246	129	80	464	249
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	658	31	232	1388	198	105	246	129	80	464	249
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.91	0.09	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3533	166	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.07	0.37	0.11	0.06	0.06	0.07	0.05	0.12	0.14
Crit Moves:	****				****		****				****	
Green Time:	9.4	51.5	51.5	20.4	62.5	72.7	10.3	18.3	27.7	12.8	20.9	41.2
Volume/Cap:	0.67	0.42	0.42	0.42	0.67	0.18	0.67	0.41	0.31	0.41	0.67	0.40
Delay/Veh:	63.2	21.7	21.7	42.5	19.8	8.8	61.7	43.9	36.2	49.0	46.5	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	63.2	21.7	21.7	42.5	19.8	8.8	61.7	43.9	36.2	49.0	46.5	28.0
LOS by Move:	E	C	C	D	B	A	E	D	D	D	D	C
HCM2k95thQ:	10	16	16	9	31	6	10	8	8	7	16	14

Note: Queue reported is the number of cars per lane.

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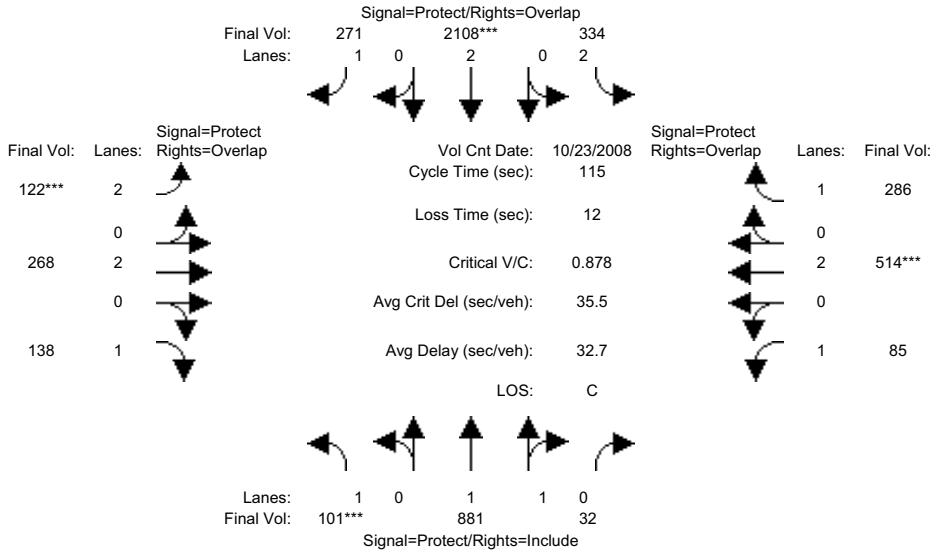
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgrnd PM

Intersection #117: Coleman Av and Hedding St



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 23 Oct 2008 <<												
Base Vol:	96	658	31	232	1388	198	105	246	129	80	464	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	658	31	232	1388	198	105	246	129	80	464	249
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	5	223	1	102	720	73	17	22	9	5	50	37
Initial Fut:	101	881	32	334	2108	271	122	268	138	85	514	286
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	881	32	334	2108	271	122	268	138	85	514	286
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	881	32	334	2108	271	122	268	138	85	514	286
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	881	32	334	2108	271	122	268	138	85	514	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.93	0.07	2.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3570	130	3150	3800	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.25	0.25	0.11	0.55	0.15	0.04	0.07	0.08	0.05	0.14	0.16
Crit Moves:	****				****		****				****	
Green Time:	7.4	55.0	55.0	23.6	71.2	78.2	7.0	14.3	21.7	10.0	17.4	41.0
Volume/Cap:	0.90	0.52	0.52	0.52	0.90	0.23	0.64	0.57	0.42	0.56	0.90	0.46
Delay/Veh:	106.8	21.0	21.0	41.3	23.7	7.1	59.7	49.0	41.9	54.8	64.5	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	106.8	21.0	21.0	41.3	23.7	7.1	59.7	49.0	41.9	54.8	64.5	29.0
LOS by Move:	F	C	C	D	C	A	E	D	D	D	E	C
HCM2k95thQ:	12	21	21	13	55	8	7	10	10	8	22	16

Note: Queue reported is the number of cars per lane.

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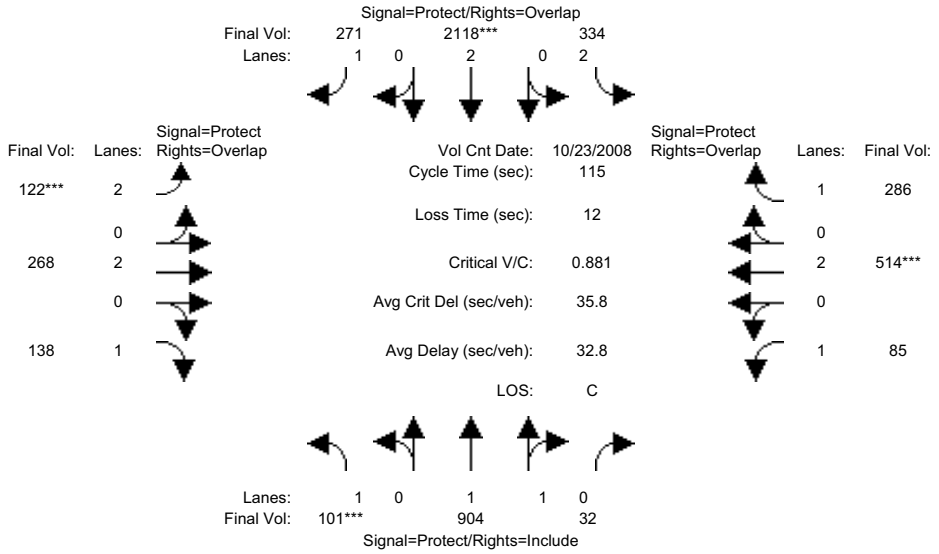
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex PM Peak

Intersection #117: Coleman Av and Hedding St



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module: >> Count Date: 23 Oct 2008 <<												
Base Vol:	96	658	31	232	1388	198	105	246	129	80	464	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	658	31	232	1388	198	105	246	129	80	464	249
Added Vol:	0	23	0	0	10	0	0	0	0	0	0	0
ATI:	5	223	1	102	720	73	17	22	9	5	50	37
Initial Fut:	101	904	32	334	2118	271	122	268	138	85	514	286
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	904	32	334	2118	271	122	268	138	85	514	286
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	904	32	334	2118	271	122	268	138	85	514	286
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	904	32	334	2118	271	122	268	138	85	514	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.93	0.07	2.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3573	126	3150	3800	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.25	0.25	0.11	0.56	0.15	0.04	0.07	0.08	0.05	0.14	0.16
Crit Moves:	****				****		****				****	
Green Time:	7.4	55.5	55.5	23.2	71.3	78.3	7.0	14.3	21.7	10.0	17.3	40.5
Volume/Cap:	0.90	0.52	0.52	0.52	0.90	0.23	0.64	0.57	0.42	0.56	0.90	0.46
Delay/Veh:	107.8	20.9	20.9	41.8	23.9	7.0	59.7	49.1	42.0	54.9	65.0	29.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	107.8	20.9	20.9	41.8	23.9	7.0	59.7	49.1	42.0	54.9	65.0	29.4
LOS by Move:	F	C	C	D	C	A	E	D	D	D	E	C
HCM2k95thQ:	12	21	21	13	56	8	7	10	10	8	22	16

Note: Queue reported is the number of cars per lane.

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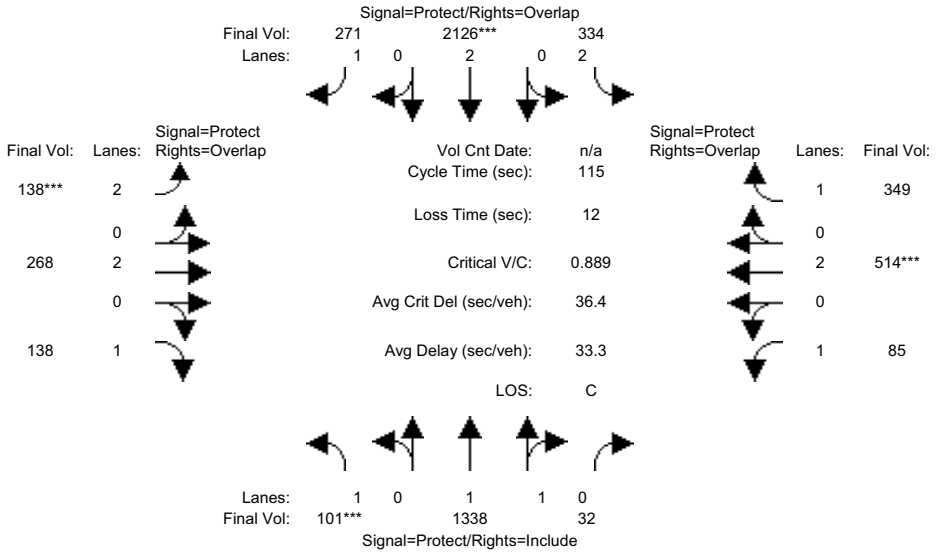
Coleman Avenue Soccer Complex
Traffic Impact Analysis
City of San Jose

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Soccer Complex + MLS PM Peak

Intersection #117: Coleman Av and Hedding St



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	101	881	32	334	2108	271	122	268	138	85	514	286
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	881	32	334	2108	271	122	268	138	85	514	286
Added Vol:	0	23	0	0	10	0	0	0	0	0	0	0
MLStrips:	0	434	0	0	8	0	16	0	0	0	0	63
Initial Fut:	101	1338	32	334	2126	271	138	268	138	85	514	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	1338	32	334	2126	271	138	268	138	85	514	349
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	1338	32	334	2126	271	138	268	138	85	514	349
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	1338	32	334	2126	271	138	268	138	85	514	349
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.95	0.05	2.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3614	86	3150	3800	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.37	0.37	0.11	0.56	0.15	0.04	0.07	0.08	0.05	0.14	0.20
Crit Moves:	****				****		****				****	
Green Time:	7.4	61.2	61.2	17.5	71.4	78.4	7.0	14.3	21.6	10.0	17.3	34.8
Volume/Cap:	0.90	0.70	0.70	0.70	0.90	0.23	0.72	0.57	0.42	0.56	0.90	0.66
Delay/Veh:	108.6	21.1	21.1	50.6	24.0	7.0	65.5	49.1	42.0	55.0	65.5	38.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.6	21.1	21.1	50.6	24.0	7.0	65.5	49.1	42.0	55.0	65.5	38.0
LOS by Move:	F	C	C	D	C	A	E	D	D	E	E	D
HCM2k95thQ:	12	32	32	15	56	8	9	10	10	8	22	22

Note: Queue reported is the number of cars per lane.

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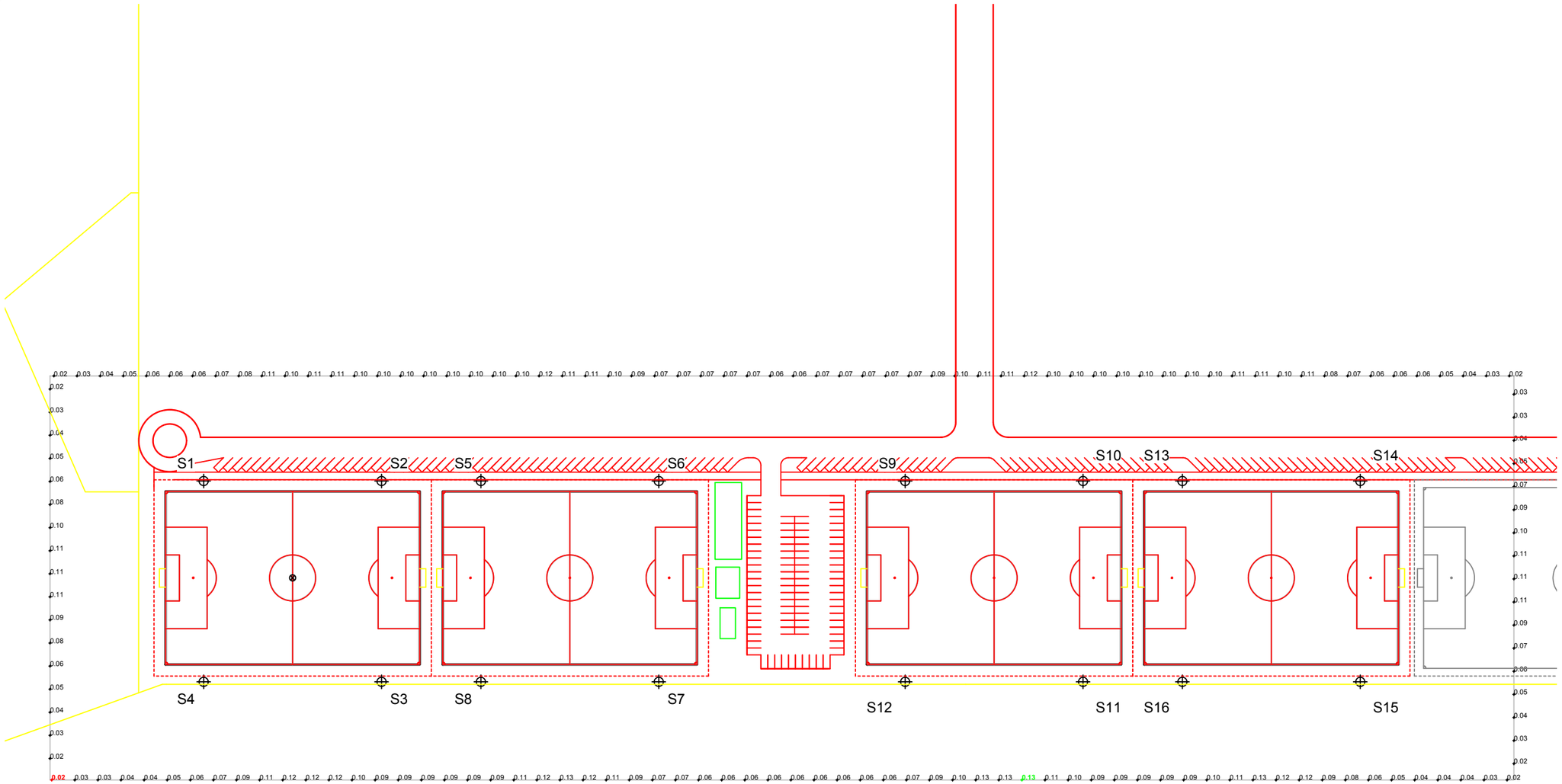
APPENDIX D
SPILLOVER LIGHTING DIAGRAMS



GREEN GENERATION LIGHTING™

GUARANTEED PERFORMANCE

ILLUMINATION SUMMARY

150' Spill
Coleman Avenue Soccer Complex
San Jose,CA

150' Spill
· Grid Spacing = 30.0'
· Values given at 3.0' above grade

· Luminaire Type:	Green Generation
· Rated Lamp Life:	5,000 hours
· Avg Lumens/Lamp:	134,000

CONSTANT ILLUMINATION HORIZONTAL FOOTCANDLES

	Entire Grid
No. of Target Points:	162
Average:	0.0787
Maximum:	0.13
Minimum:	0.02

Average Lamp Tilt Factor:	1.000
Number of Luminaires:	112
Avg KW over 5,000:	175.17
Max KW:	190.4

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Averages shall be +/-10% in accordance with IESNA RP-6-01 and CIBSE LG4. Individual measurements may vary from computer predictions.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 150

0' 150' 300'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

By: Eric Svenby

File #: 148865 Date: 15-Jun-10

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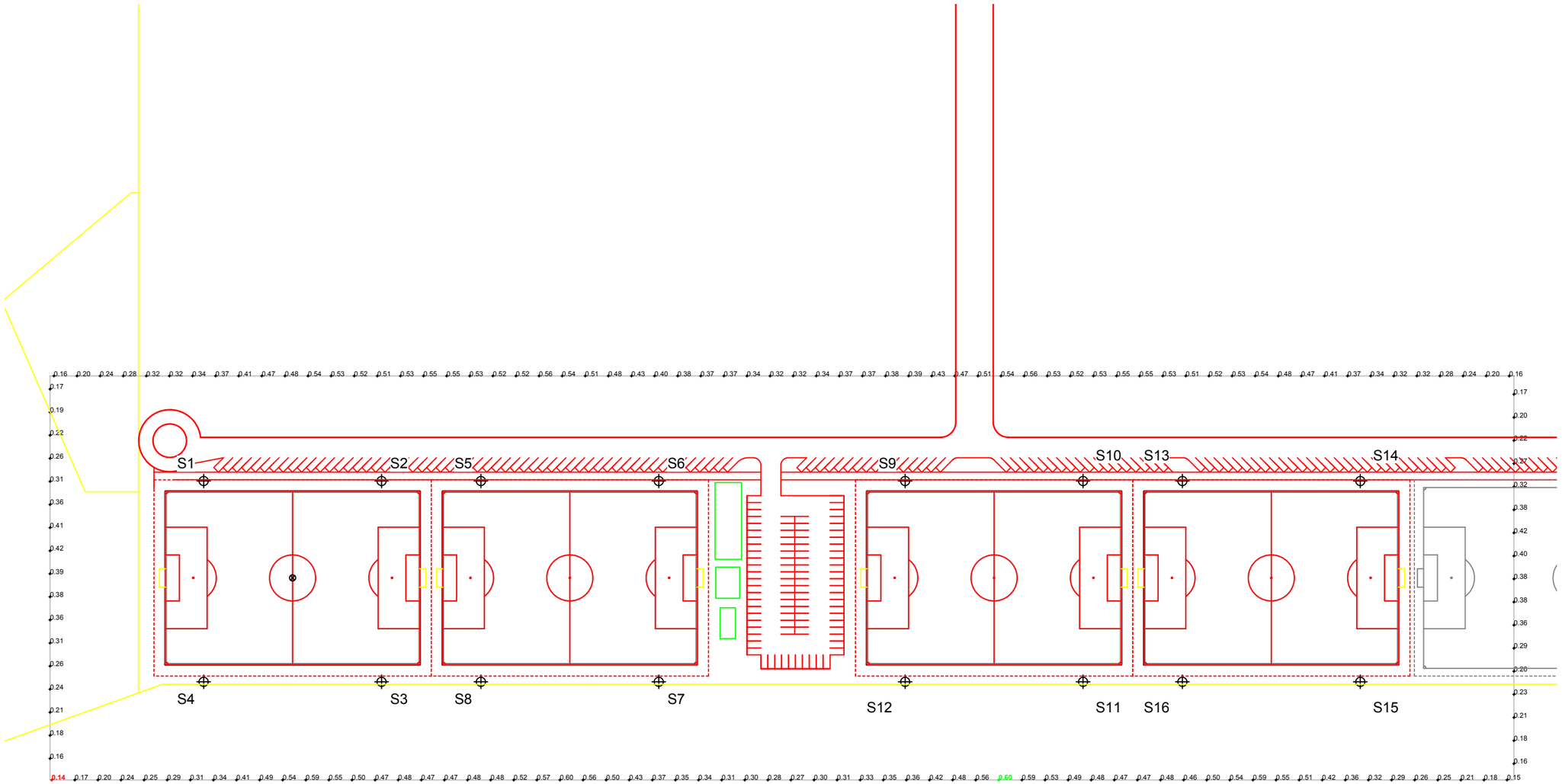
Print Date (15/Jun/2010) & Time (10:08)



GREEN GENERATION LIGHTING™

GUARANTEED PERFORMANCE

ILLUMINATION SUMMARY

150' Spill
Coleman Avenue Soccer Complex
San Jose,CA

150' Spill
· Grid Spacing = 30.0'
· Values given at 3.0' above grade

· Luminaire Type:	Green Generation
· Rated Lamp Life:	5,000 hours
· Avg Lumens/Lamp:	134,000

CONSTANT ILLUMINATION
MAX VERTICAL FOOTCANDLES

	Entire Grid
No. of Target Points:	162
Average:	0.3882
Maximum:	0.60
Minimum:	0.14

Average Lamp Tilt Factor:	1.000
Number of Luminaires:	112
Avg KW over 5,000:	175.17
Max KW:	190.4

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Averages shall be +/-10% in accordance with IESNA RP-6-01 and CIBSE LG4. Individual measurements may vary from computer predictions.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 150

0' 150' 300'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

By: Eric Svenby

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